

APPENDIX F

CHEMISTRY DATA

Summary Tables

Waters

Table F-1. RHMP 2013 Water Chemistry

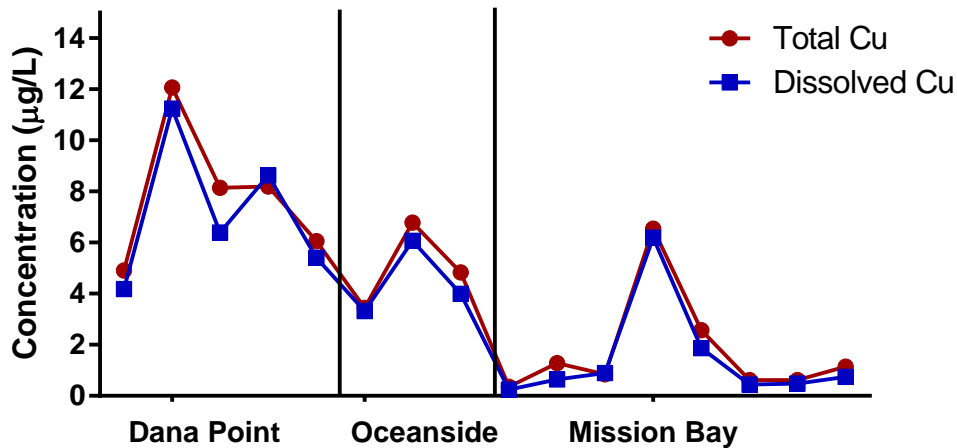
Harbor	Strata	Sample ID	Conventional (mg/L)							Total PAHs (ng/L)	Dissolved Trace Metals (µg/L)																					
			Dissolved Organic Carbon	Total Organic Carbon	Ammonia-N	Nitrate-N	Total Orthophosphate as P	Oil & Grease	Methylene Blue Active Substance		Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Iron (Fe)	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Tin	Titanium	Vanadium	Zinc
Dana Point Harbor	Marina	B13-8259	0.47 J	0.51	< 0.02	0.02 J	0.03	< 1.00	< 0.005	3.90	5 J	0.110	1.38	6.78	< 0.005	0.054	0.172	0.014	11.2	< 0.50	0.017	3.12	< 0.01	8.60	0.330	0.01 J	0.020	< 0.005	0.008 J	13.9	2.00	40.3
	Deep	B13-8263	0.54	0.49 J	< 0.02	< 0.01	0.03	< 1.00	< 0.005	< 1.00	3.6 J	0.100	1.43	5.85	< 0.005	0.034	0.165	< 0.005	4.18	< 0.50	0.012	2.47	< 0.01	8.75	0.241	0.0160	0.020	< 0.005	< 0.005	14.3	2.10	14.3
	Shallow	B13-8265	0.49 J	0.50	0.03 J	< 0.01	0.03	< 1.00	0.008 J	4.10	3.8 J	0.110	1.41	4.72	0.0220	0.039	0.164	0.010	8.63	< 0.50	0.014	2.33	< 0.01	8.76	0.281	0.013 J	0.020	< 0.005	0.314	10.5	2.00	23.9
	Marina	B13-8267	0.48 J	0.54	0.20	0.01 J	0.03	< 1.00	0.008 J	5.40	3.4 J	0.100	1.35	7.17	< 0.005	0.038	0.163	0.015	6.39	< 0.50	0.017	3.75	< 0.01	8.70	0.319	0.011 J	0.020	< 0.005	0.010	13.9	2.00	23.0
Oceanside Harbor	Marina	B13-8233	0.58	0.58	0.07	0.02 J	0.03	< 1.00	< 0.005	6.70	4.2 J	0.110	1.38	6.47	< 0.005	0.033	0.163	0.015	6.07	< 0.50	0.018	14.7	< 0.01	8.69	0.258	0.006 J	0.020	< 0.005	0.015	11.8	2.10	18.8
	Deep	B13-8236	0.57	0.55	0.04 J	0.02 J	0.03	< 1.00	< 0.005	9.80	4.8 J	0.120	1.32	8.79	< 0.005	0.033	0.173	0.018	5.41	< 0.50	0.011	9.07	< 0.01	8.68	0.250	0.006 J	0.030	< 0.005	0.014	12.2	2.20	20.2
	Deep	B13-8239	0.50	0.56	< 0.02	0.01 J	0.03	< 1.00	< 0.005	7.70	3.6 J	0.100	1.31	7.09	< 0.005	0.058	0.198	0.014	3.32	< 0.50	0.115	4.12	< 0.01	8.74	0.233	0.009 J	0.020	< 0.005	< 0.005	12.9	2.20	9.90
	Deep	B13-8145	0.54	0.510	0.09	< 0.01	0.02	< 1.00	< 0.005	3.10	3.2 J	0.110	1.26	5.84	< 0.005	0.022	0.237	0.067	3.99	< 0.50	0.021	1.87	< 0.01	8.79	0.267	0.0180	0.100	< 0.005	0.010	13.2	2.20	15.8
Mission Bay	Marina	B13-8146	0.57	0.16 J	0.08	< 0.01	0.02	< 1.00	< 0.005	223	3.8 J	0.110	1.43	5.65	< 0.005	0.032	0.218	0.065	6.20	< 0.50	0.025	1.76	< 0.01	9.14	0.290	0.0160	0.090	< 0.005	0.016	13.3	2.20	28.9
	Marina	B13-8151	0.55	0.064 J	0.04 J	0.01 J	0.02	< 1.00	< 0.005	2.70	4.2 J	0.100	1.47	6.80	0.005 J	0.022	0.227	0.067	1.87	< 0.50	0.021	2.40	< 0.01	8.79	0.244	0.0200	0.100	< 0.005	0.013	15.1	2.30	8.90
	Deep	B13-8152	0.49 J	0.36 J	< 0.02	< 0.01	0.02	< 1.00	< 0.005	9.90	< 3.00	0.110	1.25	5.30	< 0.005	0.012	0.139	< 0.005	0.244	< 0.50	0.008	1.46	< 0.01	8.97	0.207	0.012 J	< 0.01	< 0.005	0.009 J	10.8	2.00	< 0.0025
	Shallow	B13-8156	0.62	0.44 J	0.06	< 0.01	0.02	< 1.00	< 0.005	1.00	< 3.00	0.100	1.28	5.03	< 0.005	0.016	0.146	< 0.005	0.445	< 0.50	0.011	2.21	< 0.01	9.07	0.188	0.01 J	< 0.01	< 0.005	< 0.005	11.5	2.10	0.03
San Diego Bay North	Shallow	B13-8157	0.74	0.092 J	0.03 J	< 0.01	0.03	< 1.00	< 0.005	1.50	< 3.00	0.120	1.32	9.05	0.005 J	0.018	0.081	0.044	0.481	1.00	0.009	7.05	< 0.01	8.93	0.239	0.0400	< 0.01	< 0.005	0.011	11.8	2.30	< 0.0025
	Shallow	B13-8159	0.98	0.78	0.07	< 0.01	0.05	< 1.00	< 0.005	3.70	< 3.00	0.170	1.87	12.4	< 0.005	0.018	0.049	0.161	0.737	< 0.50	0.035	15.6	< 0.01	9.41	0.353	0.0230	< 0.01	< 0.005	< 0.005	11.6	3.60	< 0.0025
	Freshwater-Influence	B13-8160	0.98	0.76	< 0.02	< 0.01	0.06	< 1.00	< 0.005	6.10	< 3.00	0.170	1.84	11.7	< 0.005	0.016	0.040	0.156	0.637	< 0.50	0.041	19.9	< 0.01	9.60	0.379	0.0280	< 0.01	< 0.005	0.006 J	17.7	3.70	< 0.0025
	Freshwater	B13-8163	1.0	0.72	< 0.02	< 0.01	0.04	< 1.00	< 0.005	8.70	< 3.00	0.150	1.61	10.5	0.005 J	0.020	0.055	0.075	0.887	1.0	0.014	15.8	< 0.01	9.20	0.286	0.0200	< 0.01	< 0.005	< 0.005	12.8	2.70	< 0.0025
	Deep	B13-8085	1.1 J	0.53 J	< 0.02	< 0.01	0.02	< 1.00	0.036	7.80	< 3.00	0.120	1.16	7.27	0.007 J	0.041	0.116	0.010	1.36	< 0.50	0.013	1.34	< 0.01	8.54	0.309	< 0.005	0.020	0.007 J	< 0.005	9.60	2.10	3.30
	Marina	B13-8102	1.3 J	0.66 J	< 0.02	< 0.01	0.02	< 1.00	0.046	25.4	< 3.00	0.110	1.19	7.93	< 0.005	0.046	0.110	0.017	6.67	< 0.50	0.022	2.74	< 0.01	9.17	0.312	< 0.005	0.020	0.007 J	< 0.005	11.7	2.10	15.6
	Shallow	B13-8105	1.1 J	1.7 J	< 0.02	0.01 J	0.03	< 1.00	0.035	9.80	< 3.00	0.150	1.34	7.12	< 0.005	0.047	0.129	0.015	1.25	< 0.50	0.046	2.46	< 0.01	9.62	0.340	< 0.005	0.020	0.008 J	< 0.005	10.7	2.20	3.50
	Marina	B13-8106	1.9 J	0.70 J	< 0.02	< 0.01	0.02	< 1.00	0.055	13.8	< 3.00	0.110	1.29	6.91	0.006 J	0.041	0.113	0.015	3.78	< 0.50	0.019	2.39	< 0.01	9.47	0.306	0.011 J	0.020	0.006 J	< 0.005	14.2	2.10	8.40
	Deep	B13-8108	0.79 J	0.82 J	< 0.02	< 0.01	0.02	< 1.00	0.057	10.8	< 3.00	0.120	1.23	7.10	< 0.005	0.045	0.110	0.020	5.96	< 0.50	0.020	2.70	< 0.01	9.70	0.330	< 0.005	0.020	0.008 J	< 0.005	9.70	2.00	12.5
	Deep	B13-8109	0.43 J	1.6 J	< 0.02	< 0.01	0.03	< 1.00	0.043	15.5	< 3.00	0.170	1.24	7.01	< 0.005	0.055	0.078	0.040	2.29	< 0.50	0.031	2.14	< 0.01	9.76	0.495	0.01 J	0.040	0.007 J	< 0.005	6.70	2.20	5.40
Deep	B13-8111	0.8 J	1.1 J	< 0.02	0.01 J	0.02	< 1.00	0.045	40.0	< 3.00	0.140	1.27	8.83	0.006 J	0.047	0.126	0.030	1.62	< 0.50	0.026	4.04	< 0.01	8.65	0.350	0.016	0.01 J	< 0.005	< 0.005	10.0	2.40	5.70	
Deep	B13-8112	0.76 J	1.4 J	< 0.02	< 0.01	0.03	< 1.00	0.054	32.9	< 3.00	0.130	1.29	7.85	< 0.005	0.055	0.066	0.026	1.92	< 0.50	0.035	3.66	< 0.01	9.50	0.422	0.011 J	0.020	< 0.005	< 0.005	9.00	2.40	7.60	
San Diego Bay Central	Marina	B13-8113	1.2 J	1.1 J	< 0.02	< 0.01	0.02	< 1.00	0.040	9.90	< 3.00	0.110	1.26	7.35	0.0100	0.041	0.112	0.028	10.2	< 0.50	0.030	3.09	< 0.01	9.38	0.323	0.01 J	0.020	0.013	< 0.005	12.8	2.10	21.0
	Marina	B13-8116	1.0 J	0.91 J	0.03 J	< 0.01	0.02	< 1.00	0.063	10.1	< 3.00	0.120	1.14	8.25	< 0.005	0.053	0.166	0.026	8.10	< 0.50	0.039	3.87	< 0.01	9.45	0.331	0.011 J	0.020	0.007 J	< 0.005	11.6	2.00	18.9
	Marina	B13-8117	1.0 J	1.2 J	< 0.02	< 0.01	0.02	< 1.00	0.053	5.90	< 3.00	0.120	1.22	6.44	0.005 J	0.046	0.121	0.024	8.25	< 0.50												

Table F-1. RHMP 2013 Water Chen

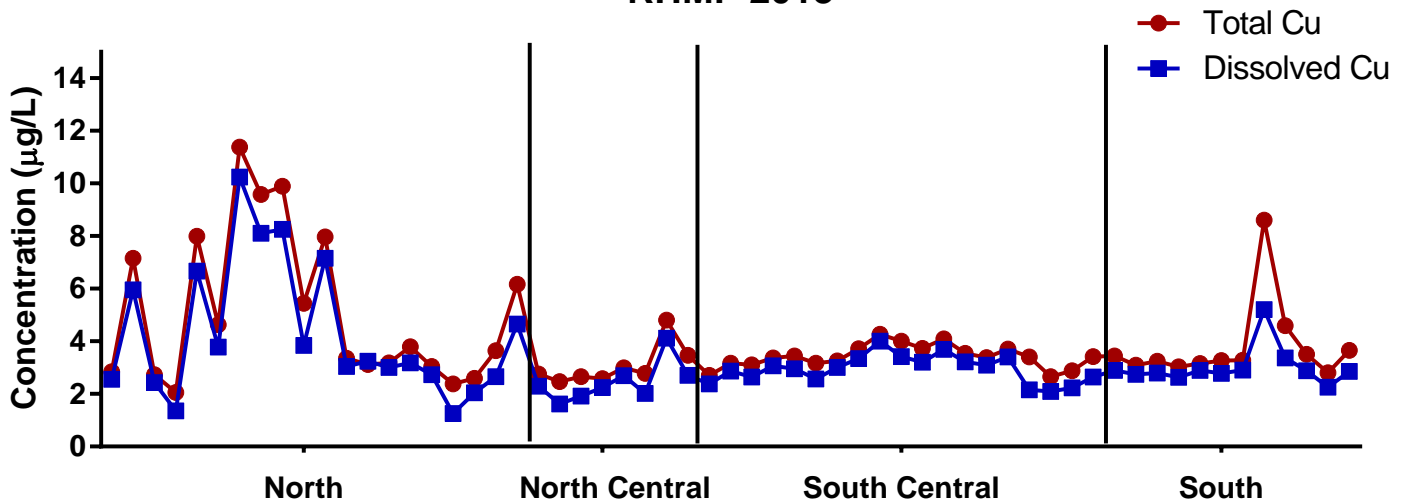
Harbor	Strata	Sample ID	Total Trace Metals (µg/L)																						
			Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Tin	Titanium	Vanadium	Zinc	
Dana Point Harbor	Marina	B13-8259	67.0	0.080	1.28	6.97	< 0.005	0.0456	0.268	0.0650	12.1	41.1	0.084	3.47	< 0.01	7.85	0.367	0.022	0.01 J	< 0.005	0.009 J	14.9	2.14	37.2	
	Deep	B13-8263	90.3	0.070	1.48	6.58	< 0.005	0.036	0.552	0.0300	4.90	57.2	0.094	3.42	< 0.01	7.82	0.350	0.011 J	0.020	< 0.005	< 0.005	17.9	2.35	18.7	
	Shallow	B13-8265	55.3	0.090	1.32	7.32	< 0.005	0.039	0.358	0.0180	8.20	36.4	0.074	2.91	< 0.01	7.54	0.291	0.013 J	0.01 J	< 0.005	< 0.005	15.0	2.15	22.4	
	Marina	B13-8267	135	0.080	1.43	5.54	< 0.005	0.041	0.458	0.0470	8.15	83.5	0.153	4.54	< 0.01	6.86	0.360	0.013 J	0.020	< 0.005	0.0130	19.0	2.42	35.3	
Oceanside Harbor	Marina	B13-8233	50.2	0.090	1.38	7.34	< 0.005	0.032	0.245	0.0240	6.78	40.9	0.050	15.6	< 0.01	8.54	0.277	0.011 J	0.020	< 0.005	0.007 J	15.8	2.25	18.8	
	Deep	B13-8236	82.1	0.080	1.44	7.98	< 0.005	0.034	0.291	0.0330	6.05	49.5	0.069	9.48	< 0.01	7.94	0.262	0.007 J	0.020	< 0.005	< 0.005	18.0	2.43	20.6	
	Deep	B13-8239	70.5	0.080	1.44	7.52	< 0.005	0.026	0.283	0.0320	3.44	44.6	0.063	4.42	< 0.01	8.50	0.262	0.020	0.020	< 0.005	< 0.005	17.1	2.39	10.4	
	Deep	B13-8145	25.6	0.080	1.36	5.30	0.005 J	0.025	0.274	0.0700	4.83	13.7	0.055	2.06	< 0.01	8.67	0.250	0.009 J	0.090	< 0.005	0.017	11.4	2.18	18.3	
Mission Bay	Marina	B13-8146	10.7	0.090	1.32	6.27	< 0.005	0.029	0.484	0.0740	6.54	7.5	0.046	1.97	< 0.01	8.43	0.399	0.013 J	0.100	< 0.005	0.010	10.8	2.15	32.0	
	Marina	B13-8151	74.5	0.090	1.42	6.95	< 0.005	0.024	0.357	0.0830	2.57	47	0.121	2.93	< 0.01	8.05	0.287	0.015	0.100	< 0.005	0.018	14.3	2.44	11.3	
	Deep	B13-8152	41.2	0.100	1.18	6.33	0.005 J	0.014	0.252	< 0.005	0.357	32.8	0.066	1.97	< 0.01	8.22	0.209	0.008 J	< 0.01	< 0.005	0.006 J	14.6	2.13	< 0.0025	
	Shallow	B13-8156	54.5	0.100	1.28	6.11	< 0.005	0.018	0.333	0.0210	0.621	40.8	0.096	2.77	< 0.01	8.72	0.267	0.025	< 0.01	< 0.005	0.009 J	13.7	2.31	1.99	
	Shallow	B13-8157	99.9	0.120	1.32	8.81	< 0.005	0.020	0.249	0.0730	0.622	71.4	0.137	8.27	< 0.01	8.43	0.310	0.013 J	< 0.01	< 0.005	0.008 J	16.1	2.60	< 0.0025	
	Shallow	B13-8159	381	0.140	1.88	13.3	0.0100	0.017	0.571	0.255	1.15	265	0.576	21.3	< 0.01	7.34	0.517	0.033	< 0.01	< 0.005	0.036	30.0	4.47	2.26	
	Freshwater-Influence	B13-8160	582	0.120	1.99	12.4	0.0190	0.022	0.936	0.300	1.28	396	0.794	29.6	< 0.01	7.12	0.667	0.033	< 0.01	< 0.005	0.034	42.3	4.84	1.16	
	Freshwater	B13-8163	18.9	0.140	1.75	11.3	< 0.005	0.020	0.101	0.0700	0.838	15	0.057	17.7	< 0.01	9.06	0.292	0.020	< 0.01	< 0.005	< 0.005	14.4	2.71	< 0.0025	
San Diego Bay North	Deep	B13-8085	64.2	0.140	1.28	8.05	0.005 J	0.045	0.255	0.0420	2.06	41.6	0.144	4.57	< 0.01	9.51	0.411	0.013 J	0.020	0.0100	0.009 J	13.5	2.22	4.31	
	Marina	B13-8102	40.6	0.130	1.31	6.97	< 0.005	0.049	0.206	0.0480	7.99	17.1	0.071	4.01	< 0.01	9.39	0.351	0.022	0.020	0.0110	< 0.005	13.3	2.19	19.8	
	Shallow	B13-8105	224	0.130	1.37	8.54	0.006 J	0.051	0.509	0.0890	2.38	135	0.395	7.17	< 0.01	8.75	0.506	0.021	0.020	0.0120	< 0.005	19.2	2.66	7.25	
	Marina	B13-8106	64.6	0.130	1.23	7.11	< 0.005	0.039	0.253	0.0440	4.63	31.7	0.104	4.17	< 0.01	9.40	0.354	0.011 J	0.01 J	0.008 J	< 0.005	12.7	2.19	11.6	
	Deep	B13-8108	64.0	0.120	1.40	8.30	< 0.005	0.050	0.250	0.0500	7.16	30.1	0.110	4.50	< 0.01	9.50	0.370	0.008 J	0.01 J	0.010	< 0.005	14.2	2.20	17.4	
	Deep	B13-8109	27.9	0.110	1.22	7.21	0.007 J	0.059	0.199	0.0640	2.76	18.6	0.128	5.58	< 0.01	9.78	0.489	0.01 J	0.030	0.008 J	0.022	9.62	2.42	7.79	
	Deep	B13-8111	102	0.150	1.41	8.40	0.006 J	0.058	0.343	0.0670	2.47	65.6	0.223	7.16	< 0.01	9.76	0.494	0.015	0.01 J	< 0.005	0.018	13.6	2.59	6.01	
	Deep	B13-8112	133	0.140	1.31	8.34	< 0.005	0.060	0.377	0.0940	2.66	73.8	0.255	7.86	< 0.01	9.40	0.523	0.018	0.01 J	0.006 J	0.013	13.1	2.72	6.01	
	Marina	B13-8113	70.4	0.130	1.33	8.36	< 0.005	0.047	0.243	0.0440	11.4	31.2	0.104	4.48	< 0.01	9.17	0.337	0.015	< 0.01	0.005 J	0.011	13.2	2.21	23.2	
	Marina	B13-8116	86.8	0.120	1.39	9.66	< 0.005	0.053	0.306	0.0630	9.58	39.6	0.179	5.59	< 0.01	9.24	0.382	0.019	0.020	0.0110	< 0.005	12.8	2.31	25.4	
	Marina	B13-8117	53.2	0.120	1.25	6.72	0.007 J	0.053	0.250	0.0640	9.89	24.7	0.100	4.34	< 0.01	9.55	0.331	0.006 J	0.020	0.0140	< 0.005	13.5	2.21	23.8	
	Deep	B13-8118	19.1	0.110	1.16	8.00	< 0.005	0.054	0.140	0.0560	2.58	12.4	0.118	5.05	< 0.01	10.0	0.467	0.013 J	0.030	0.008 J	< 0.005	7.47	2.26	5.70	
	Marina	B13-8121	190	0.140	1.32	8.75	< 0.005	0.050	0.505	0.0780	5.44	106	0.438	6.99	0.01 J	8.65	0.418	0.006 J	< 0.01	0.007 J	0.019	16.1	2.59	13.3	
	Deep	B13-8122	24.4	0.100	1.25	7.78	< 0.005	0.058	0.207	0.0590	2.73	14.9	0.121	4.90	< 0.01	9.80	0.451	0.009 J	0.030	0.005 J	0.023	8.41	2.27	6.18	
	Shallow	B13-8123	137	0.130	1.30	7.74	0.006 J	0.061	0.369	0.0820	2.60	76.7	0.261	7.72	< 0.01	9.04	0.502	0.021	0.01 J	0.006 J	0.006 J	15.0	2.69	5.76	
	Shallow	B13-8124	152	0.150	1.21	8.48	< 0.005	0.063	0.460	0.0900	3.64	84.3	0.296	8.60	< 0.01	9.43	0.534	0.020	0.01 J	< 0.005	0.009 J	14.3	2.65	8.27	
	Marina	B13-8127	68.3	0.140	1.22	8.46	< 0.005	0.059	0.265	0.0700	7.97	35.6	0.126	5.30	< 0.01	9.22	0.378	< 0.005	< 0.01	< 0.005	0.008 J	10.4	2.34	21.7	
	Shallow	B13-8128	124	0.140	1.30	10.3	< 0.005	0.067	0.442	0.0820	6.17	66.3	0.238	10.9	< 0.01	9.32	0.504	0.009 J	< 0.01	0.006 J	0.012	14.2	2.59	16.1	
	Freshwater-Influence	B13-8500	142	0.130	1.33	8.39	< 0.005	0.056	0.425	0.0890	2.78	78	0.301	8.25	< 0.01	9.16	0.510	0.006 J	0.020	0.008 J	0.013	13.9	2.68	6.25	
	San Diego Bay Central	Deep	B13-8045	52.4	0.090	1.05	9.19	0.005 J	0.071	0.148	0.103	3.17	36.2	0.113	10.4	< 0.01	10.5	0.652	0.019	0.020	0.010	< 0.005	9.02	2.47	5.21
Industrial/Port		B13-8049	89.8	0.140	1.16	9.76	< 0.005	0.073	0.325	0.0860	3.37	30.4	0.155	10.8	< 0.01	10.0	0.683	0.018	0.060	< 0.005	0.027	16.6	3.09	3.44	
Industrial/Port		B13-8050	103	0.160	1.26	9.17	< 0.005	0.068	0.345	0.097	3.44	42.1	0.187	11.1	< 0.01	9.90	0.680	0.027	0.070	< 0.005	0.023	18.0	3.13	3.58	
Shallow		B13-8052	272	0.100	1.19	8.95	0.005 J	0.065	0.635	0.139	2.88	165	0.369	11.2	< 0.01	9.55	0.643	0.022	0.060	0.0120	0.033	21.6	3.25	6.06	
Industrial/Port		B13-8053	112	0.170	1.19	9.92	< 0.005	0.075	0.367	0.095	3.17	54.9	0.104	10.0	< 0.01	9.50	0.683	0.025	< 0.01	< 0.005	0.011	11.7	2.89	5.53	
Industrial/Port		B13-8056	106	0.130	1.39	10.7	< 0.005	0.062	0.332	0.0920	3.25	40.8	0.196	10.9	< 0.01	8.									

Dissolved vs Total Copper and Zinc Plots

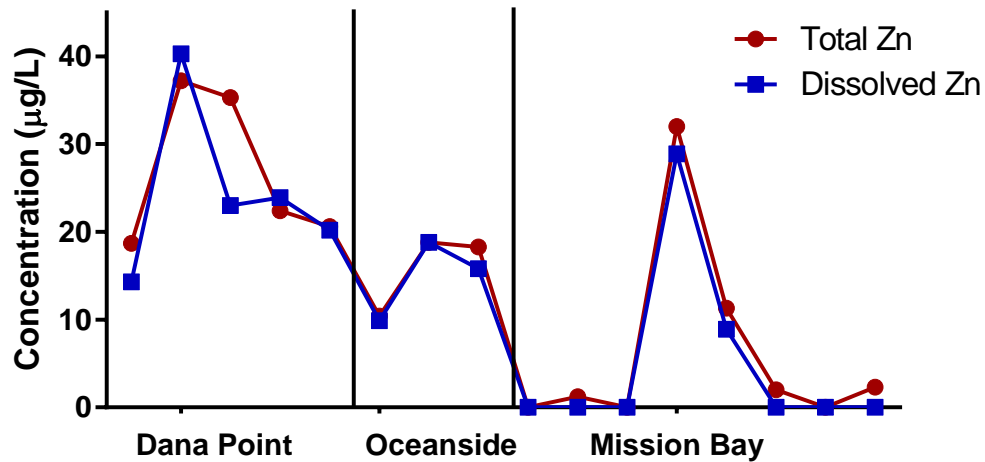
Total and Dissolved Copper North Harbors RHMP 2013



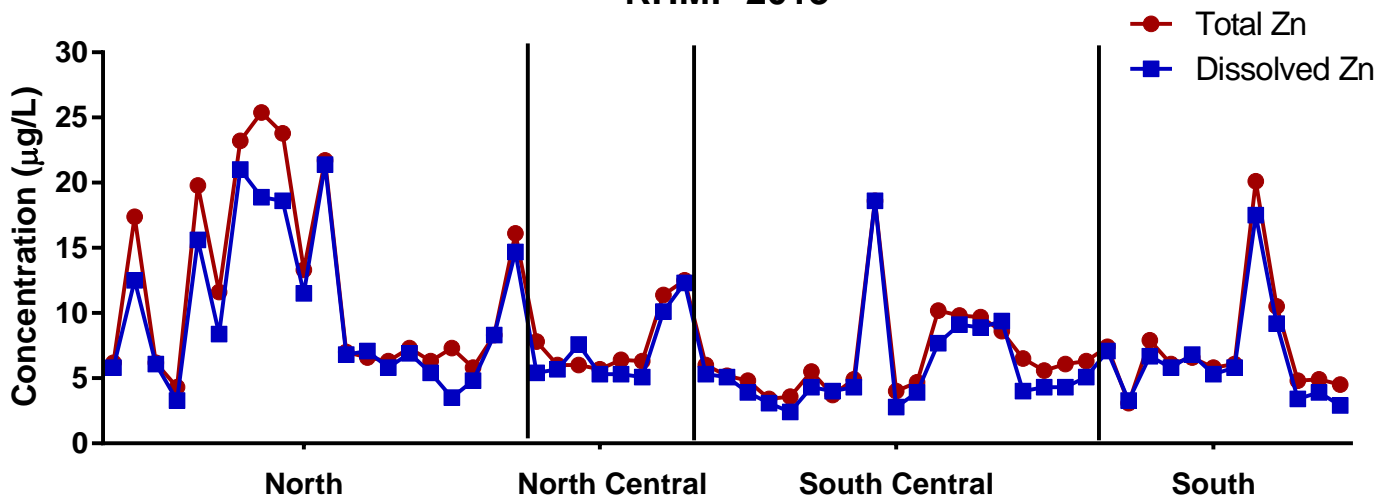
Total and Dissolved Copper San Diego Bay RHMP 2013



Total and Dissolved Zinc North Harbors RHMP 2013



Total and Dissolved Zinc San Diego Bay RHMP 2013



Sediments

Table F-2. RHMP 2013 Sediment Chemistry

Harbor	Strata	Station ID	General Chemistry				AVS-SEM Values and Calculations					CSI Score	CSI Category	ER-L Exceedances	ER-M Exceedances	Mean ER-M Quotient	Metals (mg/kg)																
			Ammonia-N (mg/kg)	Percent Solids (%)	Total Nitrogen (%)	Total Organic Carbon (%)	Acid Volatile Sulfides (mg/kg)	Acid Volatile Sulfides (umol/dry g)	Sum of SEM (umol/dry g)	SEM:AVS Ratio	SEM:AVS Ratio norm. to IOC						Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Iron	Lead	Mercury	Nickel	Selenium	Silver	Phosphorus	Zinc	
ER-L			--	--	--	--	--				--	--	--	--	--	--	--	--	--	8.20	--	--	1.20	81.0	34.0	--	46.7	0.15	20.9	--	1.00	--	150
ER-M			--	--	--	--	--				--	--	--	--	--	--	--	--	--	70.0	--	--	9.60	370	270	--	218	0.71	51.6	--	3.70	--	410
Dana Point Harbor	Marina	B13-8259	2.31	46.7	0.11	1.31	59.1	1.84	3.26	1.77	108	1.71	Low Exposure	3	1	0.19	28164	0.30	9.73	219	0.66	0.20	51.6	293	24258	17.9	0.07	16.7	0.63	0.14	762	225	
	Deep	B13-8263	3.18	61.2	0.03	1.63	58.1	1.81	0.70	0.38	-68.4	1.05	Minimal Exposure	1	0	0.07	12028	0.21	4.57	81.1	0.29	0.38	34.3	37.4	12887	8.25	0.02	15.0	0.35	0.07	606	73.5	
	Shallow	B13-8265	1.78	55.6	0.05	1.72	103	3.21	1.67	0.52	-89.5	1.55	Minimal Exposure	2	0	0.12	20313	0.29	7.76	141	0.47	0.27	49.8	113	17697	10.7	0.03	17.4	0.84	0.14	968	120	
	Marina	B13-8267	4.22	40.9	0.12	2.59	173	5.40	3.56	0.66	-71.1	1.98	Low Exposure	6	1	0.28	32302	0.48	12.0	188	0.75	0.35	67.3	402	27688	27.0	0.07	22.7	0.66	0.22	935	275	
Oceanside Harbor	Marina	B13-8233	3.95	44.0	0.13	2.72	175	5.45	4.31	0.79	-41.9	1.76	Low Exposure	6	1	0.28	41528	0.37	12.4	165	0.77	0.27	65.9	364	42546	22.4	0.32	23.9	0.44	0.22	977	317	
	Deep	B13-8236	4.36	49.2	0.08	2.49	74.9	2.33	2.07	0.88	-10.8	1.60	Minimal Exposure	3	0	0.16	35385	0.26	9.41	150	0.63	0.25	55.0	145	35802	14.8	0.15	20.3	0.33	0.12	729	185	
	Deep	B13-8239	6.26	51.5	0.08	2.11	405	12.6	0.54	0.04	-573	1.05	Minimal Exposure	1	0	0.09	21140	0.18	6.83	135	0.43	0.27	41.6	46.2	26811	7.89	0.03	16.9	0.33	0.06	574	106	
	Deep	B13-8145	5.41	57.7	0.06	1.31	32.0	1.00	1.33	1.34	25.5	1.53	Minimal Exposure	2	0	0.11	15663	0.20	5.83	67.0	0.30	0.15	26.2	105	18608	13.4	0.11	7.72	0.29	0.10	732	91.7	
Mission Bay	Marina	B13-8146	2.97	53.0	0.12	1.61	8.09	0.25	3.61	14.3	209	1.76	Low Exposure	3	1	0.19	20272	0.28	7.26	72.5	0.39	0.36	32.7	132	21032	19.6	0.19	9.22	0.41	0.15	893	486	
	Marina	B13-8151	7.46	31.9	< 0.01	1.00	100	3.11	1.51	0.48	-161	1.70	Low Exposure	4	0	0.14	30565	0.37	9.81	114	0.59	0.25	50.9	102	32936	28.1	0.18	15.6	0.64	0.19	706	160	
	Deep	B13-8152	1.87	76.1	0.04	2.99	0.08 J	0.00	0.08	31.4	2.5	1.20	Minimal Exposure	1	0	0.03	2830	0.04	1.37	13.1	0.05 J	0.02	4.88	1.84	3441	1.96	0.00	1.14	0.03 J	< 0.01	172	10.2	
	Shallow	B13-8156	5.70	41.2	0.53	6.39	24.4	0.76	0.76	1.00	0.0	1.03	Minimal Exposure	0	0	0.08	19157	0.16	6.63	90.1	0.39	0.23	37.5	31.6	24942	15.7	0.08	11.1	0.35	0.14	563	89.8	
	Shallow	B13-8157	5.86	47.3	0.09	2.09	180	5.62	0.67	0.12	-237	1.00	Minimal Exposure	0	0	0.08	32719	0.23	8.20	121	0.58	0.20	44.1	28.4	31320	17.6	0.05	12.8	0.28	0.12	588	98.8	
	Shallow	B13-8159	6.08	30.9	0.14	2.42	190	5.93	1.14	0.19	-198	1.31	Minimal Exposure	3	0	0.13	52121	0.50	16.3	120	1.18	0.24	55.8	48.4	44488	42.8	0.08	19.3	0.51	0.22	803	152	
	Freshwater-Influence	B13-8160	9.62	34.7	0.10	2.10	86	2.68	1.19	0.44	-71.0	1.31	Minimal Exposure	2	0	0.11	30271	0.44	13.8	93.3	0.85	0.30	41.7	42.7	34072	36.5	0.08	14.8	0.51	0.21	748	145	
	Freshwater-Influence	B13-8163	7.87	45.6	0.12	2.24	137	4.29	1.20	0.28	-138	1.74	Low Exposure	4	0	0.15	27114	0.63	10.2	97.3	0.82	0.33	28.9	34.6	24265	27.4	0.06	11.2	0.51	0.13	537	133	
	Deep	B13-8085	9.07	42.2	0.11	2.26	570	17.76	0.87	0.05	-748	1.42	Minimal Exposure	4	0	0.15	27355	0.33	9.86	108	0.51	0.48	47.7	81.7	30817	21.6	0.22	17.4	0.57	0.58	788	157	
San Diego Bay North	Marina	B13-8102	5.56	44.9	< 0.01	1.52	24.1	0.75	2.70	3.59	128	2.04	Low Exposure	4	1	0.27	32515	0.30	10.8	107	0.58	0.36	58.1	197	33519	34.2	0.72	16.4	0.43	0.72	746	237	
	Shallow	B13-8105	2.66	68.7	< 0.01	0.02	22.3	0.70	0.57	0.82	-613	1.26	Minimal Exposure	2	0	0.11	11845	0.30	3.26	45.5	0.18	0.24	25.1	39.2	11184	14.7	0.11	6.15	0.11	0.33	297	70.1	
	Marina	B13-8106	2.89	60.5	0.01	0.67	12.0	0.37	1.68	4.48	195	1.72	Low Exposure	2	0	0.16	16892	0.16	6.39	59.8	0.31	0.17	31.8	104	19483	20.2	0.46	8.91	0.17	0.38	447	134	
	Deep	B13-8108	1.57	65.6	< 0.01	0.34	5.16	0.16	1.16	7.20	293	1.27	Minimal Exposure	2	0	0.12	12500	0.14	5.10	35.5	0.22	0.12	21.9	69.9	12636	14.3	0.47	5.68	0.11	0.28	337	83.1	
	Deep	B13-8109	0.48	64.7	0.31	0.50	5.96	0.19	1.06	5.71	175	1.05	Minimal Exposure	2	0	0.10	14475	0.17	5.51	51.9	0.29	0.12	27.2	46.0	16031	20.6	0.23	7.22	0.15	0.35	313	92.5	
	Deep	B13-8111	3.12	42.8	0.28	1.30	7.42	0.23	2.96	12.8	210	2.16	Low Exposure	7	1	0.37	44068	0.44	14.7	135	0.80	0.26	77.9	147	40012	49.2	1.19	20.5	0.43	1.02	837	240	
	Deep	B13-8112	5.20	53.8	< 0.01	1.00	19.4	0.61	1.39	2.30	78.7	1.52	Minimal Exposure	2	0	0.15	27654	0.33	7.78	103	0.47	0.14	42.5	72.6	24583	24.8	0.36	11.9	0.22	0.61	474	132	
	Marina	B13-8113	1.31	51.8	0.07	0.70	1.46	0.05	2.59	56.8	363	1.84	Low Exposure	4	1	0.30	30384	0.27	10.8	103	0.54	0.13	48.2	171	32261	27.3	1.33	13.1	0.21	0.40	537	183	
	Marina	B13-8116	1.55	67.6	0.24	0.16	2.87	0.09	2.15	24.0	1287	2.39	Moderate Exposure	5	1	0.26	12989	0.35	5.08	136	0.23	0.09	21.8	137	13878	29.7	0.84	5.98	0.13	0.30	269	123	
	Marina	B13-8117	1.26	43.5	0.29	0.99	1.27	0.04	3.56	89.9	356	2.00	Low Exposure	4	1	0.42	42692	0.28	16.8	113	0.72	0.16	72.1	236	44681	43.9	1.93	18.1	0.35	0.53	827	257	
	Deep	B13-8118	0.47	54.0	0.48	1.09	4.29	0.13	2.21	16.5	191	1.77	Low Exposure	4	0	0.21	31357	0.33	11.2	98.8	0.55	0.18	55.5	99.1	31527	36.0							

Table F-2. RHMP 2013 Sediment Chemistry

Harbor	Strata	Station ID	Total PAHs ¹ (µg/kg)	Pesticides (µg/kg)					Total PBDEs ¹ (µg/kg)	% Fines (Silt + Clay)	
				2,4'-DDE & 4,4'-DDE	2,4'-DDT & 4,4'-DDT	Total Detectable DDTs ²	Total Chlordanes ³ (µg/kg)	Total Pyrethroids ¹ (µg/kg)			
ER-L			4022	--	--	1.58	0.50	--	--	--	
ER-M			44792	--	--	46.1	6.00	--	--	--	
Dana Point Harbor	Marina	B13-8259	148	1.07	< 0.05	1.07	< 0.05	< 0.25	1.01	79.0	
	Deep	B13-8263	155	1.56	< 0.05	1.56	< 0.05	< 0.25	1.41	60.6	
	Shallow	B13-8265	102	1.80	< 0.05	1.80	< 0.05	0.37	1.85	68.8	
	Marina	B13-8267	849	2.66	< 0.05	2.66	1.20	1.19	0.56	83.5	
Oceanside Harbor	Marina	B13-8233	97.3	1.73	< 0.05	1.73	< 0.05	< 0.25	0.51	79.3	
	Deep	B13-8236	77.6	0.63	< 0.05	0.63	< 0.05	< 0.25	0.55	68.9	
	Deep	B13-8239	40.3	0.80	< 0.05	0.80	< 0.05	< 0.25	0.46	63.0	
	Deep	B13-8145	126	0.87	< 0.05	0.87	1.16	< 0.25	0.41	44.9	
Mission Bay	Marina	B13-8146	397	0.92	< 0.05	0.92	< 0.05	< 0.25	< 0.05	54.1	
	Marina	B13-8151	200	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.76	65.3	
	Deep	B13-8152	29.5	0.22	< 0.05	0.22	1.70	< 0.25	0.26	4.28	
	Shallow	B13-8156	1322	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.53	66.0	
	Shallow	B13-8157	38.8	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.41	54.2	
	Shallow	B13-8159	111	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	1.04	87.3	
	Freshwater-Influence	B13-8160	70.1	< 0.05	< 0.05	< 0.05	< 0.05	1.59	1.09	80.3	
	Freshwater-Influence	B13-8163	342	1.76	< 0.05	1.76	4.29	0.780	0.74	60.7	
	San Diego Bay North	Deep	B13-8085	667	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.17	68.2
		Marina	B13-8102	1405	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.18	80.7
Shallow		B13-8105	632	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.24	22.8	
Marina		B13-8106	679	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.61	54.8	
Deep		B13-8108	184	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.13	42.5	
Deep		B13-8109	502	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	< 0.05	37.3	
Deep		B13-8111	2926	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.20	80.9	
Deep		B13-8112	2605	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	3.99	60.0	
Marina		B13-8113	292	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.19	76.9	
Marina		B13-8116	1371	2.06	< 0.05	2.06	4.01	1.91	1.20	43.4	
Marina		B13-8117	495	< 0.05	< 0.05	< 0.05	< 0.05	0.67	12.1	84.0	
Deep		B13-8118	716	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.07 J	65.1	
Marina		B13-8121	4276	5.00	1.13	8.75	< 0.05	< 0.25	13.0	74.0	
Deep		B13-8122	146	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	< 0.05	18.7	
Shallow		B13-8123	424	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.130	33.1	
Shallow		B13-8124	401	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.15	35.3	
Marina		B13-8127	407	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	7.70	93.9	
Shallow		B13-8128	607	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	18.1	60.6	
Freshwater-Influence		B13-8500	1644	5.52	< 0.05	46.3	34.1	19.1	31.3	46.0	
San Diego Bay Central		Deep	B13-8045	146	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	8.94	65.3
	Industrial/Port	B13-8049	261	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	6.09	77.8	
	Industrial/Port	B13-8050	208	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	6.50	61.8	
	Shallow	B13-8052	68.9	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	< 0.05	55.3	
	Industrial/Port	B13-8053	141	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.14	14.0	
	Industrial/Port	B13-8056	988	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	17.3	73.5	
	Shallow	B13-8058	96.2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	< 0.05	34.1	
	Shallow	B13-8060	130	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.08 J	60.7	
	Industrial/Port	B13-8064	431	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	22.0	85.0	
	Industrial/Port	B13-8065	1192	< 0.05	< 0.05	< 0.05	< 0.05	0.92	26.1	72.8	
	Industrial/Port	B13-8066	425	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	10.0	80.5	
	Shallow	B13-8068	60.7	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	< 0.05	18.8	
	Industrial/Port	B13-8069	517	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	11.0	69.5	
	Marina	B13-8073	29.8	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.07 J	27.8	
	Freshwater-Influence	B13-8074	846	2.12	8.33	10.5	3.82	0.55	49.0	76.9	
	Freshwater-Influence	B13-8075	1321	6.81	5.33	12.1	10.5	0.49	58.5	76.4	
	Freshwater-Influence	B13-8076	1848	1.37	18.8	26.1	1.79	0.55	41.1	74.8	
	Freshwater-Influence	B13-8077	1410	5.23	10.7	18.0	13.3	< 0.25	31.0	57.2	
	Deep	B13-8078	316	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.06 J	50.4	
	Deep	B13-8087	67.2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.06 J	28.6	
	Industrial/Port	B13-8090	3155	< 0.05	< 0.05	< 0.05	0.630	< 0.25	< 0.05	77.6	
	Deep	B13-8093	176	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	< 0.05	34.5	
	Industrial/Port	B13-8095	868	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.25	82.5	
	Industrial/Port	B13-8096	438	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.20	35.9	
	Industrial/Port	B13-8098	809	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.15	28.8	
	Industrial/Port	B13-8099	1633	< 0.05	< 0.05	< 0.05	1.12	< 0.25	0.90	64.0	
Industrial/Port	B13-8100	1986	< 0.05	< 0.05	< 0.05	1.33	< 0.25	1.32	75.3		
San Diego Bay South	Marina	B13-8013	449	< 0.05	< 0.05	< 0.05	< 0.05	2.31	0.36	74.2	
	Marina	B13-8014	33.4	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.78	30.5	
	Shallow	B13-8017	74.4	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	2.44	49.8	
	Shallow	B13-8018	120	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	< 0.05	10.5	
	Shallow	B13-8020	125	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	27.0	68.9	
	Freshwater-Influence	B13-8028	176	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.06 J	47.8	
	Freshwater-Influence	B13-8029	91.4	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	7.42	38.8	
	Freshwater-Influence	B13-8030	251	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	< 0.05	36.8	
	Freshwater-Influence	B13-8031	4.30 J	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	< 0.05	72.3	
	Freshwater-Influence	B13-8033	239	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.66	55.7	
	Freshwater-Influence	B13-8036	617	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	14.0	44.0	
	Freshwater-Influence	B13-8038	181	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	0.34	50.9	
	Freshwater-Influence	B13-8040	204	0.91	< 0.05	0.91	0.18	< 0.25	0.13	73.3	

Notes:

All values reported in dry weight

-- = No applicable ER-L/ER-M

ug/kg = micrograms per dry kilogram

mg/kg = milligrams per dry kilogram

umol/g = micromoles per gram

< Data reported to the method detection limit

J = estimated result, below the reporting limit, but above the MDL

% = percent

ER-L = Effects Range-Low; ER-M = Effects Range-Median

SQO CSI = Sediment Quality Objective Chemical Score Index

PAH = Polycyclic Aromatic Hydrocarbons

PCB = Polychlorinated Biphenyl

PBDE = Polybrominated diphenyl ethers

1 = The specific compounds comprising the sums of the PAH, Pi

2 = Total Detectable DDTs in the sum of 2,4'-DDD, 4,4'-DDD, 2,4'

3 = Total Chlordanes in the sum of alpha-chlordane and gamma-

Appendix Table F-3. 2013 RHMP Grain Size Data Summary

Harbor	Strata	Station	Grain Size Classification (%)				
			Gravel	Sand	Silt	Clay	Fines (Silt + Clay)
Dana Point Harbor	Marina	B13-8259	0.0	21.0	78.0	1.0	79.0
	Deep	B13-8263	0.0	39.4	60.4	0.2	60.6
	Shallow	B13-8265	0.0	31.2	68.5	0.3	68.8
	Marina	B13-8267	0.0	16.5	82.8	0.7	83.5
Oceanside Harbor	Marina	B13-8233	0.0	20.7	79.0	0.3	79.3
	Deep	B13-8236	0.0	31.1	68.8	0.1	68.9
	Deep	B13-8239	0.0	37.0	63.0	0.0	63.0
Mission Bay	Deep	B13-8145	0.0	55.1	44.8	0.1	44.9
	Marina	B13-8146	0.0	45.9	54.0	0.1	54.1
	Marina	B13-8151	0.0	34.7	65.3	0.0	65.3
	Deep	B13-8152	0.0	95.7	4.3	0.0	4.3
	Shallow	B13-8156	0.0	34.0	65.9	0.1	66.0
	Shallow	B13-8157	0.0	45.8	53.8	0.3	54.2
	Shallow	B13-8159	0.0	12.7	86.4	0.9	87.3
	Freshwater-Influenced	B13-8160	0.0	19.7	79.7	0.7	80.3
	Freshwater-Influenced	B13-8163	0.0	39.3	60.6	0.2	60.7
San Diego Bay - North	Deep	B13-8085	0.0	31.8	68.1	0.2	68.2
	Marina	B13-8102	0.0	19.3	79.9	0.7	80.7
	Shallow	B13-8105	0.0	77.2	22.7	0.2	22.8
	Marina	B13-8106	0.0	45.2	54.1	0.7	54.8
	Deep	B13-8108	0.0	57.5	41.7	0.7	42.5
	Deep	B13-8109	0.0	62.7	36.8	0.5	37.3
	Deep	B13-8111	0.0	19.1	79.7	1.2	80.9
	Deep	B13-8112	0.0	40.0	59.2	0.8	60.0
	Marina	B13-8113	0.0	23.1	76.3	0.7	76.9
	Marina	B13-8116	0.0	56.6	42.5	1.0	43.4
	Marina	B13-8117	0.0	16.0	82.5	1.5	84.0
	Deep	B13-8118	0.0	34.9	64.0	1.1	65.1
	Marina	B13-8121	0.0	26.0	73.5	0.5	74.0
	Deep	B13-8122	0.0	81.3	18.6	0.2	18.7
	Shallow	B13-8123	0.0	66.9	32.6	0.5	33.1
	Shallow	B13-8124	0.0	64.7	34.9	0.4	35.3
	Marina	B13-8127	0.0	6.1	92.5	1.4	93.9
	Shallow	B13-8128	0.0	39.4	59.8	0.8	60.6
	Freshwater-Influenced	B13-8500	0.0	54.0	45.4	0.6	46.0
San Diego Bay - Central	Deep	B13-8045	0.0	34.7	62.1	3.2	65.3
	Industrial/Port	B13-8049	0.0	22.2	75.4	2.5	77.8
	Industrial/Port	B13-8050	0.0	38.2	59.7	2.0	61.8
	Shallow	B13-8052	0.0	44.7	53.3	2.0	55.3
	Industrial/Port	B13-8053	4.3	81.6	14.0	0.0	14.0
	Industrial/Port	B13-8056	0.0	26.5	71.6	1.9	73.5
	Shallow	B13-8058	0.0	65.9	32.8	1.3	34.1
	Shallow	B13-8060	0.0	39.3	58.8	1.9	60.7
	Industrial/Port	B13-8064	0.0	15.0	81.5	3.5	85.0
	Industrial/Port	B13-8065	0.0	27.2	71.3	1.5	72.8
	Industrial/Port	B13-8066	0.0	19.5	78.9	1.6	80.5
	Shallow	B13-8068	0.0	81.3	18.0	0.8	18.8
	Industrial/Port	B13-8069	0.0	30.5	68.2	1.4	69.5
	Marina	B13-8073	0.0	72.2	27.4	0.4	27.8
	Freshwater-Influenced	B13-8074	0.0	23.1	74.6	2.2	76.9
	Freshwater-Influenced	B13-8075	0.0	23.6	74.3	2.1	76.4
	Freshwater-Influenced	B13-8076	0.0	25.2	73.2	1.7	74.8
	Freshwater-Influenced	B13-8077	0.0	42.8	56.3	0.9	57.2
	Deep	B13-8078	0.0	49.6	49.1	1.3	50.4
	Deep	B13-8087	0.0	71.4	28.2	0.4	28.6
	Industrial/Port	B13-8090	0.0	22.4	76.0	1.6	77.6
	Deep	B13-8093	0.0	65.5	33.6	0.9	34.5
	Industrial/Port	B13-8095	0.0	17.5	81.0	1.6	82.5
	Industrial/Port	B13-8096	0.0	64.1	34.8	1.0	35.9
	Industrial/Port	B13-8098	0.0	71.2	28.0	0.8	28.8
	Industrial/Port	B13-8099	0.0	36.0	62.8	1.2	64.0
	Industrial/Port	B13-8100	0.0	24.7	73.9	1.4	75.3
San Diego Bay - South	Marina	B13-8013	0.0	25.8	72.7	1.5	74.2
	Marina	B13-8014	0.0	69.5	29.9	0.6	30.5
	Shallow	B13-8017	0.0	50.2	48.8	1.0	49.8
	Shallow	B13-8018	0.0	89.5	10.5	0.0	10.5
	Shallow	B13-8020	0.0	31.1	66.5	2.4	68.9
	Freshwater-Influenced	B13-8028	0.0	52.2	47.0	0.8	47.8
	Freshwater-Influenced	B13-8029	0.0	61.2	38.0	0.8	38.8
	Freshwater-Influenced	B13-8030	0.0	63.2	36.0	0.8	36.8
	Freshwater-Influenced	B13-8031	0.0	27.7	70.5	1.7	72.3
	Freshwater-Influenced	B13-8033	0.0	44.3	54.4	1.2	55.7
	Freshwater-Influenced	B13-8036	0.0	56.0	43.3	0.7	44.0
	Freshwater-Influenced	B13-8038	0.0	49.1	50.2	0.7	50.9
	Freshwater-Influenced	B13-8040	0.0	26.7	71.7	1.6	73.3

% = percent.

Geographical Distribution Maps for Select Chemical Parameters

Water

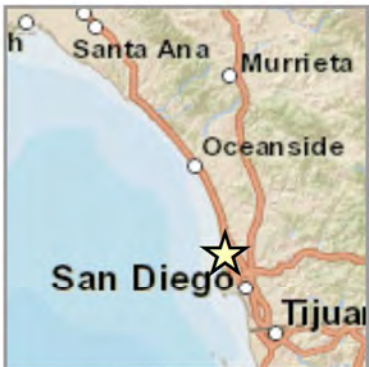


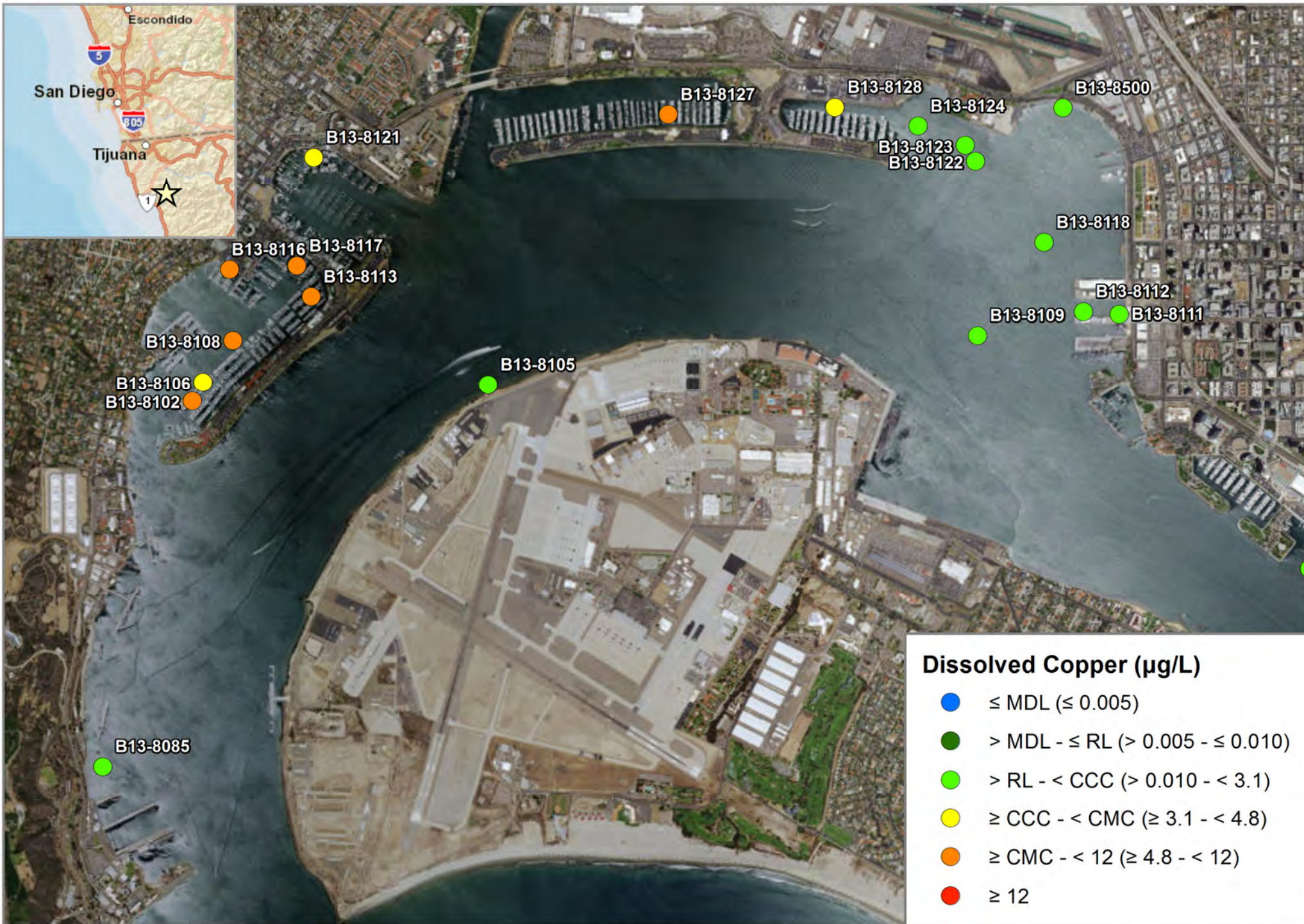


Dissolved Copper ($\mu\text{g/L}$)

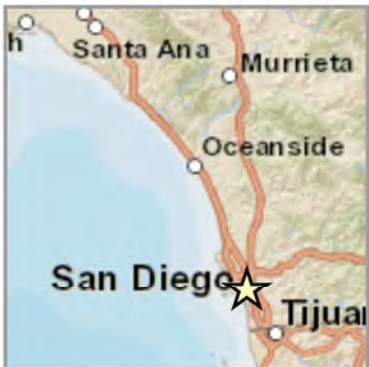
- $\leq \text{MDL}$ (≤ 0.005)
- $> \text{MDL} - \leq \text{RL}$ ($> 0.005 - \leq 0.010$)
- $> \text{RL} - < \text{CCC}$ ($> 0.010 - < 3.1$)
- $\geq \text{CCC} - < \text{CMC}$ ($\geq 3.1 - < 4.8$)
- $\geq \text{CMC} - < 12$ ($\geq 4.8 - < 12$)
- ≥ 12

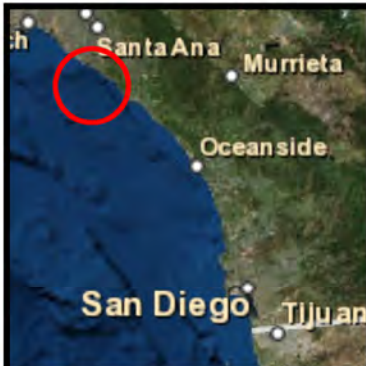




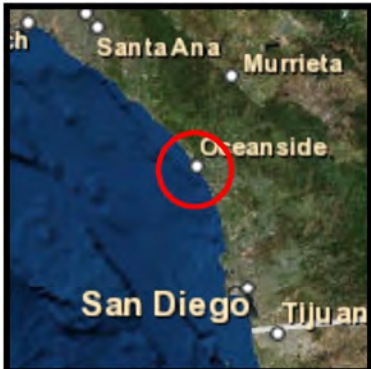








Water Chemistry Concentration - Dissolved Zinc
Dana Point Harbor
RHMP 2013



Water Chemistry Concentration - Dissolved Zinc
Oceanside Harbor
RHMP 2013



Water Chemistry

Dissolved Zinc (ug/L)

- ≤ MDL (< 0.0025)
- > MDL - ≤ RL (0.0025 - 0.0050)
- > RL - ≤ CCC (0.0050 - 81.0)
- > CCC - ≤ CCM (81.0 - 90.0)
- > CCM - ≤ 200 (90.0 - 200)
- > 200



Water Chemistry Concentration - Dissolved Zinc
North San Diego Bay
RHMP 2013



Water Chemistry Concentration - Dissolved Zinc
Central San Diego Bay
RHMP 2013



Water Chemistry Concentration - Dissolved Zinc
 South San Diego Bay
 RHMP 2013

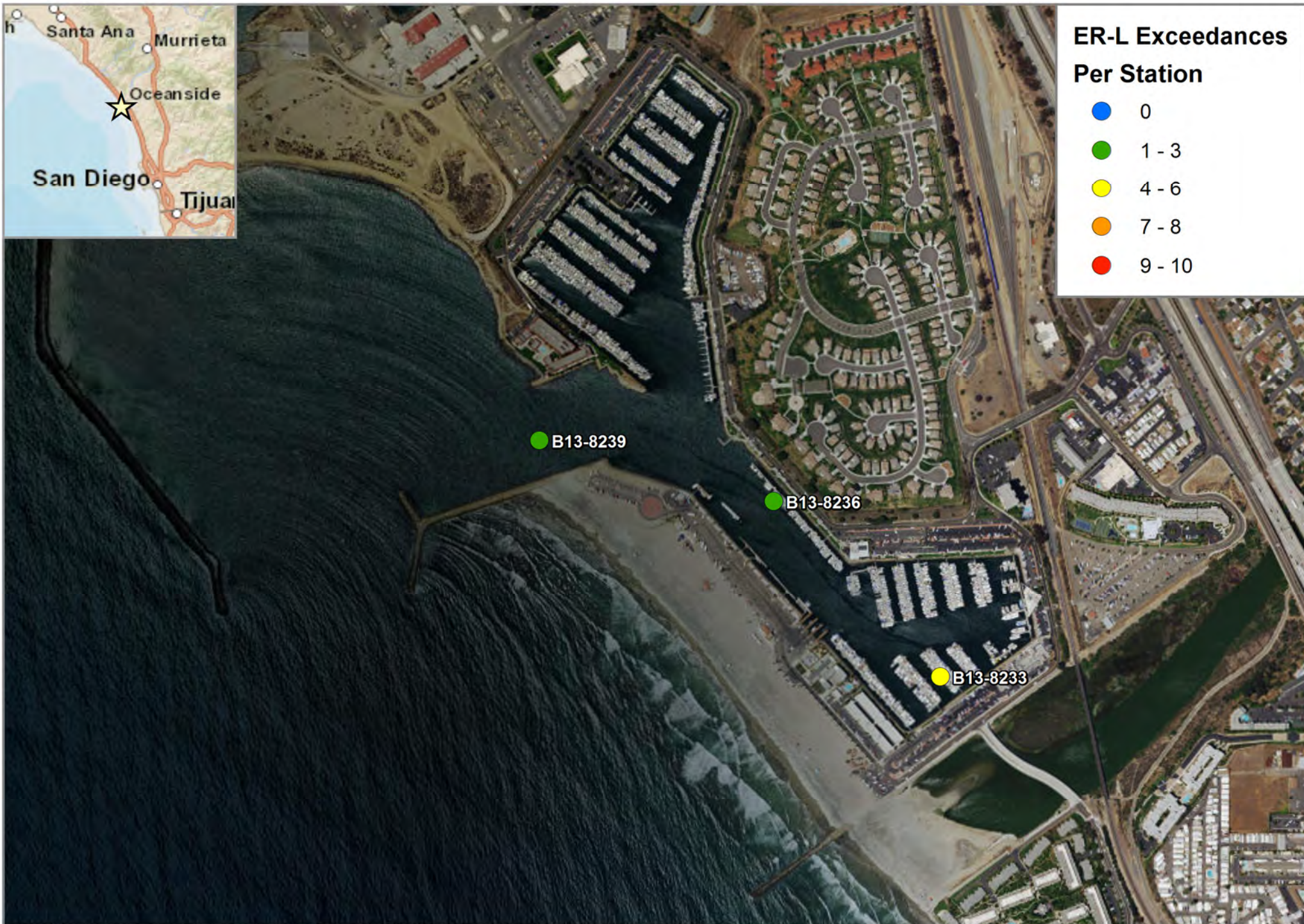
Sediments

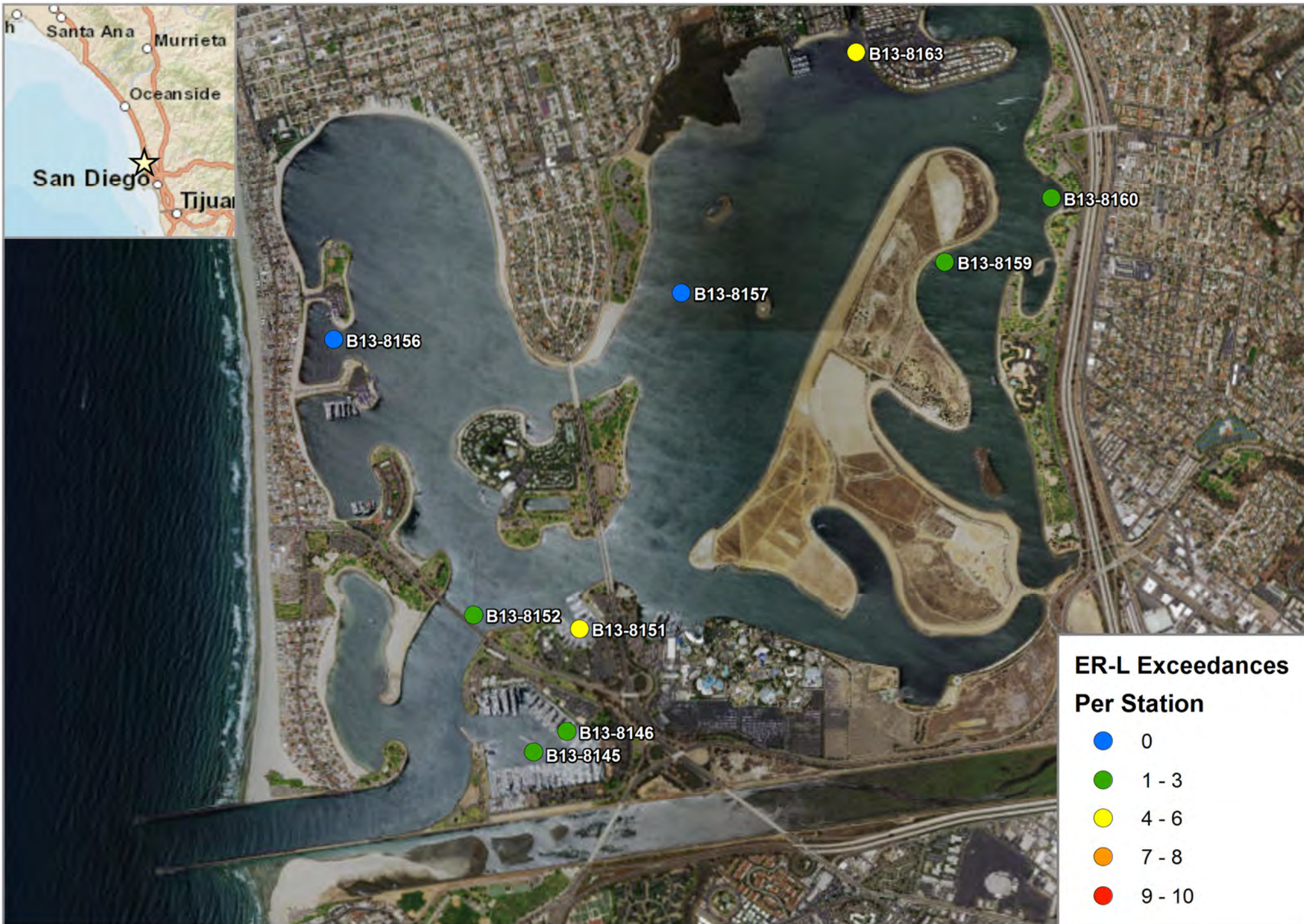




ER-L Exceedances Per Station

- 0
- 1 - 3
- 4 - 6
- 7 - 8
- 9 - 10



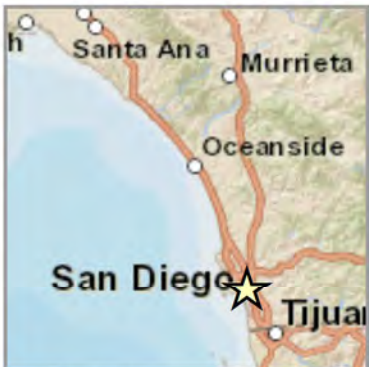


**ER-L Exceedances
Per Station**

- 0
- 1 - 3
- 4 - 6
- 7 - 8
- 9 - 10

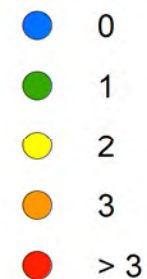








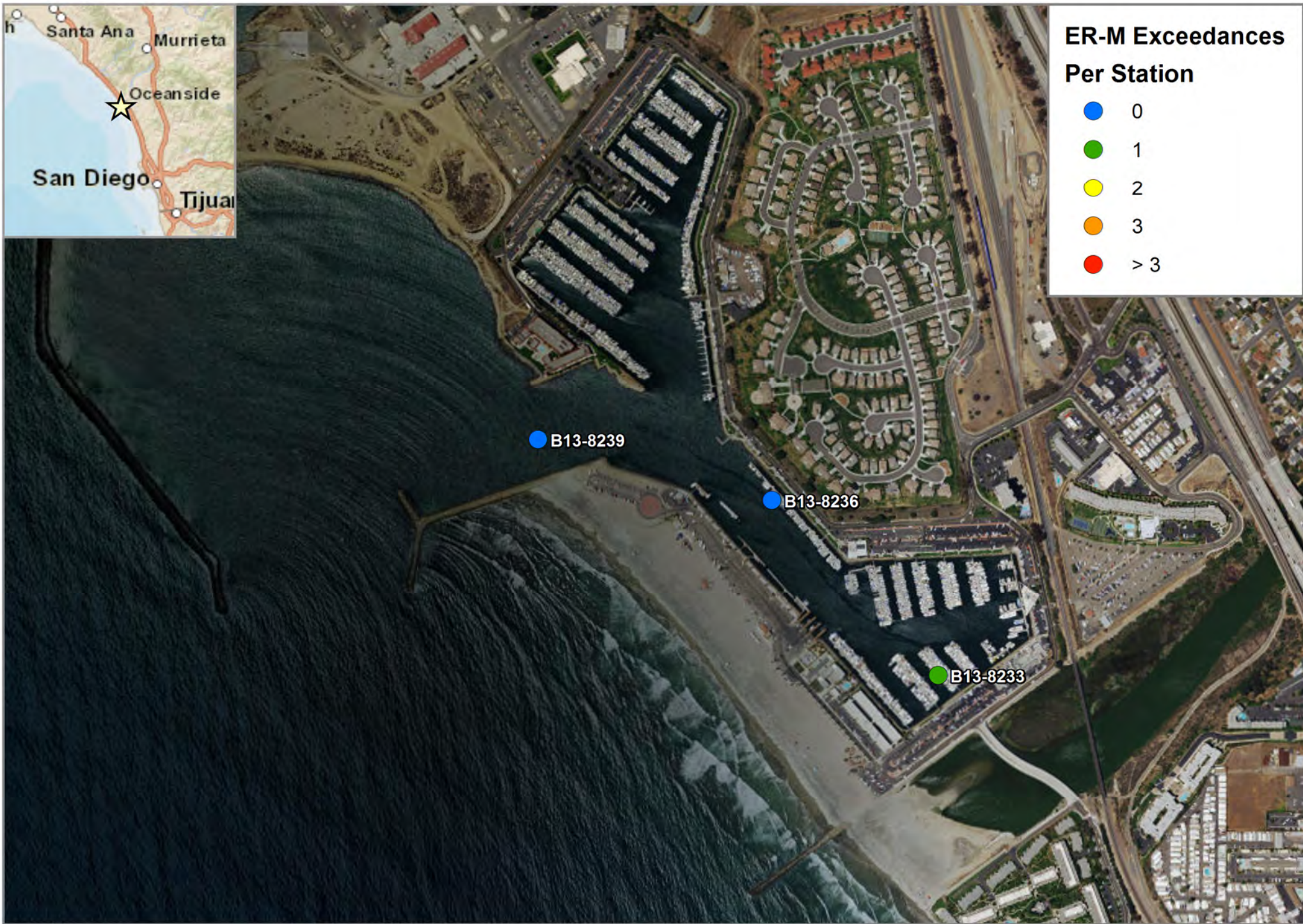
ER-M Exceedances Per Station





ER-M Exceedances Per Station

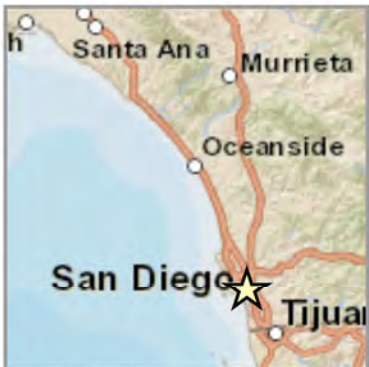
- 0
- 1
- 2
- 3
- > 3













CSI Exposure Categories

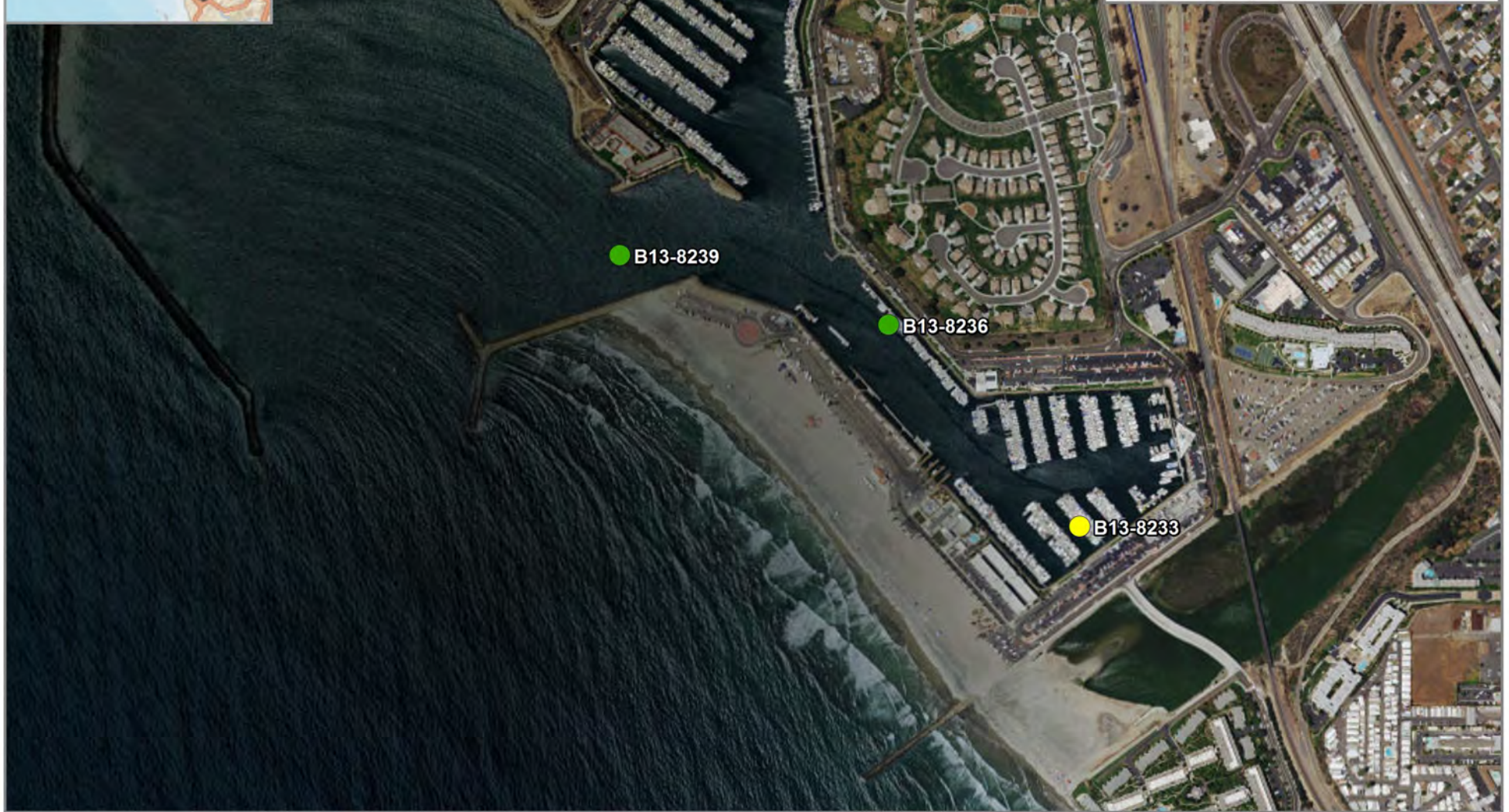
- Minimal (< 1.69)
- Low ($\geq 1.69 - \leq 2.33$)
- Moderate ($> 2.33 - \leq 2.99$)
- High (> 2.99)

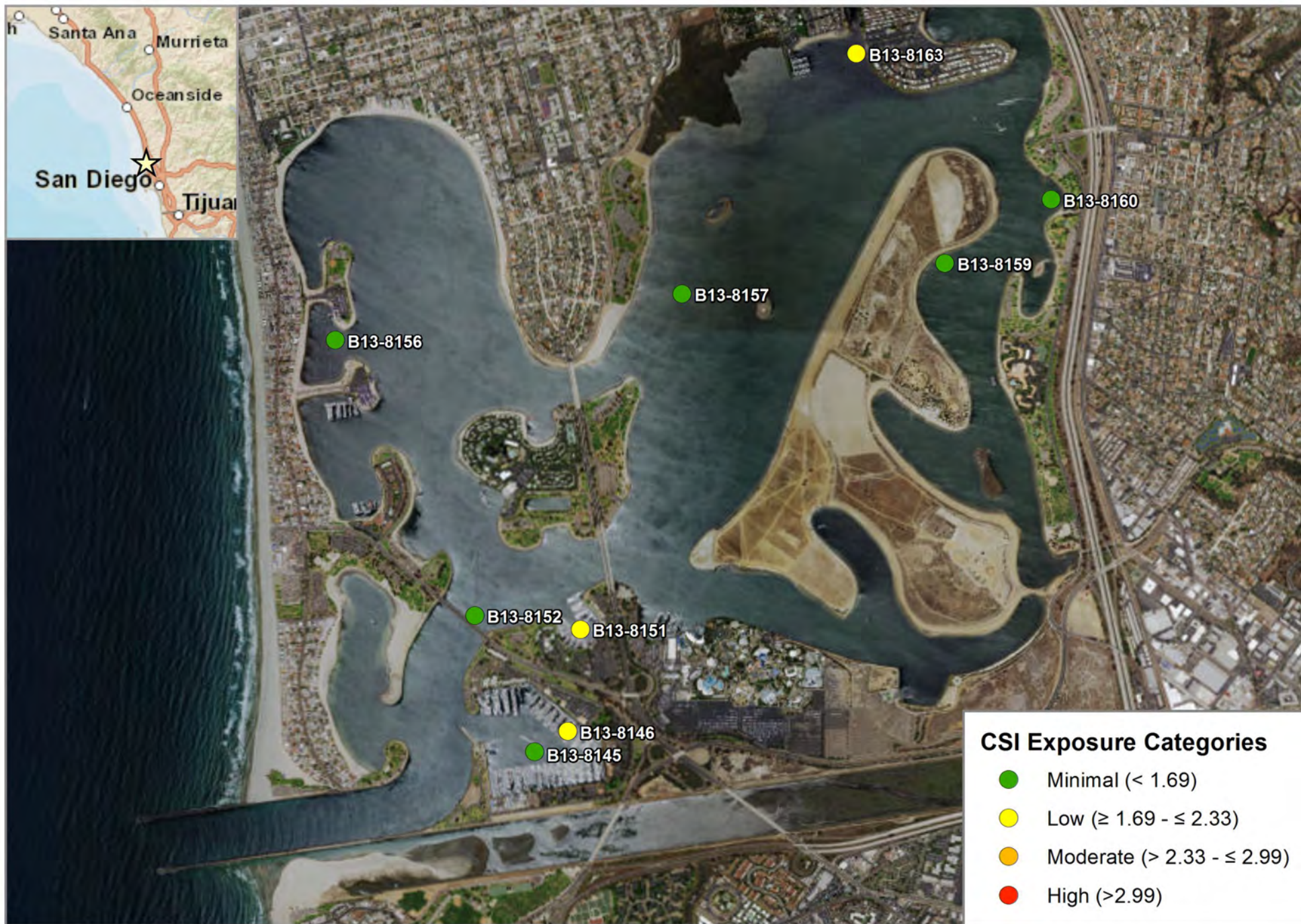




CSI Exposure Categories

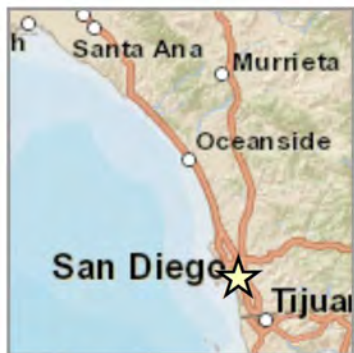
- Minimal (< 1.69)
- Low ($\geq 1.69 - \leq 2.33$)
- Moderate ($> 2.33 - \leq 2.99$)
- High (> 2.99)













Sediment Chemistry

Copper (mg/kg)

- $\leq \text{MDL}$ (≤ 0.0025)
- $> \text{MDL} - \leq \text{RL}$ ($> 0.0025 - \leq 0.0050$)
- $> \text{RL} - < \text{E-RL}$ ($> 0.0050 - < 34.0$)
- $\geq \text{E-RL} - < \text{ATL}$ ($\geq 34.0 - < 175$)
- $\geq \text{ATL} - < \text{E-RM}$ ($\geq 175 - < 270$)
- $\geq \text{E-RM}$ (≥ 270)



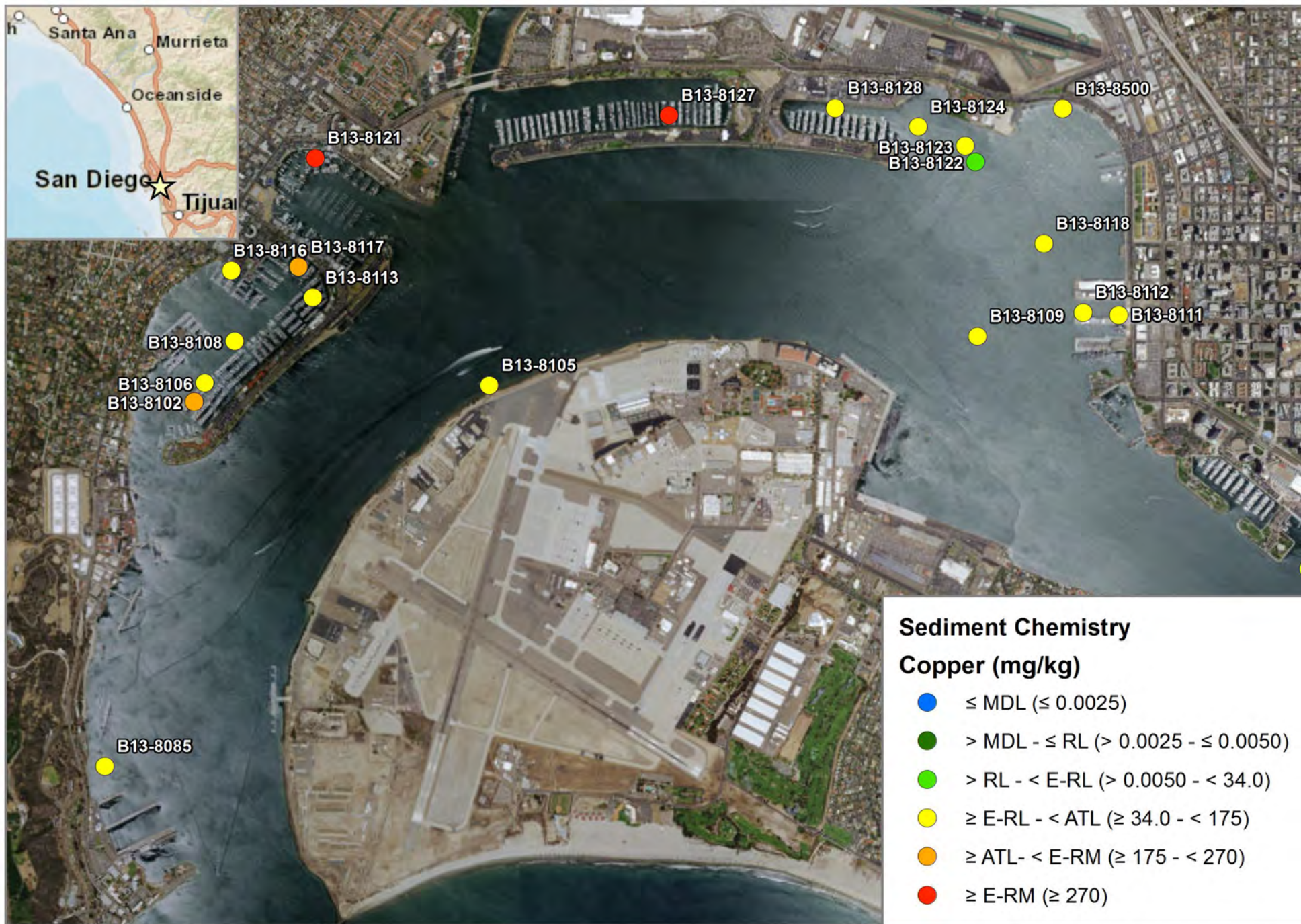


Sediment Chemistry

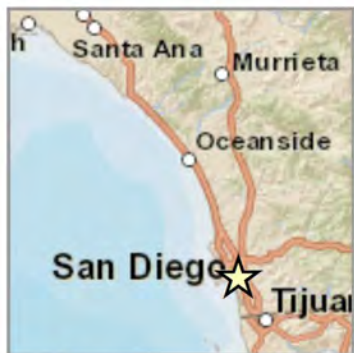
Copper (mg/kg)

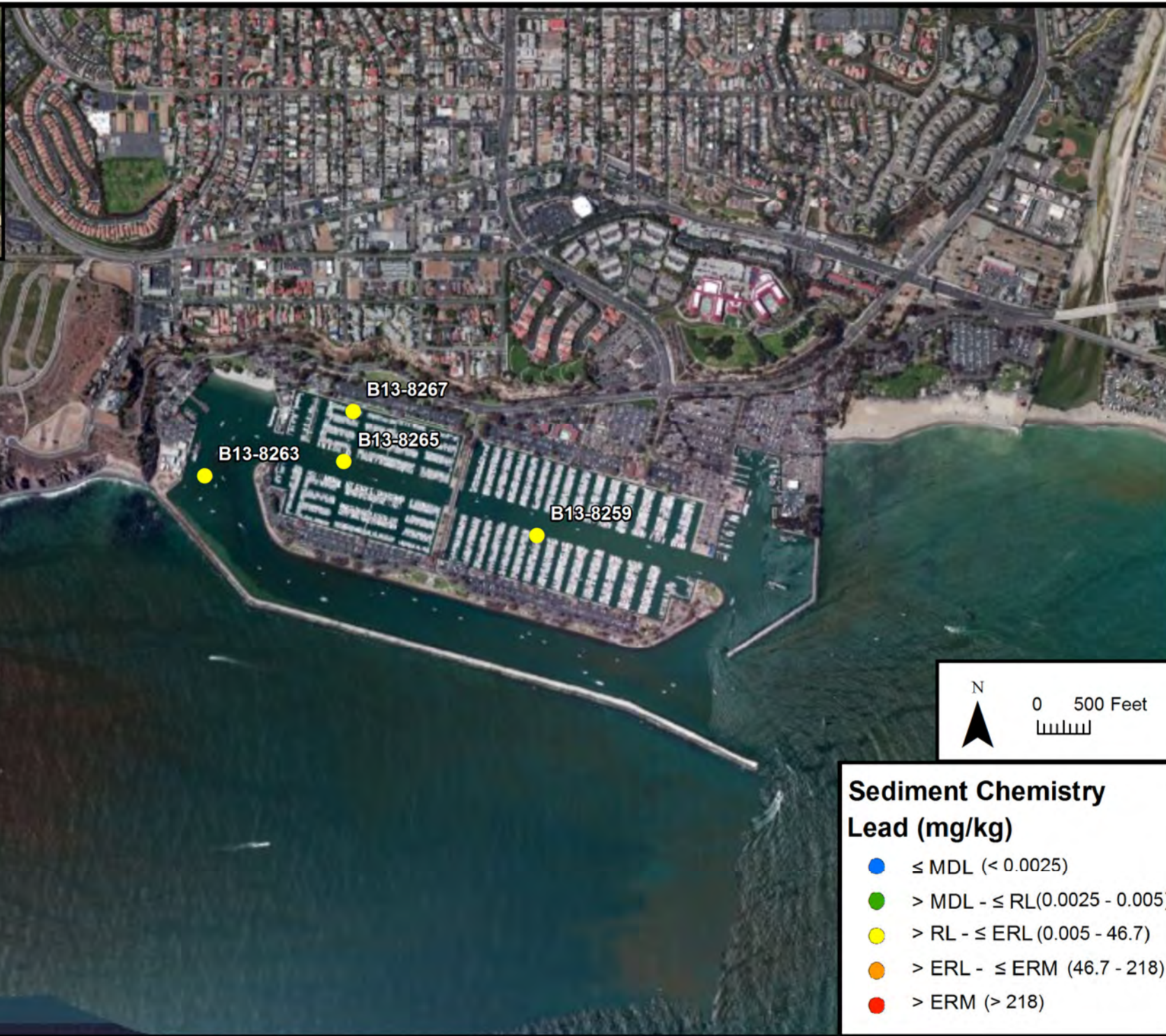
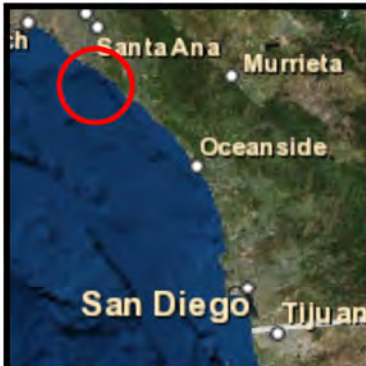
- $\leq \text{MDL}$ (≤ 0.0025)
- $> \text{MDL} - \leq \text{RL}$ ($> 0.0025 - \leq 0.0050$)
- $> \text{RL} - < \text{E-RL}$ ($> 0.0050 - < 34.0$)
- $\geq \text{E-RL} - < \text{ATL}$ ($\geq 34.0 - < 175$)
- $\geq \text{ATL} - < \text{E-RM}$ ($\geq 175 - < 270$)
- $\geq \text{E-RM}$ (≥ 270)



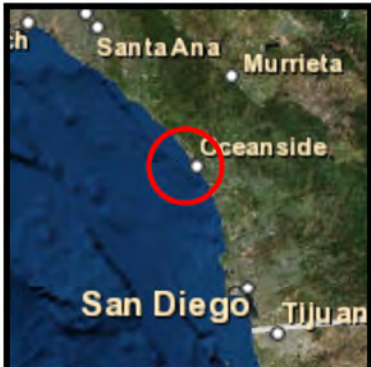








Sediment Chemistry Concentration - Total Lead
Dana Point Harbor
RHMP 2013



Sediment Chemistry Concentration - Total Lead
Oceanside Harbor
RHMP 2013



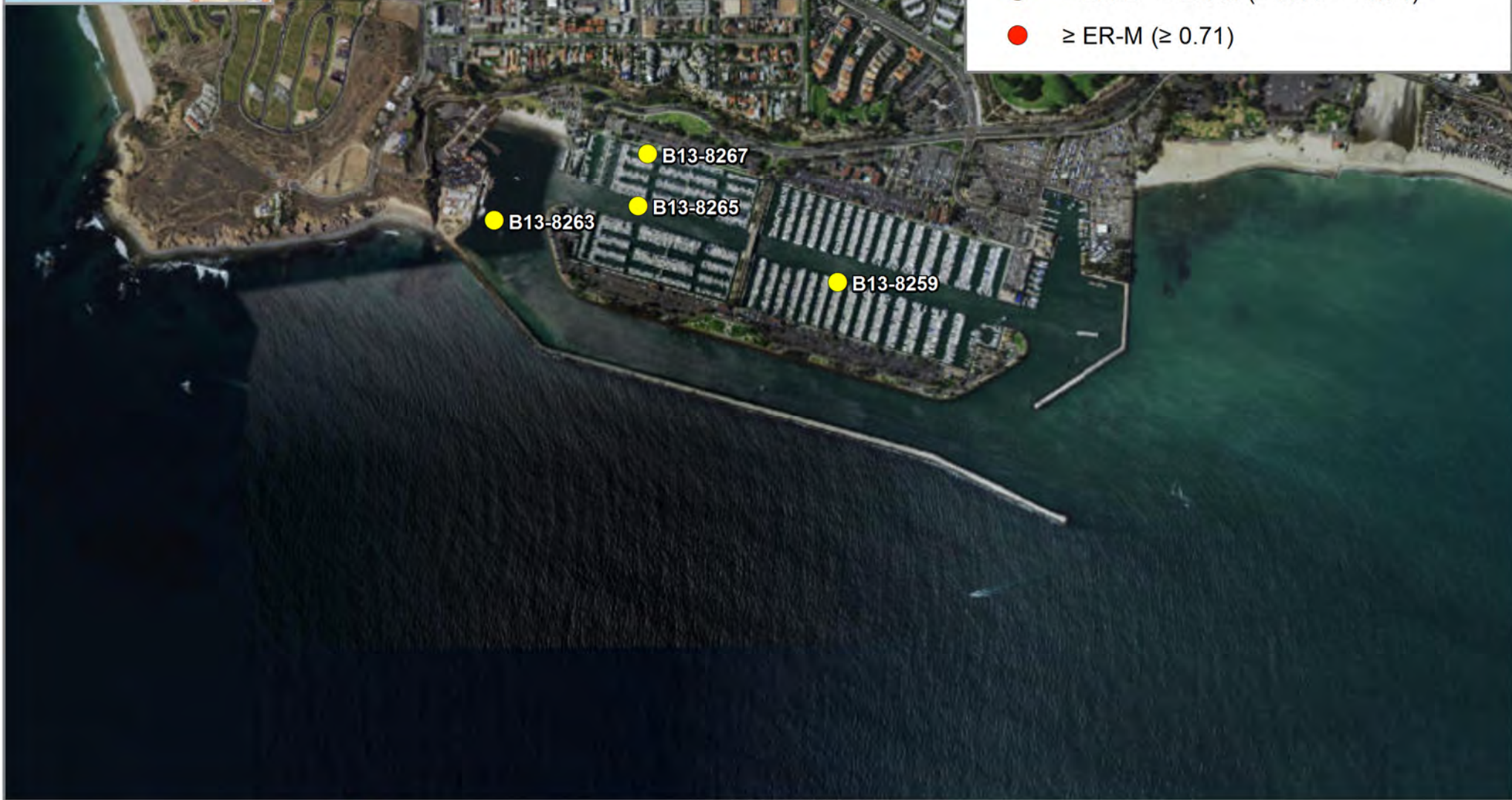
Sediment Chemistry Concentration - Total Lead
Mission Bay
RHMP 2013





Sediment Chemistry Concentration - Lead
Central San Diego Bay
RHMP 2013





Sediment Chemistry

Mercury (mg/kg)

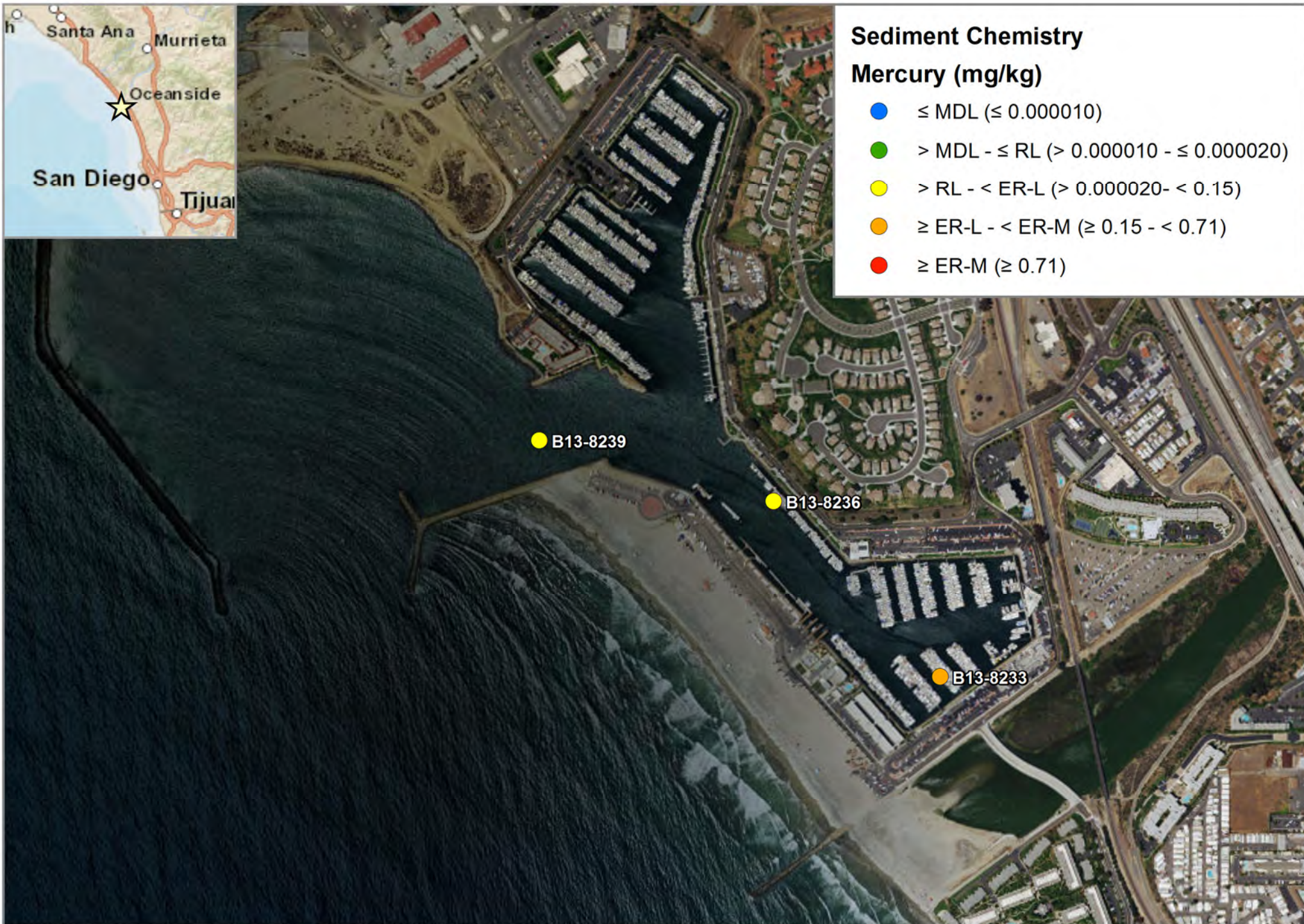
- $\leq \text{MDL}$ (≤ 0.000010)
- $> \text{MDL} - \leq \text{RL}$ ($> 0.000010 - \leq 0.000020$)
- $> \text{RL} - < \text{ER-L}$ ($> 0.000020 - < 0.15$)
- $\geq \text{ER-L} - < \text{ER-M}$ ($\geq 0.15 - < 0.71$)
- $\geq \text{ER-M}$ (≥ 0.71)

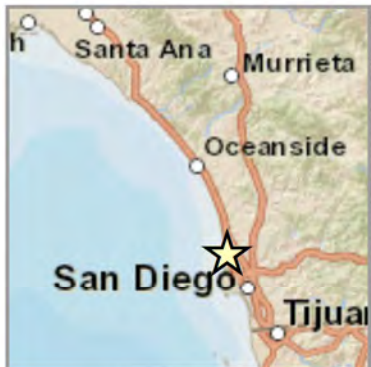


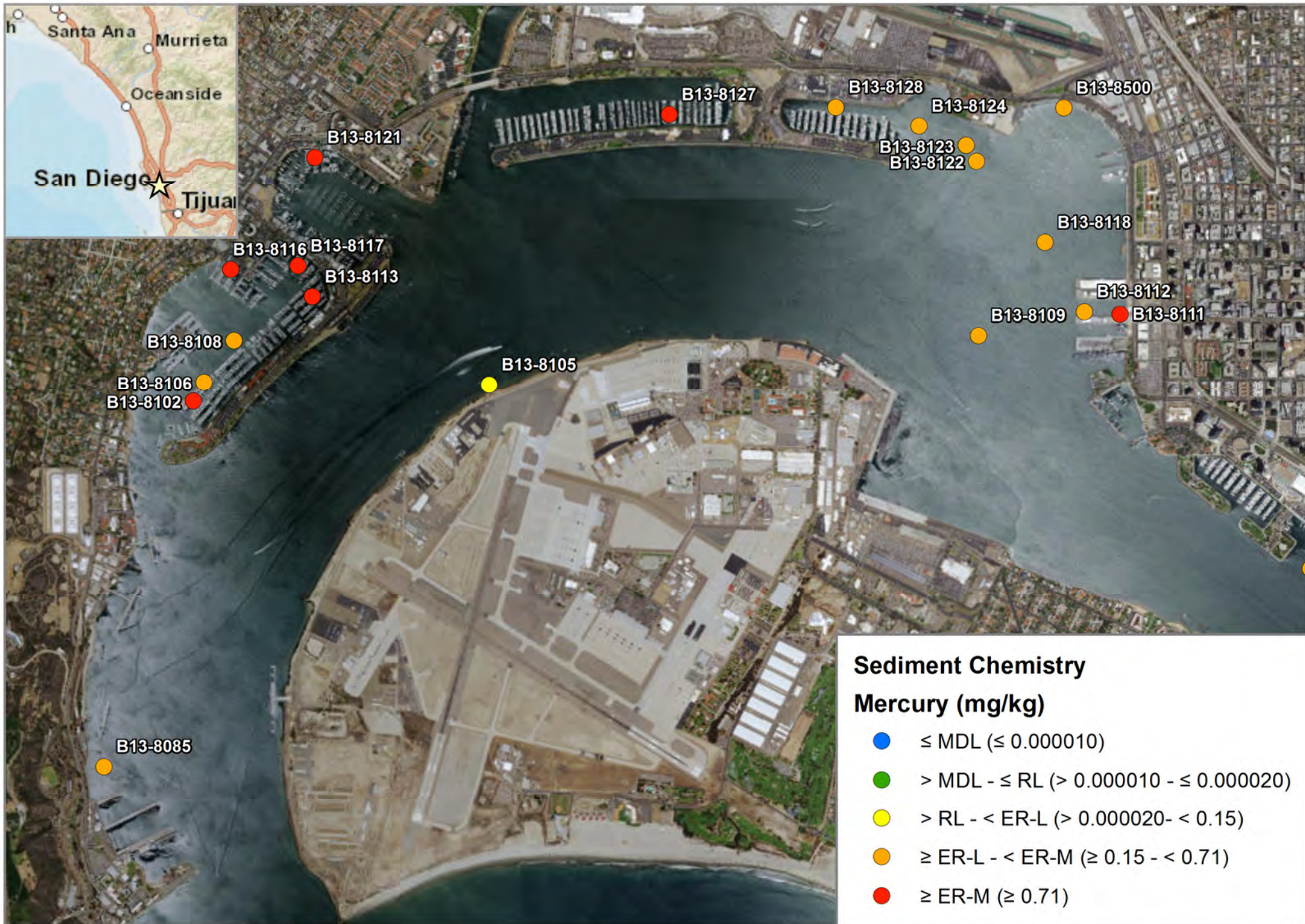
Sediment Chemistry

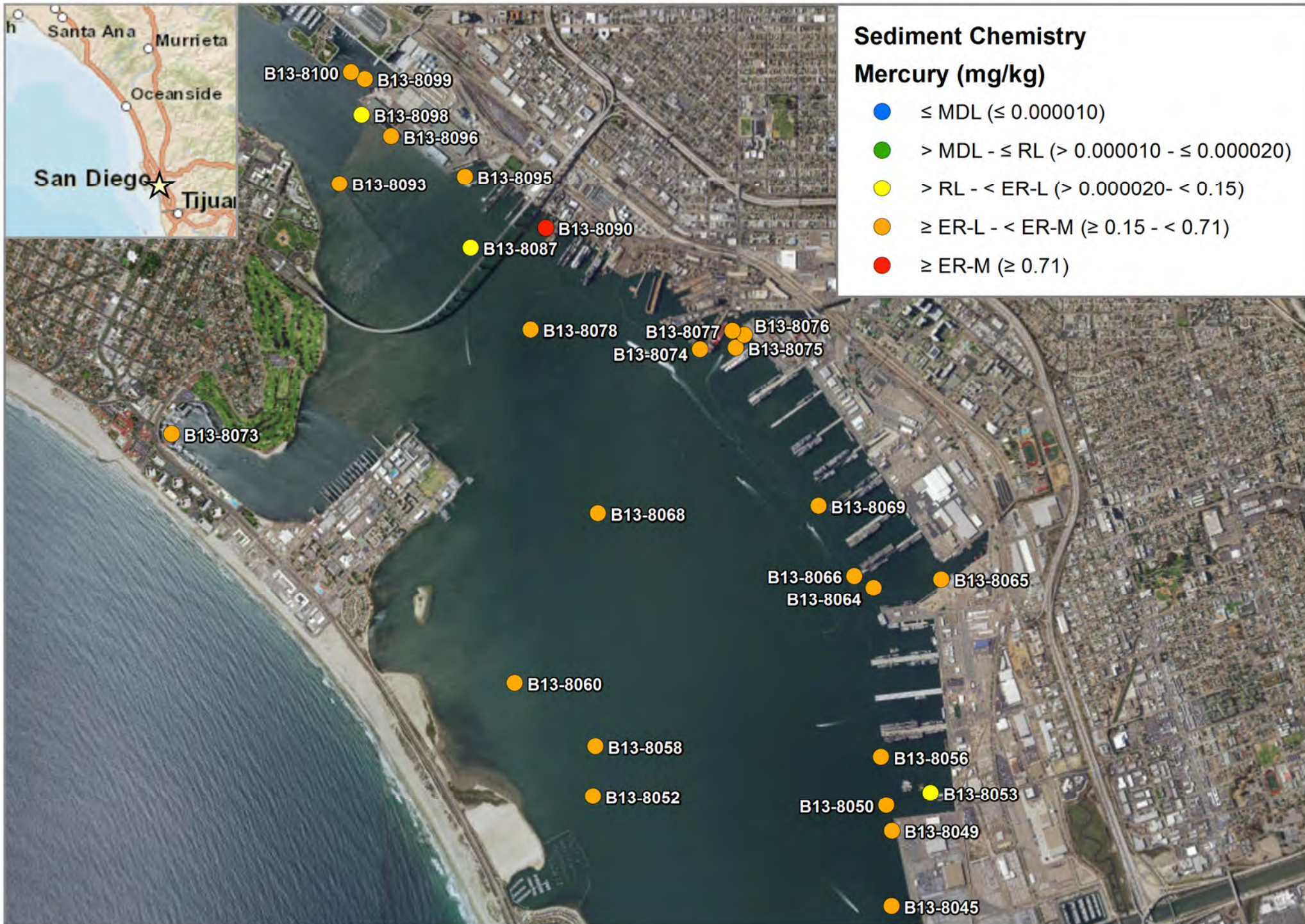
Mercury (mg/kg)

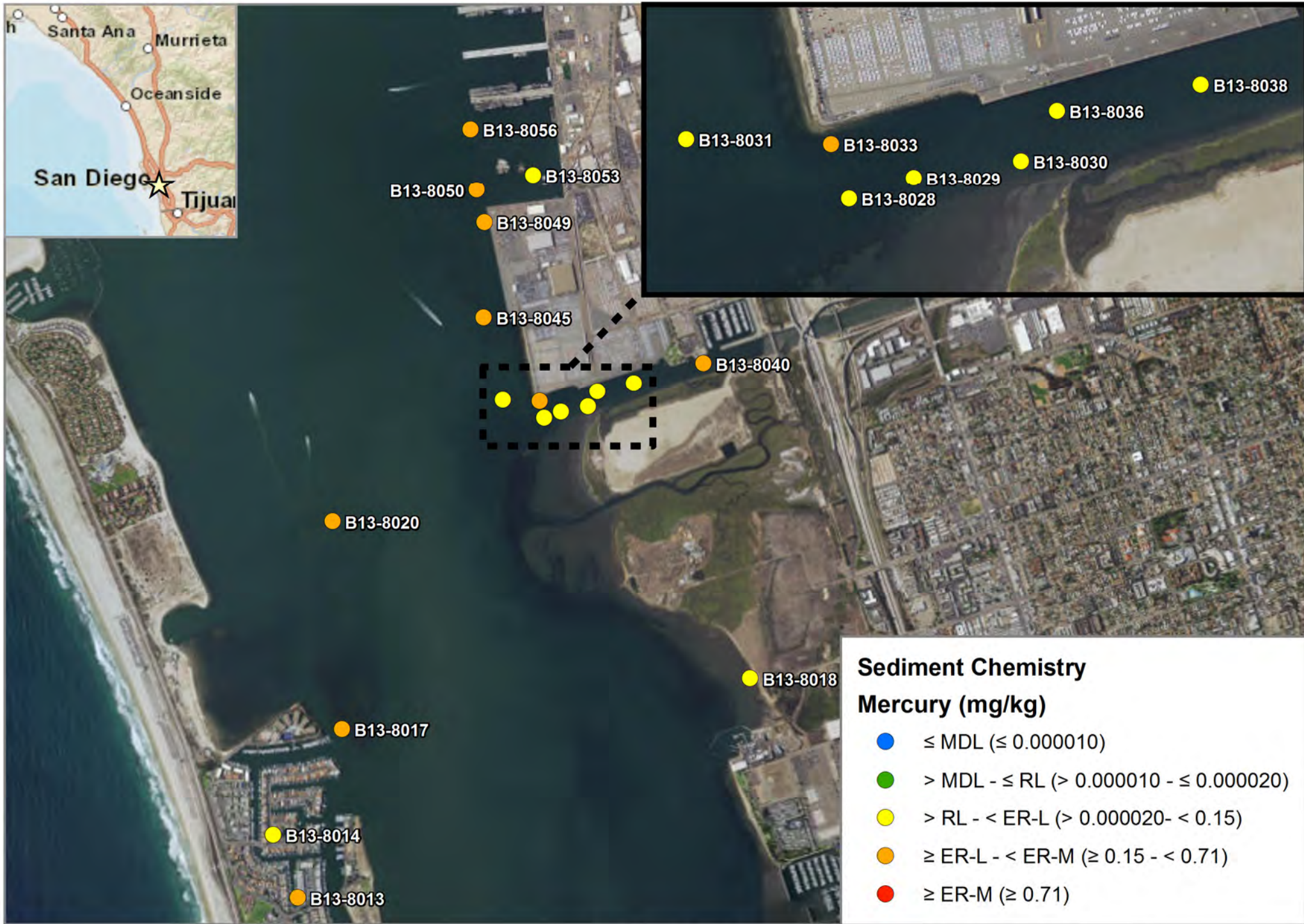
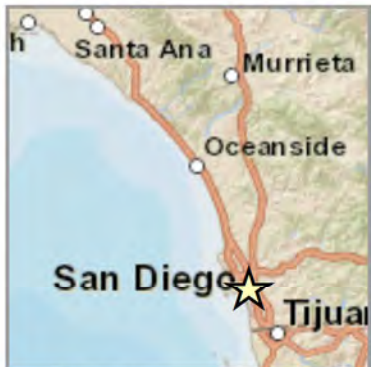
- $\leq \text{MDL}$ (≤ 0.000010)
- $> \text{MDL} - \leq \text{RL}$ ($> 0.000010 - \leq 0.000020$)
- $> \text{RL} - < \text{ER-L}$ ($> 0.000020 - < 0.15$)
- $\geq \text{ER-L} - < \text{ER-M}$ ($\geq 0.15 - < 0.71$)
- $\geq \text{ER-M}$ (≥ 0.71)







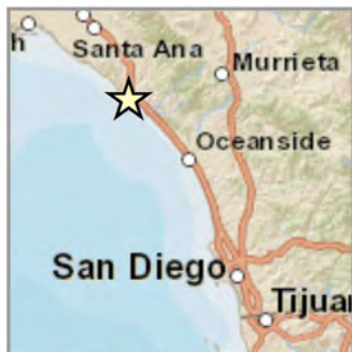




Sediment Chemistry

Mercury (mg/kg)

- $\leq \text{MDL}$ (≤ 0.000010)
- $> \text{MDL} - \leq \text{RL}$ ($> 0.000010 - \leq 0.000020$)
- $> \text{RL} - < \text{ER-L}$ ($> 0.000020 - < 0.15$)
- $\geq \text{ER-L} - < \text{ER-M}$ ($\geq 0.15 - < 0.71$)
- $\geq \text{ER-M}$ (≥ 0.71)

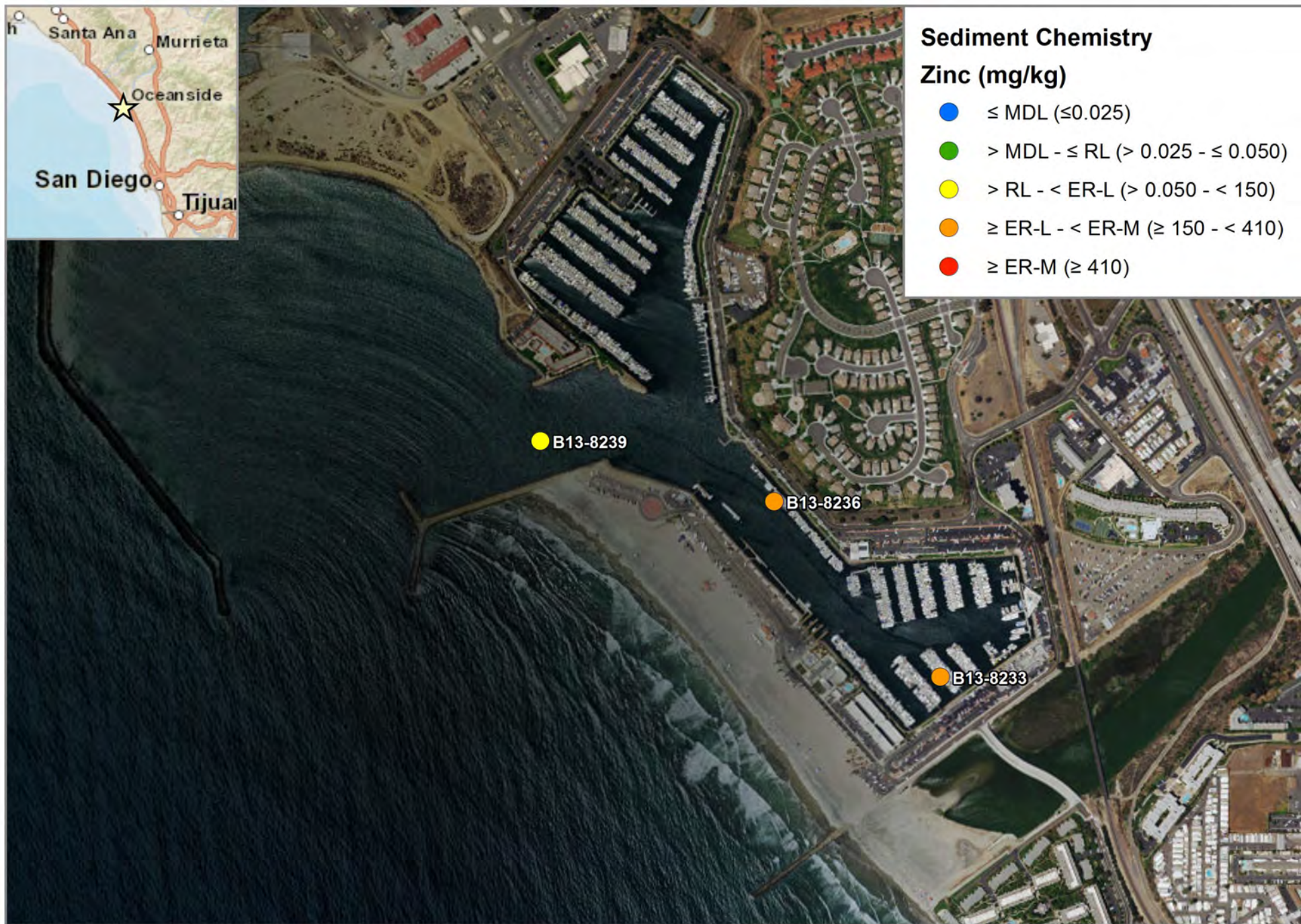


Sediment Chemistry

Zinc (mg/kg)

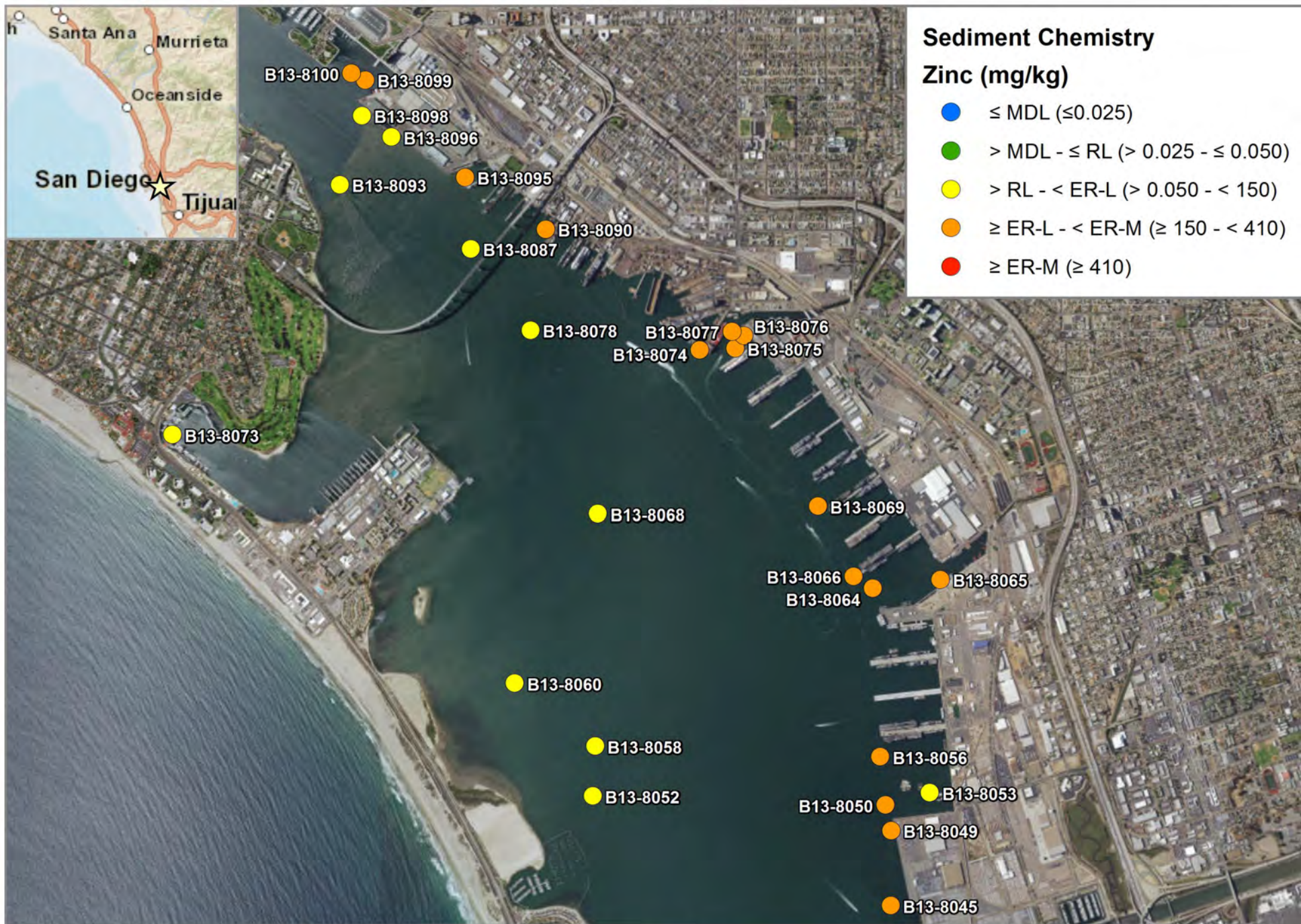
- $\leq \text{MDL}$ (≤ 0.025)
- $> \text{MDL} - \leq \text{RL}$ ($> 0.025 - \leq 0.050$)
- $> \text{RL} - < \text{ER-L}$ ($> 0.050 - < 150$)
- $\geq \text{ER-L} - < \text{ER-M}$ ($\geq 150 - < 410$)
- $\geq \text{ER-M}$ (≥ 410)

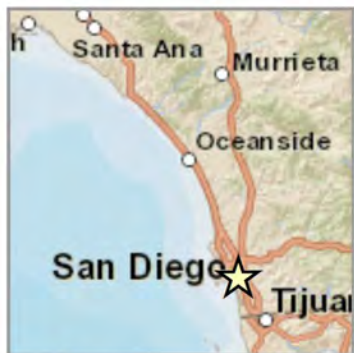














Sediment Chemistry Concentration - Total PAHs
Dana Point Harbor
RHMP 2013





Sediment Chemistry Concentration - Total PAHs
Mission Bay
RHMP 2013



Sediment Chemistry Concentration - Total PAHs
 North San Diego Bay
 RHMP 2013



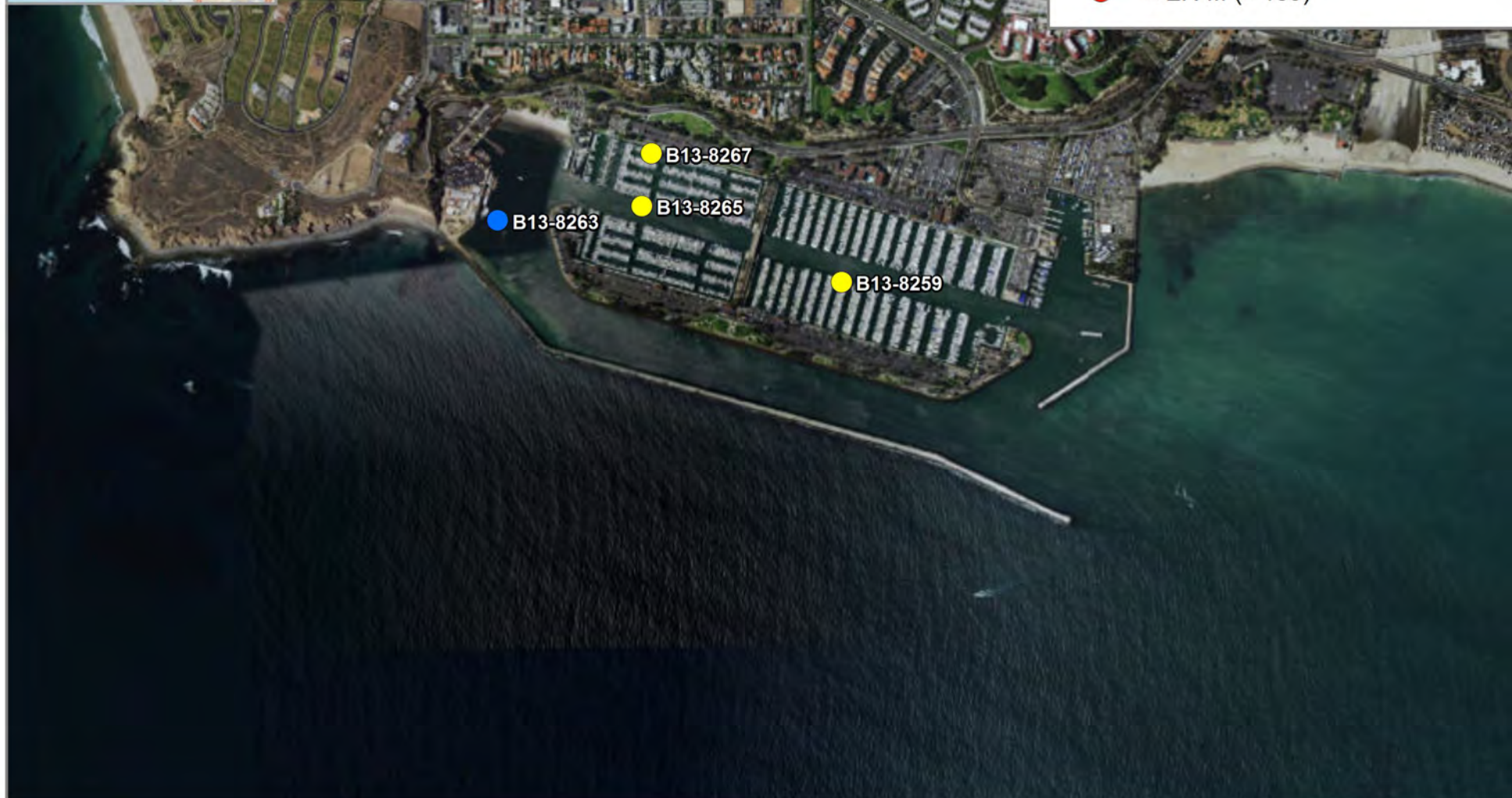
Sediment Chemistry Concentration - Total PAHs
 Central San Diego Bay
 RHMP 2013





Total PCBs ($\mu\text{g}/\text{kg}$)

- $\leq \text{MDL}$ (≤ 0.05)
- $> \text{MDL} - \leq \text{RL}$ ($> 0.05 - \leq 0.10$)
- $> \text{RL} - < \text{ER-L}$ ($> 0.10 - < 22.7$)
- $\geq \text{ER-L} - < \text{ER-M}$ ($\geq 22.7 - < 180$)
- $\geq \text{ER-M}$ (≥ 180)

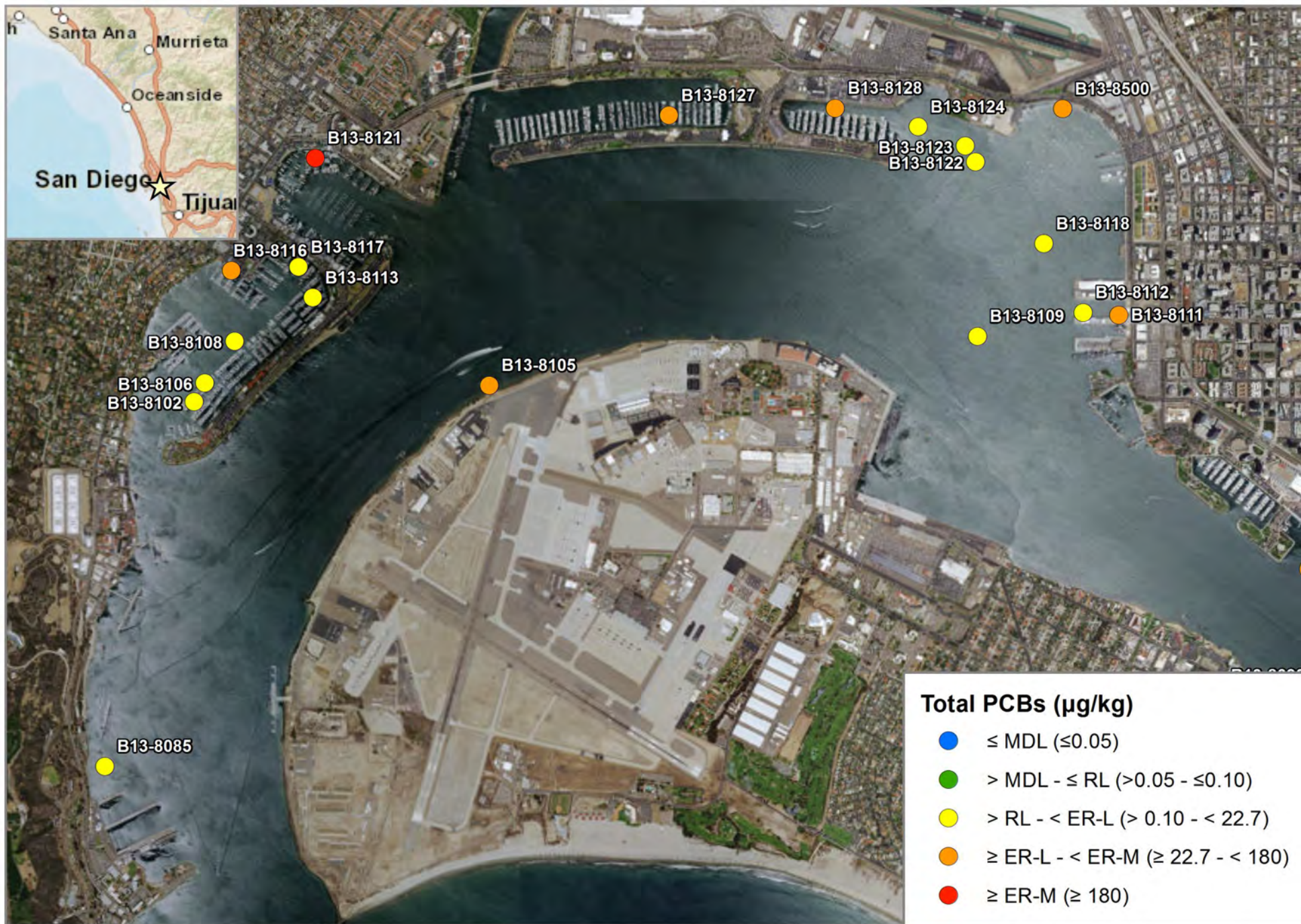


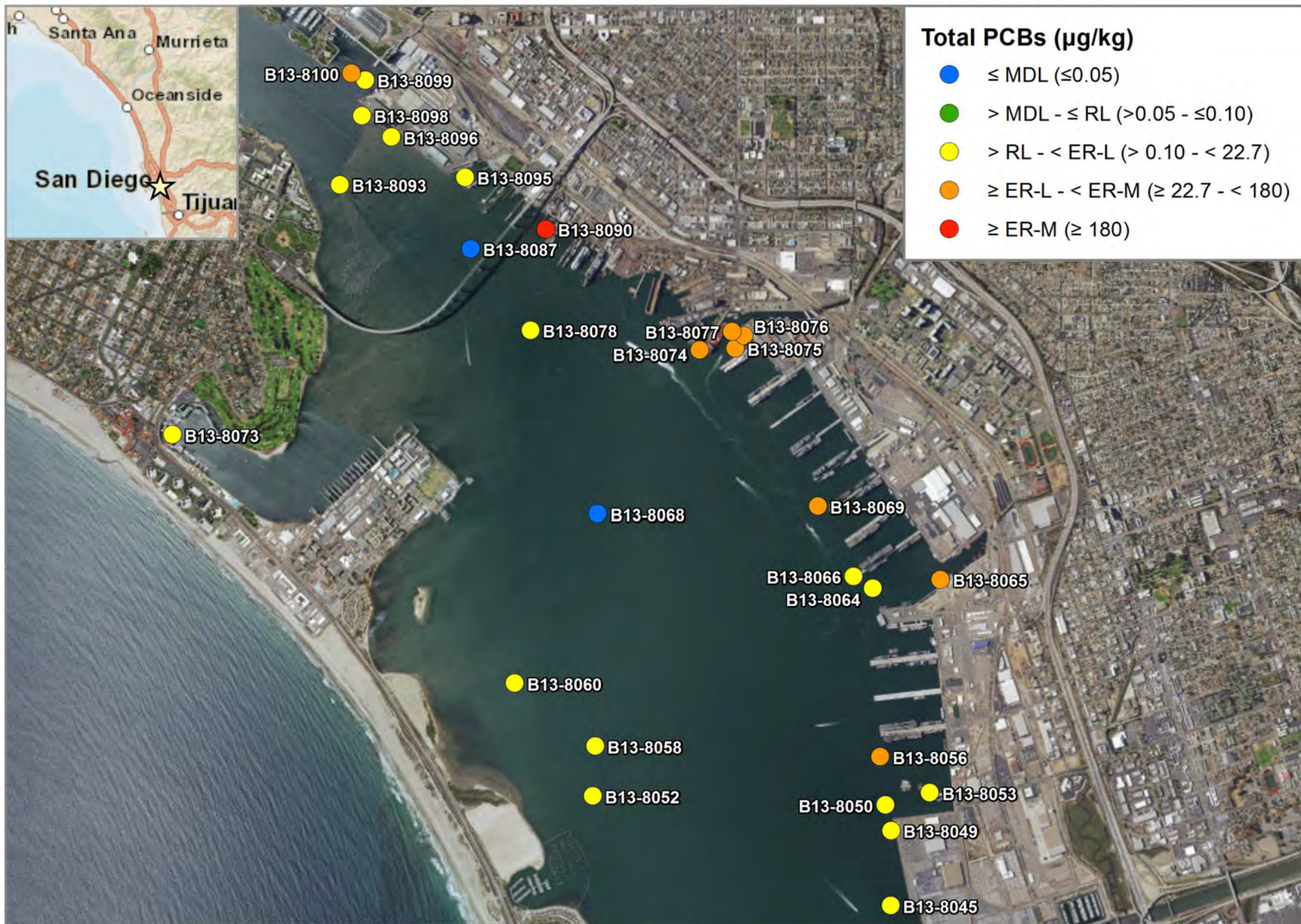


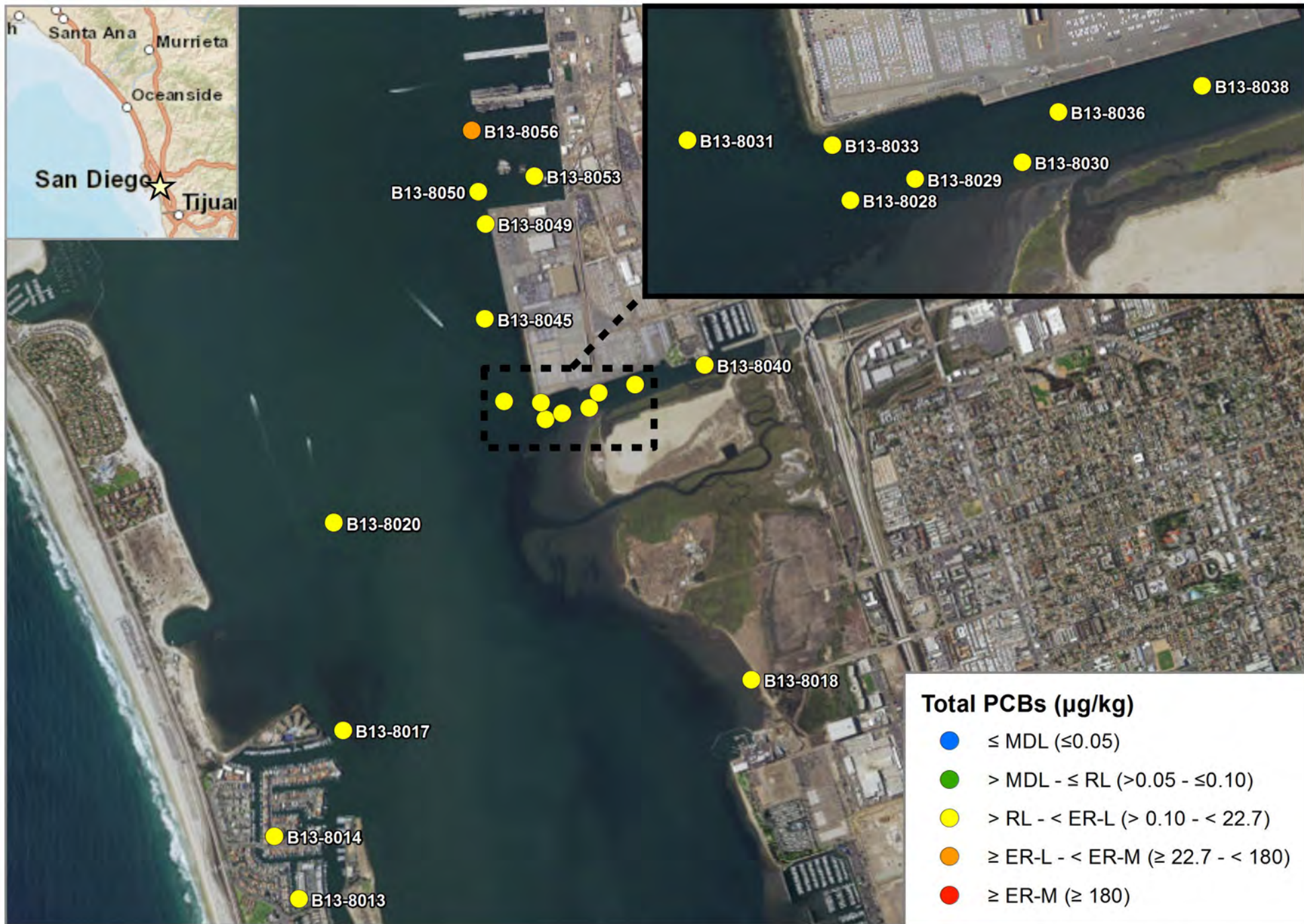
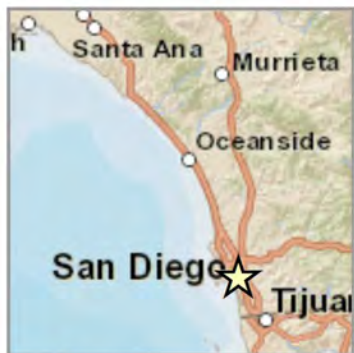
Total PCBs ($\mu\text{g}/\text{kg}$)

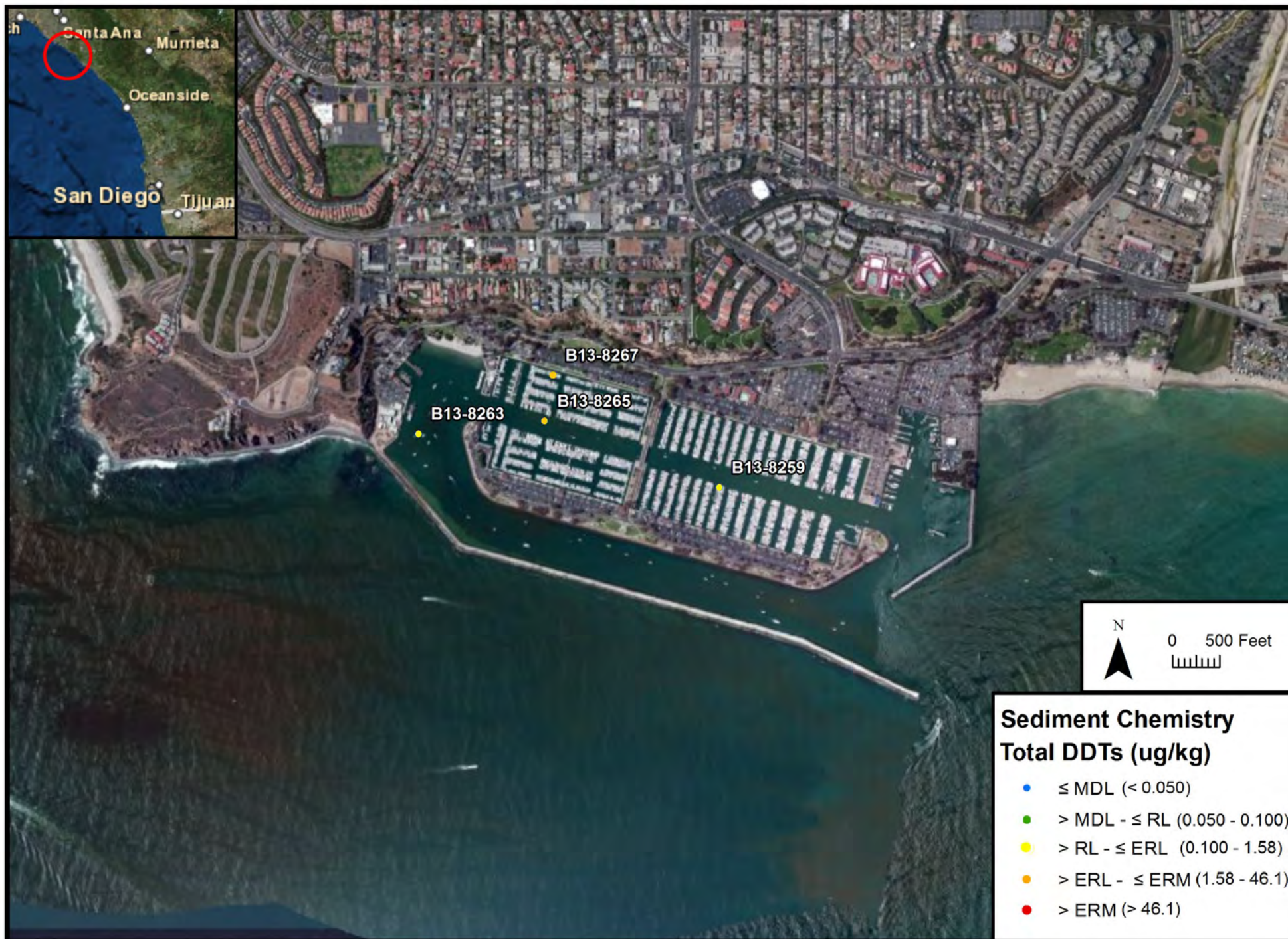
- $\leq \text{MDL}$ (≤ 0.05)
- $> \text{MDL} - \leq \text{RL}$ ($> 0.05 - \leq 0.10$)
- $> \text{RL} - < \text{ER-L}$ ($> 0.10 - < 22.7$)
- $\geq \text{ER-L} - < \text{ER-M}$ ($\geq 22.7 - < 180$)
- $\geq \text{ER-M}$ (≥ 180)











Sediment Chemistry Concentration - Total DDTs
Dana Point Harbor
RHMP 2013



Sediment Chemistry Concentration - Total DDTs
Oceanside Harbor
RHMP 2013





Sediment Chemistry Concentration - Total DDTs
 North San Diego Bay
 RHMP 2013



Sediment Chemistry Concentration - Total DDTs
Central San Diego Bay
RHMP 2013



Sediment Chemistry Concentration - Total DDTs
South San Diego Bay
RHMP 2013

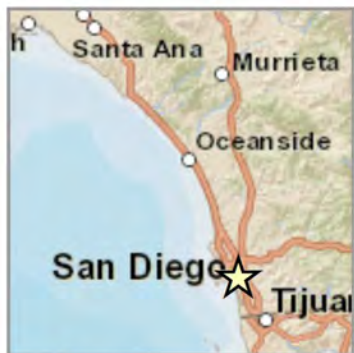


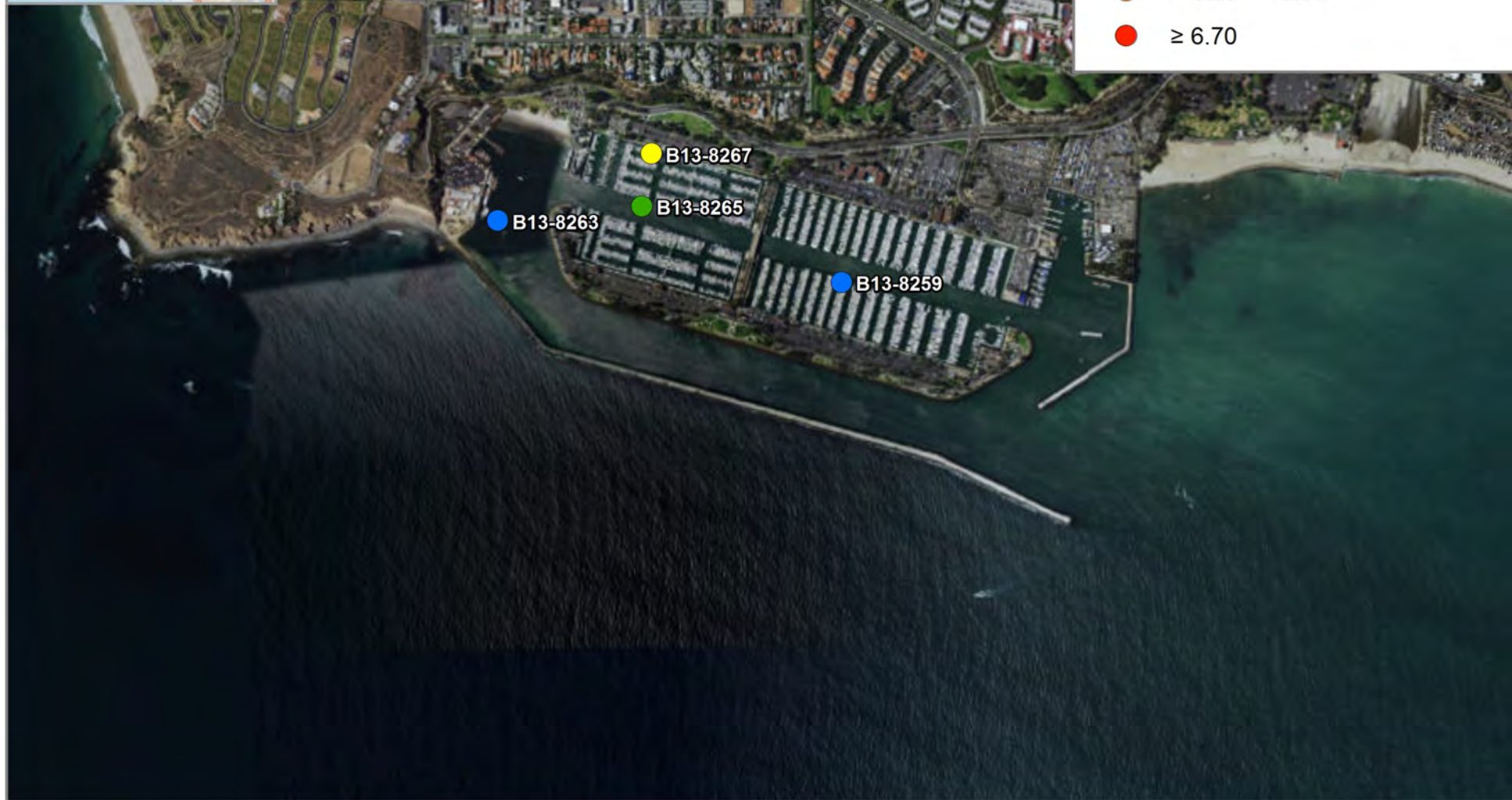
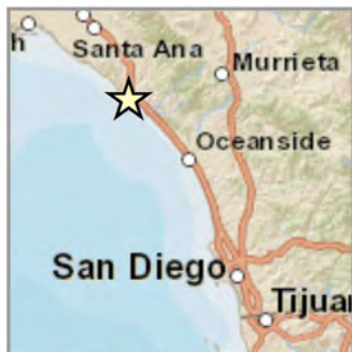










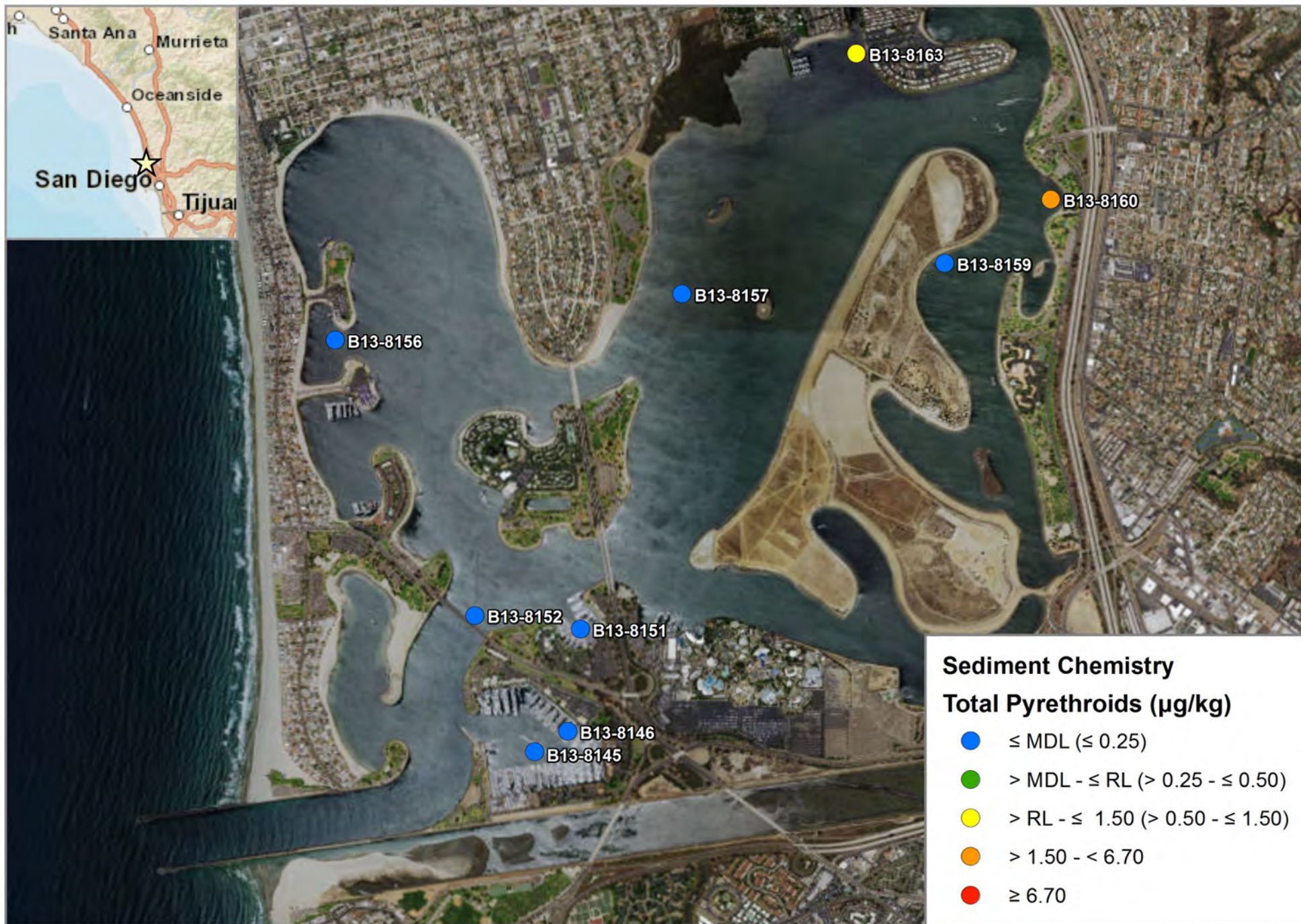


Sediment Chemistry

Total Pyrethroids ($\mu\text{g/kg}$)

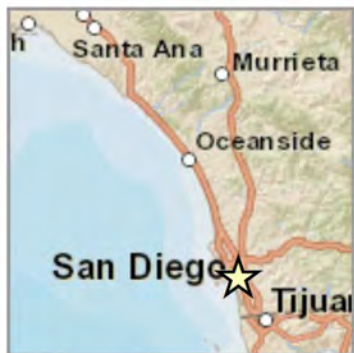
- $\leq \text{MDL}$ (≤ 0.25)
- $> \text{MDL} - \leq \text{RL}$ ($> 0.25 - \leq 0.50$)
- $> \text{RL} - \leq 1.50$ ($> 0.50 - \leq 1.50$)
- $> 1.50 - < 6.70$
- ≥ 6.70











Sediment Chemistry

Total Pyrethroids (µg/kg)

- ≤ MDL (≤ 0.25)
- > MDL - ≤ RL (> 0.25 - ≤ 0.50)
- > RL - ≤ 1.50 (> 0.50 - ≤ 1.50)
- > 1.50 - < 6.70
- ≥ 6.70

Raw Data Reports (Physis)

Water Chemistry

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Chris Stransky
 AMEC
 9210 Sky Park Court
 Suite 200
 San Diego, CA 92123-

Project Name: RHMP Bight '13
 Physis Project ID: 1307002-001

Dear Chris,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 8/6/2013. A total of 7 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventional
Total Orthophosphate as P by SM 4500-P E
Total Dissolved Solids by SM 2540 C
Oil & Grease by EPA 1664A
Nitrate as N by SM 4500-NO ₃ E
MBAS by SM 5540-C
Ammonia as N by SM 4500-NH ₃ D
Elements
Total and Dissolved Barium by EPA 200.8
Total & Dissolved Trace Metals by EPA 1640
Total & Dissolved Mercury by EPA 245.7
Organics
Polynuclear Aromatic Hydrocarbons by EPA 625
Subcontract
Total Organic Carbon by SM 5310 B
Methyl Tertiary Butyl Ether (MTBE) by EPA 624
Dissolved Organic Carbon by SM 5310 B

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.



Regards,

Misty Mercier
Extension 202
714-335-5918 cell
mistymercier@physislabs.com

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and are used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use was assessed through the analysis of procedural blanks at a minimum frequency of one per batch. Physis' QM requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the procedural blanks be flagged in the project sample results with a B qualifier.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS₁/MS₂, BS₁/BS₂, LCS₁/LCS₂, LCM₁/LCM₂, CRM₁/CRM₂, surrogate spikes and/or replicate project sample analysis (R₁/R₂) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

MATRIX SPIKES: MS samples were employed to assess the effect a particular project sample matrix has on the accuracy of a measurement. It is prepared by adding a known amount of the target analyte(s) to an aliquot of the project sample. Matrix spikes indicate the bias of analytical measurements due to chemical interferences inherent in the sample matrix. If the matrix spike recovery does not fall within the specified acceptance limits, it may be an indication of sample matrix interference in the specific project sample used for the MS. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

BLANK SPIKES: BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

CERTIFIED REFERENCE MATERIALS: CRMs are pre-homogenized materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of a preparation and analytical method. CRMs are analyzed to provide evidence that the laboratory method produces results that are comparable to those obtained by an independent organization.

SURROGATES: Where CRMs are unavailable, target analyte recovery can be assessed by monitoring added surrogate compounds/elements. A surrogate is a pure analyte unlikely to be found in any project sample and most often used with organic analytical procedures. Percent recovery is calculated for each surrogate and is used to monitor method performance within each discrete sample and is indicative of the procedure's ability to recover the actual analytes of interest.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored

under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes. Physis' QM requires that all samples analyzed beyond the method recommended holding time be flagged in the sample results with an H qualifier.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
*	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified recovery and/or RPD acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore MS recovery and/or RPD acceptance limits do not apply
SL	analyte results for R1 and/or R2 were lower than 10 times the MDL, therefore RPD acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore MS recovery and/or RPD were outside the specified acceptance limits
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

ANALYTICAL REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC.

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CA ELAP #2769

Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21948-R1 B13-8233 Oceanside Matrix: Seawater Sampled: 06-Aug-13 8:00 Received: 06-Aug-13 Method: SM 5540-C Batch ID: C-13070 Prepared: 07-Aug-13 Analyzed: 07-Aug-13						
MBAS	NA	ND	0.005	0.025	mg/L	
	Method: SM 4500-P E	Batch ID: C-13073		Prepared: 07-Aug-13		Analyzed: 07-Aug-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: EPA 1664A	Batch ID: C-13120		Prepared: 27-Aug-13		Analyzed: 27-Aug-13
Oil & Grease	NA	ND	1	1	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-13142		Prepared: 02-Sep-13		Analyzed: 02-Sep-13
Ammonia as N	NA	0.07	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-13148		Prepared: 07-Aug-13		Analyzed: 02-Sep-13
Nitrate as N	NA	0.02	0.01	0.05	mg/L	J
Sample ID: 21949-R1 B13-8236 Oceanside Matrix: Seawater Sampled: 06-Aug-13 9:50 Received: 06-Aug-13 Method: SM 5540-C Batch ID: C-13070 Prepared: 07-Aug-13 Analyzed: 07-Aug-13						
MBAS	NA	ND	0.005	0.025	mg/L	
	Method: SM 4500-P E	Batch ID: C-13073		Prepared: 07-Aug-13		Analyzed: 07-Aug-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: EPA 1664A	Batch ID: C-13120		Prepared: 27-Aug-13		Analyzed: 27-Aug-13
Oil & Grease	NA	ND	1	1	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-13142		Prepared: 02-Sep-13		Analyzed: 02-Sep-13
Ammonia as N	NA	0.04	0.02	0.05	mg/L	J
	Method: SM 4500-NO ₃ E	Batch ID: C-13148		Prepared: 07-Aug-13		Analyzed: 02-Sep-13
Nitrate as N	NA	0.02	0.01	0.05	mg/L	J
Sample ID: 21950-R1 B13-8239 Oceanside Matrix: Seawater Sampled: 06-Aug-13 11:10 Received: 06-Aug-13 Method: SM 5540-C Batch ID: C-13070 Prepared: 07-Aug-13 Analyzed: 07-Aug-13						
MBAS	NA	ND	0.005	0.025	mg/L	
	Method: SM 4500-P E	Batch ID: C-13073		Prepared: 07-Aug-13		Analyzed: 07-Aug-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: EPA 1664A	Batch ID: C-13120		Prepared: 27-Aug-13		Analyzed: 27-Aug-13
Oil & Grease	NA	ND	1	1	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-13142		Prepared: 02-Sep-13		Analyzed: 02-Sep-13



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Conventionals

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-13148		Prepared: 07-Aug-13		Analyzed: 02-Sep-13
Nitrate as N	NA	0.01	0.01	0.05	mg/L	J
Sample ID: 21951-R1	B13-8259 Dana Point	Matrix: Seawater	Sampled: 05-Aug-13 8:52	Received: 06-Aug-13		
	Method: SM 5540-C	Batch ID: C-13070	Prepared: 07-Aug-13	Analyzed: 07-Aug-13		
MBAS	NA	ND	0.005	0.025	mg/L	
	Method: SM 4500-P E	Batch ID: C-13073		Prepared: 07-Aug-13		Analyzed: 07-Aug-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: EPA 1664A	Batch ID: C-13120		Prepared: 27-Aug-13		Analyzed: 27-Aug-13
Oil & Grease	NA	ND	1	1	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-13142		Prepared: 02-Sep-13		Analyzed: 02-Sep-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-13148		Prepared: 07-Aug-13		Analyzed: 02-Sep-13
Nitrate as N	NA	0.02	0.01	0.05	mg/L	J
Sample ID: 21952-R1	B13-8267 Dana Point	Matrix: Seawater	Sampled: 05-Aug-13 11:09	Received: 06-Aug-13		
	Method: SM 5540-C	Batch ID: C-13070	Prepared: 07-Aug-13	Analyzed: 07-Aug-13		
MBAS	NA	0.008	0.005	0.025	mg/L	J
	Method: SM 4500-P E	Batch ID: C-13073		Prepared: 07-Aug-13		Analyzed: 07-Aug-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: EPA 1664A	Batch ID: C-13120		Prepared: 27-Aug-13		Analyzed: 27-Aug-13
Oil & Grease	NA	ND	1	1	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-13142		Prepared: 02-Sep-13		Analyzed: 02-Sep-13
Ammonia as N	NA	0.2	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-13148		Prepared: 07-Aug-13		Analyzed: 02-Sep-13
Nitrate as N	NA	0.01	0.01	0.05	mg/L	J
Sample ID: 21953-R1	B13-8265 Dana Point	Matrix: Seawater	Sampled: 05-Aug-13 12:40	Received: 06-Aug-13		
	Method: SM 5540-C	Batch ID: C-13070	Prepared: 07-Aug-13	Analyzed: 07-Aug-13		
MBAS	NA	0.008	0.005	0.025	mg/L	J
	Method: SM 4500-P E	Batch ID: C-13073		Prepared: 07-Aug-13		Analyzed: 07-Aug-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	



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Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Method: EPA 1664A		Batch ID: C-13120		Prepared: 27-Aug-13		Analyzed: 27-Aug-13
Oil & Grease	NA	ND	1	1	mg/L	
Method: SM 4500-NH ₃ D		Batch ID: C-13142		Prepared: 02-Sep-13		Analyzed: 02-Sep-13
Ammonia as N	NA	0.03	0.02	0.05	mg/L	J
Method: SM 4500-NO ₃ E		Batch ID: C-13148		Prepared: 07-Aug-13		Analyzed: 02-Sep-13
Nitrate as N	NA	ND	0.01	0.05	mg/L	
Sample ID: 21954-R1		B13-8263 Dana Point		Matrix: Seawater		Sampled: 05-Aug-13 14:35
Method: SM 5540-C		Batch ID: C-13070		Prepared: 07-Aug-13		Received: 06-Aug-13
MBAS	NA	ND	0.005	0.025	mg/L	Analyzed: 07-Aug-13
Method: SM 4500-P E		Batch ID: C-13073		Prepared: 07-Aug-13		Analyzed: 07-Aug-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
Method: EPA 1664A		Batch ID: C-13120		Prepared: 27-Aug-13		Analyzed: 27-Aug-13
Oil & Grease	NA	ND	1	1	mg/L	
Method: SM 4500-NH ₃ D		Batch ID: C-13142		Prepared: 02-Sep-13		Analyzed: 02-Sep-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
Method: SM 4500-NO ₃ E		Batch ID: C-13148		Prepared: 07-Aug-13		Analyzed: 02-Sep-13
Nitrate as N	NA	ND	0.01	0.05	mg/L	



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 21948-R1</div> <div>B13-8233 Oceanside</div> <div>Method: EPA 1640</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: E-5129</div> </div> <div> <div>Sampled: 06-Aug-13 8:00</div> <div>Prepared: 21-Aug-13</div> </div> <div> <div>Received: 06-Aug-13</div> <div>Analyzed: 27-Aug-13</div> </div>						
Aluminum (Al)	Total	50.2	3	6	µg/L	
Aluminum (Al)	Dissolved	4.2	3	6	µg/L	J
Antimony (Sb)	Total	0.09	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.11	0.01	0.015	µg/L	
Arsenic (As)	Total	1.383	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.378	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0317	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0332	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2449	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.163	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.024	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.015	0.005	0.01	µg/L	
Copper (Cu)	Total	6.776	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	6.065	0.005	0.01	µg/L	
Iron (Fe)	Total	40.9	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.0499	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0183	0.0025	0.005	µg/L	
Manganese (Mn)	Total	15.61	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	14.71	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	8.542	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	8.693	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.2767	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.2575	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.011	0.005	0.015	µg/L	J
Selenium (Se)	Dissolved	0.006	0.005	0.015	µg/L	J
Silver (Ag)	Total	0.02	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.02	0.01	0.02	µg/L	

PHYSIS Project ID: 1307002-001

Client: AMEC

Project: RHMP Bight '13



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.007	0.005	0.01	µg/L	J
Tin (Sn)	Dissolved	0.015	0.005	0.01	µg/L	
Titanium (Ti)	Total	15.805	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	11.836	0.035	0.07	µg/L	
Vanadium (V)	Total	2.25	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.05	0.02	0.04	µg/L	
Zinc (Zn)	Total	18.7739	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	18.7574	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-5129		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Barium (Ba)	Total	7.34	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	6.47	0.25	0.5	µg/L	
Method: EPA 245.7		Batch ID: E-6015		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Sample ID: 21949-R1

B13-8236 Oceanside

Matrix: Seawater

Sampled: 06-Aug-13 9:50

Received: 06-Aug-13

Method: EPA 1640

Batch ID: E-5129

Prepared: 21-Aug-13

Analyzed: 27-Aug-13

Aluminum (Al)	Total	82.1	3	6	µg/L	
Aluminum (Al)	Dissolved	4.8	3	6	µg/L	J
Antimony (Sb)	Total	0.08	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.12	0.01	0.015	µg/L	
Arsenic (As)	Total	1.435	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.323	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0336	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0328	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2906	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1733	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.033	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.018	0.005	0.01	µg/L	

PHYSIS Project ID: 1307002-001

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Copper (Cu)	Total	6.054	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	5.406	0.005	0.01	µg/L	
Iron (Fe)	Total	49.5	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.0694	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0114	0.0025	0.005	µg/L	
Manganese (Mn)	Total	9.48	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	9.07	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	7.944	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	8.679	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.2622	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.2495	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.007	0.005	0.015	µg/L	J
Selenium (Se)	Dissolved	0.006	0.005	0.015	µg/L	J
Silver (Ag)	Total	0.02	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.03	0.01	0.02	µg/L	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	ND	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.014	0.005	0.01	µg/L	
Titanium (Ti)	Total	17.964	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	12.247	0.035	0.07	µg/L	
Vanadium (V)	Total	2.43	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.21	0.02	0.04	µg/L	
Zinc (Zn)	Total	20.552	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	20.231	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-5129		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Barium (Ba)	Total	7.98	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	8.79	0.25	0.5	µg/L	
Method: EPA 245.7		Batch ID: E-6015		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 21950-R1</div> <div>B13-8239 Oceanside</div> <div>Method: EPA 1640</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: E-5129</div> </div> <div> <div>Sampled: 06-Aug-13 11:10</div> <div>Prepared: 21-Aug-13</div> </div> <div> <div>Received: 06-Aug-13</div> <div>Analyzed: 27-Aug-13</div> </div>						
Aluminum (Al)	Total	70.5	3	6	µg/L	
Aluminum (Al)	Dissolved	3.6	3	6	µg/L	J
Antimony (Sb)	Total	0.08	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.1	0.01	0.015	µg/L	
Arsenic (As)	Total	1.44	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.308	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0261	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0581	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2829	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1975	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.032	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.014	0.005	0.01	µg/L	
Copper (Cu)	Total	3.437	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	3.321	0.005	0.01	µg/L	
Iron (Fe)	Total	44.6	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.0629	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.1153	0.0025	0.005	µg/L	
Manganese (Mn)	Total	4.42	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	4.12	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	8.497	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	8.737	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.2618	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.2329	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.02	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.009	0.005	0.015	µg/L	J
Silver (Ag)	Total	0.02	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.02	0.01	0.02	µg/L	

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Client: AMEC

Project: RHMP Bight '13



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	ND	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	17.139	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	12.945	0.035	0.07	µg/L	
Vanadium (V)	Total	2.39	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.22	0.02	0.04	µg/L	
Zinc (Zn)	Total	10.3685	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	9.914	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-5129		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Barium (Ba)	Total	7.52	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	7.09	0.25	0.5	µg/L	
Method: EPA 245.7		Batch ID: E-6015		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Sample ID: 21951-R1

B13-8259 Dana Point

Matrix: Seawater

Sampled: 05-Aug-13 8:52

Received: 06-Aug-13

Method: EPA 1640

Batch ID: E-5129

Prepared: 21-Aug-13

Analyzed: 27-Aug-13

Aluminum (Al)	Total	67	3	6	µg/L	
Aluminum (Al)	Dissolved	5	3	6	µg/L	J
Antimony (Sb)	Total	0.08	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.11	0.01	0.015	µg/L	
Arsenic (As)	Total	1.284	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.376	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0456	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0536	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2676	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1722	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.065	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.014	0.005	0.01	µg/L	

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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Copper (Cu)	Total	12.07	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	11.237	0.005	0.01	µg/L	
Iron (Fe)	Total	41.1	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.0837	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0172	0.0025	0.005	µg/L	
Manganese (Mn)	Total	3.47	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	3.12	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	7.845	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	8.601	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.3665	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.33	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.022	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.01	0.005	0.015	µg/L	J
Silver (Ag)	Total	0.01	0.01	0.02	µg/L	J
Silver (Ag)	Dissolved	0.02	0.01	0.02	µg/L	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.009	0.005	0.01	µg/L	J
Tin (Sn)	Dissolved	0.008	0.005	0.01	µg/L	J
Titanium (Ti)	Total	14.915	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	13.935	0.035	0.07	µg/L	
Vanadium (V)	Total	2.14	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.03	0.02	0.04	µg/L	
Zinc (Zn)	Total	37.2379	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	40.3007	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-5129		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Barium (Ba)	Total	6.97	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	6.78	0.25	0.5	µg/L	
Method: EPA 245.7		Batch ID: E-6015		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 21952-R1</div> <div>B13-8267 Dana Point</div> <div>Matrix: Seawater</div> <div>Sampled: 05-Aug-13 11:09</div> <div>Received: 06-Aug-13</div> </div> <div> <div>Method: EPA 1640</div> <div>Batch ID: E-5129</div> <div>Prepared: 21-Aug-13</div> <div>Analyzed: 27-Aug-13</div> </div>						
Aluminum (Al)	Total	135.1	3	6	µg/L	
Aluminum (Al)	Dissolved	3.4	3	6	µg/L	J
Antimony (Sb)	Total	0.08	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.1	0.01	0.015	µg/L	
Arsenic (As)	Total	1.43	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.347	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0408	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.038	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.4577	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1634	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.047	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.015	0.005	0.01	µg/L	
Copper (Cu)	Total	8.151	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	6.392	0.005	0.01	µg/L	
Iron (Fe)	Total	83.5	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1529	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0168	0.0025	0.005	µg/L	
Manganese (Mn)	Total	4.54	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	3.75	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	6.86	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	8.703	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.3597	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.3192	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.013	0.005	0.015	µg/L	J
Selenium (Se)	Dissolved	0.011	0.005	0.015	µg/L	J
Silver (Ag)	Total	0.02	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.02	0.01	0.02	µg/L	

PHYSIS Project ID: 1307002-001

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Project: RHMP Bight '13



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.013	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.01	0.005	0.01	µg/L	
Titanium (Ti)	Total	18.998	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	13.896	0.035	0.07	µg/L	
Vanadium (V)	Total	2.42	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2	0.02	0.04	µg/L	
Zinc (Zn)	Total	35.2726	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	22.9909	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-5129

Prepared: 06-Sep-13

Analyzed: 06-Sep-13

Barium (Ba)	Total	5.54	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	7.17	0.25	0.5	µg/L	

Method: EPA 245.7

Batch ID: E-6015

Prepared: 30-Aug-13

Analyzed: 30-Aug-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Sample ID: 21953-R1

B13-8265 Dana Point

Matrix: Seawater

Sampled: 05-Aug-13 12:40

Received: 06-Aug-13

Method: EPA 1640

Batch ID: E-5129

Prepared: 21-Aug-13

Analyzed: 27-Aug-13

Aluminum (Al)	Total	55.3	3	6	µg/L	
Aluminum (Al)	Dissolved	3.8	3	6	µg/L	J
Antimony (Sb)	Total	0.09	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.11	0.01	0.015	µg/L	
Arsenic (As)	Total	1.315	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.408	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	0.022	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0386	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0388	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.358	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1637	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.018	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.01	0.005	0.01	µg/L	

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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Copper (Cu)	Total	8.196	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	8.634	0.005	0.01	µg/L	
Iron (Fe)	Total	36.4	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.074	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.014	0.0025	0.005	µg/L	
Manganese (Mn)	Total	2.91	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	2.33	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	7.538	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	8.755	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.2909	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.2813	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.013	0.005	0.015	µg/L	J
Selenium (Se)	Dissolved	0.013	0.005	0.015	µg/L	J
Silver (Ag)	Total	0.01	0.01	0.02	µg/L	J
Silver (Ag)	Dissolved	0.02	0.01	0.02	µg/L	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	ND	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.314	0.005	0.01	µg/L	
Titanium (Ti)	Total	14.959	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	10.544	0.035	0.07	µg/L	
Vanadium (V)	Total	2.15	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	1.98	0.02	0.04	µg/L	
Zinc (Zn)	Total	22.4279	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	23.8741	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-5129		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Barium (Ba)	Total	7.32	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	4.72	0.25	0.5	µg/L	
Method: EPA 245.7		Batch ID: E-6015		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21954-R1		B13-8263 Dana Point	Matrix: Seawater	Sampled: 05-Aug-13 14:35	Received: 06-Aug-13	
Method: EPA 1640		Batch ID: E-5129	Prepared: 21-Aug-13		Analyzed: 27-Aug-13	
Aluminum (Al)	Total	90.3	3	6	µg/L	
Aluminum (Al)	Dissolved	3.6	3	6	µg/L	J
Antimony (Sb)	Total	0.07	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.1	0.01	0.015	µg/L	
Arsenic (As)	Total	1.48	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.434	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0358	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.034	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.5523	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1649	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.03	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	ND	0.005	0.01	µg/L	
Copper (Cu)	Total	4.9	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	4.18	0.005	0.01	µg/L	
Iron (Fe)	Total	57.2	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.0939	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.012	0.0025	0.005	µg/L	
Manganese (Mn)	Total	3.42	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	2.47	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	7.821	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	8.745	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.3496	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.2409	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.011	0.005	0.015	µg/L	J
Selenium (Se)	Dissolved	0.016	0.005	0.015	µg/L	
Silver (Ag)	Total	0.02	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.02	0.01	0.02	µg/L	

PHYSIS Project ID: 1307002-001

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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	ND	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	17.895	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	14.347	0.035	0.07	µg/L	
Vanadium (V)	Total	2.35	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.07	0.02	0.04	µg/L	
Zinc (Zn)	Total	18.7336	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	14.2729	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-5129		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Barium (Ba)	Total	6.58	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	5.85	0.25	0.5	µg/L	
Method: EPA 245.7		Batch ID: E-6015		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 21948-R1</div> <div>B13-8233 Oceanside</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: O-4143</div> </div> <div> <div>Sampled: 06-Aug-13 8:00</div> <div>Prepared: 09-Aug-13</div> </div> <div> <div>Received: 06-Aug-13</div> <div>Analyzed: 24-Aug-13</div> </div>						
(d10-Acenaphthene)	Total	75			% Recovery	
(d10-Phenanthrene)	Total	94			% Recovery	
(d12-Chrysene)	Total	126			% Recovery	
(d8-Naphthalene)	Total	68			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	1.2	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	1.7	1	5	ng/L	J
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	2.1	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	ND	1	5	ng/L	
Pyrene	Total	1.7	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 21949-R1</div> <div>B13-8236 Oceanside</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: O-4143</div> </div> <div> <div>Sampled: 06-Aug-13 9:50</div> <div>Prepared: 09-Aug-13</div> </div> <div> <div>Received: 06-Aug-13</div> <div>Analyzed: 24-Aug-13</div> </div>						
(d10-Acenaphthene)	Total	107			% Recovery	
(d10-Phenanthrene)	Total	93			% Recovery	
(d12-Chrysene)	Total	119			% Recovery	
(d8-Naphthalene)	Total	98			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	1.4	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	1.8	1	5	ng/L	J
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	3.1	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.4	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	ND	1	5	ng/L	
Pyrene	Total	2.1	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 21950-R1</div> <div>B13-8239 Oceanside</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: O-4143</div> </div> <div> <div>Sampled: 06-Aug-13 11:10</div> <div>Prepared: 09-Aug-13</div> </div> <div> <div>Received: 06-Aug-13</div> <div>Analyzed: 24-Aug-13</div> </div>						
(d10-Acenaphthene)	Total	85			% Recovery	
(d10-Phenanthrene)	Total	90			% Recovery	
(d12-Chrysene)	Total	119			% Recovery	
(d8-Naphthalene)	Total	80			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	1.4	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	1.3	1	5	ng/L	J
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	2.5	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.2	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	ND	1	5	ng/L	
Pyrene	Total	1.3	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 21951-R1</div> <div>B13-8259 Dana Point</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: O-4143</div> </div> <div> <div>Sampled: 05-Aug-13 8:52</div> <div>Prepared: 09-Aug-13</div> </div> <div> <div>Received: 06-Aug-13</div> <div>Analyzed: 24-Aug-13</div> </div>						
(d10-Acenaphthene)	Total	70			% Recovery	
(d10-Phenanthrene)	Total	87			% Recovery	
(d12-Chrysene)	Total	126			% Recovery	
(d8-Naphthalene)	Total	52			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	1	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	1.4	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	ND	1	5	ng/L	
Pyrene	Total	1.5	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 21952-R1</div> <div>B13-8267 Dana Point</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: O-4143</div> </div> <div> <div>Sampled: 05-Aug-13 11:09</div> <div>Prepared: 09-Aug-13</div> </div> <div> <div>Received: 06-Aug-13</div> <div>Analyzed: 24-Aug-13</div> </div>						
(d10-Acenaphthene)	Total	70			% Recovery	
(d10-Phenanthrene)	Total	94			% Recovery	
(d12-Chrysene)	Total	160			% Recovery	
(d8-Naphthalene)	Total	44			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	1.3	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	1.1	1	5	ng/L	J
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	1.6	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	ND	1	5	ng/L	
Pyrene	Total	1.4	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 21953-R1</div> <div>B13-8265 Dana Point</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: O-4143</div> </div> <div> <div>Sampled: 05-Aug-13 12:40</div> <div>Prepared: 09-Aug-13</div> </div> <div> <div>Received: 06-Aug-13</div> <div>Analyzed: 24-Aug-13</div> </div>						
(d10-Acenaphthene)	Total	80			% Recovery	
(d10-Phenanthrene)	Total	92			% Recovery	
(d12-Chrysene)	Total	116			% Recovery	
(d8-Naphthalene)	Total	76			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	1.5	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.6	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	ND	1	5	ng/L	
Pyrene	Total	1	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21954-R1 B13-8263 Dana Point Method: EPA 625		Matrix: Seawater Batch ID: O-4143		Sampled: 05-Aug-13 14:35 Prepared: 09-Aug-13		Received: 06-Aug-13 Analyzed: 25-Aug-13
(d10-Acenaphthene)	Total	70			% Recovery	
(d10-Phenanthrene)	Total	90			% Recovery	
(d12-Chrysene)	Total	120			% Recovery	
(d8-Naphthalene)	Total	41			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	ND	1	5	ng/L	
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	ND	1	5	ng/L	
Pyrene	Total	ND	1	5	ng/L	

QUALITY CONTROL REPORT

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CA ELAP #2769

Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Ammonia as N

Method: SM 4500-NH₃ D

Fraction: NA

Prepared: 02-Sep-13

Analyzed: 02-Sep-13

21947-B1	QAQC Procedural Blank	C-13142	ND	0.02	0.05	mg/L							
21947-BS1	QAQC Procedural Blank	C-13142	0.26	0.02	0.05	mg/L	0.25	0	104	70 - 130%	PASS		
21947-BS2	QAQC Procedural Blank	C-13142	0.29	0.02	0.05	mg/L	0.25	0	116	70 - 130%	PASS	11	30
21948-MS1	B13-8233	C-13142	0.43	0.02	0.05	mg/L	0.25	0.07	144	70 - 130%	FAIL		
21948-MS2	B13-8233	C-13142	0.36	0.02	0.05	mg/L	0.25	0.07	116	70 - 130%	PASS	22	30
21948-R2	B13-8233	C-13142	0.06	0.02	0.05	mg/L						15	30

MBAS

Method: SM 5540-C

Fraction: NA

Prepared: 07-Aug-13

Analyzed: 07-Aug-13

21947-B1	QAQC Procedural Blank	C-13070	ND	0.005	0.025	mg/L							
21947-BS1	QAQC Procedural Blank	C-13070	0.112	0.005	0.025	mg/L	0.1	0	112	70 - 130%	PASS		
21947-BS2	QAQC Procedural Blank	C-13070	0.111	0.005	0.025	mg/L	0.1	0	111	70 - 130%	PASS	1	30
21948-MS1	B13-8233	C-13070	0.092	0.005	0.025	mg/L	0.1	0	92	70 - 130%	PASS		
21948-MS2	B13-8233	C-13070	0.079	0.005	0.025	mg/L	0.1	0	79	70 - 130%	PASS	15	30
21948-R2	B13-8233	C-13070	ND	0.005	0.025	mg/L						0	30

Nitrate as N

Method: SM 4500-NO₃ E

Fraction: NA

Prepared: 07-Aug-13

Analyzed: 02-Sep-13

21947-B1	QAQC Procedural Blank	C-13148	ND	0.01	0.05	mg/L							
21947-BS1	QAQC Procedural Blank	C-13148	0.13	0.01	0.05	mg/L	0.11	0	118	70 - 130%	PASS		
21947-BS2	QAQC Procedural Blank	C-13148	0.13	0.01	0.05	mg/L	0.11	0	118	70 - 130%	PASS	0	30
21948-MS1	B13-8233	C-13148	0.14	0.01	0.05	mg/L	0.11	0.02	109	70 - 130%	PASS		
21948-MS2	B13-8233	C-13148	0.14	0.01	0.05	mg/L	0.11	0.02	109	70 - 130%	PASS	0	30
21948-R2	B13-8233	C-13148	0.02	0.01	0.05	mg/L						0	30

Oil & Grease

Method: EPA 1664A

Fraction: NA

Prepared: 27-Aug-13

Analyzed: 27-Aug-13

21947-B1	QAQC Procedural Blank	C-13120	ND	1	1	mg/L							
21947-BS1	QAQC Procedural Blank	C-13120	17.1	1	1	mg/L	20.1	0	85	70 - 130%	PASS		
21947-BS2	QAQC Procedural Blank	C-13120	14.1	1	1	mg/L	20.1	0	70	70 - 130%	PASS	19	30

Total Orthophosphate as P

Method: SM 4500-P E

Fraction: NA

Prepared: 07-Aug-13

Analyzed: 07-Aug-13

21947-B1	QAQC Procedural Blank	C-13073	ND	0.01	0.02	mg/L							
21947-BS1	QAQC Procedural Blank	C-13073	0.19	0.01	0.02	mg/L	0.2	0	95	70 - 130%	PASS		



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CA ELAP #2769

Conventional

QUALITY CONTROL REPORT

SAMPLE ID		BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS		PRECISION % LIMITS		QA CODE
21947-BS2	QAQC Procedural Blank	C-13073	0.2	0.01	0.02	mg/L	0.2	0	100	70 - 130% PASS	5	30	PASS
21948-MS1	B13-8233	C-13073	0.22	0.01	0.02	mg/L	0.2	0.03	95	70 - 130% PASS			
21948-MS2	B13-8233	C-13073	0.23	0.01	0.02	mg/L	0.2	0.03	100	70 - 130% PASS	5	30	PASS
21948-R2	B13-8233	C-13073	0.03	0.01	0.02	mg/L					0	30	PASS



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 21947-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 1640		Batch ID: E-5129		Prepared: 21-Aug-13		Analyzed: 27-Aug-13		
Aluminum (Al)	Dissolved	ND	3	6	µg/L					
Aluminum (Al)	Total	ND	3	6	µg/L					
Antimony (Sb)	Dissolved	ND	0.01	0.015	µg/L					
Antimony (Sb)	Total	ND	0.01	0.015	µg/L					
Arsenic (As)	Dissolved	ND	0.005	0.015	µg/L					
Arsenic (As)	Total	ND	0.005	0.015	µg/L					
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L					
Beryllium (Be)	Total	ND	0.005	0.01	µg/L					
Cadmium (Cd)	Dissolved	ND	0.0025	0.005	µg/L					
Cadmium (Cd)	Total	ND	0.0025	0.005	µg/L					
Chromium (Cr)	Dissolved	ND	0.0125	0.025	µg/L					
Chromium (Cr)	Total	ND	0.0125	0.025	µg/L					
Cobalt (Co)	Dissolved	ND	0.005	0.01	µg/L					
Cobalt (Co)	Total	ND	0.005	0.01	µg/L					
Copper (Cu)	Dissolved	ND	0.005	0.01	µg/L					
Copper (Cu)	Total	ND	0.005	0.01	µg/L					
Iron (Fe)	Dissolved	ND	0.5	1	µg/L					
Iron (Fe)	Total	ND	0.5	1	µg/L					
Lead (Pb)	Dissolved	ND	0.0025	0.005	µg/L					
Lead (Pb)	Total	ND	0.0025	0.005	µg/L					
Manganese (Mn)	Dissolved	ND	0.01	0.02	µg/L					
Manganese (Mn)	Total	ND	0.01	0.02	µg/L					
Molybdenum (Mo)	Dissolved	ND	0.005	0.01	µg/L					
Molybdenum (Mo)	Total	ND	0.005	0.01	µg/L					
Nickel (Ni)	Dissolved	ND	0.0025	0.005	µg/L					
Nickel (Ni)	Total	ND	0.0025	0.005	µg/L					
Selenium (Se)	Dissolved	ND	0.005	0.015	µg/L					
Selenium (Se)	Total	ND	0.005	0.015	µg/L					
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L					

PHYSIS Project ID: 1307002-001

Client: AMEC

Project: RHMP Bight '13



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Silver (Ag)	Total	ND	0.01	0.02	µg/L					
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L					
Thallium (Tl)	Total	ND	0.005	0.01	µg/L					
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L					
Tin (Sn)	Total	ND	0.005	0.01	µg/L					
Titanium (Ti)	Dissolved	ND	0.035	0.07	µg/L					
Titanium (Ti)	Total	ND	0.035	0.07	µg/L					
Vanadium (V)	Dissolved	ND	0.02	0.04	µg/L					
Vanadium (V)	Total	ND	0.02	0.04	µg/L					
Zinc (Zn)	Dissolved	ND	0.0025	0.005	µg/L					
Zinc (Zn)	Total	ND	0.0025	0.005	µg/L					

Method: EPA 200.8

Batch ID: E-5129

Prepared: 06-Sep-13

Analyzed: 06-Sep-13

Barium (Ba)	Dissolved	ND	0.25	0.5	µg/L					
Barium (Ba)	Total	ND	0.25	0.5	µg/L					

Method: EPA 245.7

Batch ID: E-6015

Prepared: 30-Aug-13

Analyzed: 30-Aug-13

Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L					
Mercury (Hg)	Total	ND	0.01	0.02	µg/L					

Sample ID: 21947-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 200.8

Batch ID: E-5129

Prepared: 06-Sep-13

Analyzed: 06-Sep-13

Barium (Ba)	Total	1047.19	0.25	0.5	µg/L	1000	0	105	75 - 125%	PASS
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Method: EPA 245.7

Batch ID: E-6015

Prepared: 30-Aug-13

Analyzed: 30-Aug-13

Mercury (Hg)	Dissolved	0.1	0.01	0.02	µg/L	0.1	0	100	80 - 120%	PASS
Mercury (Hg)	Total	0.09	0.01	0.02	µg/L	0.1	0	90	80 - 120%	PASS

Sample ID: 21947-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 200.8

Batch ID: E-5129

Prepared: 06-Sep-13

Analyzed: 06-Sep-13

Barium (Ba)	Total	1006.95	0.25	0.5	µg/L	1000	0	101	75 - 125%	PASS	4	30	PASS
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Method: EPA 245.7

Batch ID: E-6015

Prepared: 30-Aug-13

Analyzed: 30-Aug-13

Mercury (Hg)	Dissolved	0.1	0.01	0.02	µg/L	0.1	0	100	80 - 120%	PASS	0	30	PASS
Mercury (Hg)	Total	0.09	0.01	0.02	µg/L	0.1	0	90	80 - 120%	PASS	0	30	PASS



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 21948-MS1

B13-8233 Oceanside

Matrix: Seawater

Sampled: 06-Aug-13 8:00

Received: 06-Aug-13

Method: EPA 200.8

Batch ID: E-5129

Prepared: 06-Sep-13

Analyzed: 06-Sep-13

Barium (Ba)	Dissolved	5.98	0.25	0.5	µg/L	5.83	7.31	-23 75 - 125% FAIL		SH
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Method: EPA 245.7

Batch ID: E-6015

Prepared: 30-Aug-13

Analyzed: 30-Aug-13

Mercury (Hg)	Total	0.12	0.01	0.02	µg/L	0.1	0	120 80 - 120% PASS		
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Sample ID: 21948-MS2

B13-8233 Oceanside

Matrix: Seawater

Sampled: 06-Aug-13 8:00

Received: 06-Aug-13

Method: EPA 200.8

Batch ID: E-5129

Prepared: 06-Sep-13

Analyzed: 06-Sep-13

Barium (Ba)	Dissolved	6	0.25	0.5	µg/L	5.83	7.31	-22 75 - 125% FAIL	4 30 PASS	SH
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Method: EPA 245.7

Batch ID: E-6015

Prepared: 30-Aug-13

Analyzed: 30-Aug-13

Mercury (Hg)	Total	0.12	0.01	0.02	µg/L	0.1	0	120 80 - 120% PASS	0 30 PASS	
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Sample ID: 21948-R2

B13-8233 Oceanside

Matrix: Seawater

Sampled: 06-Aug-13 8:00

Received: 06-Aug-13

Method: EPA 1640

Batch ID: E-5129

Prepared: 21-Aug-13

Analyzed: 27-Aug-13

Aluminum (Al)	Dissolved	3.6	3	6	µg/L				15 30 PASS	J
Aluminum (Al)	Total	48.6	3	6	µg/L				3 30 PASS	
Antimony (Sb)	Dissolved	0.11	0.01	0.015	µg/L				0 30 PASS	
Antimony (Sb)	Total	0.08	0.01	0.015	µg/L				12 30 PASS	
Arsenic (As)	Dissolved	1.389	0.005	0.015	µg/L				1 30 PASS	
Arsenic (As)	Total	1.367	0.005	0.015	µg/L				1 30 PASS	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L				0 30 PASS	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L				0 30 PASS	
Cadmium (Cd)	Dissolved	0.0325	0.0025	0.005	µg/L				2 30 PASS	
Cadmium (Cd)	Total	0.0348	0.0025	0.005	µg/L				9 30 PASS	
Chromium (Cr)	Dissolved	0.175	0.0125	0.025	µg/L				7 30 PASS	
Chromium (Cr)	Total	0.258	0.0125	0.025	µg/L				5 30 PASS	
Cobalt (Co)	Dissolved	0.012	0.005	0.01	µg/L				22 30 PASS	
Cobalt (Co)	Total	0.025	0.005	0.01	µg/L				4 30 PASS	
Copper (Cu)	Dissolved	5.823	0.005	0.01	µg/L				4 30 PASS	
Copper (Cu)	Total	6.656	0.005	0.01	µg/L				2 30 PASS	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L				0 30 PASS	



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Iron (Fe)	Total	41.9	0.5	1	µg/L				2 30 PASS	
Lead (Pb)	Dissolved	0.0048	0.0025	0.005	µg/L				117 30 FAIL	J,SL
Lead (Pb)	Total	0.0479	0.0025	0.005	µg/L				4 30 PASS	
Manganese (Mn)	Dissolved	14.24	0.01	0.02	µg/L				3 30 PASS	
Manganese (Mn)	Total	15.32	0.01	0.02	µg/L				2 30 PASS	
Molybdenum (Mo)	Dissolved	8.333	0.005	0.01	µg/L				4 30 PASS	
Molybdenum (Mo)	Total	8.404	0.005	0.01	µg/L				2 30 PASS	
Nickel (Ni)	Dissolved	0.2293	0.0025	0.005	µg/L				12 30 PASS	
Nickel (Ni)	Total	0.2802	0.0025	0.005	µg/L				1 30 PASS	
Selenium (Se)	Dissolved	ND	0.005	0.015	µg/L				18 30 PASS	J
Selenium (Se)	Total	0.014	0.005	0.015	µg/L				24 30 PASS	J
Silver (Ag)	Dissolved	0.03	0.01	0.02	µg/L				40 30 FAIL	SL
Silver (Ag)	Total	0.03	0.01	0.02	µg/L				40 30 FAIL	SL
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L				0 30 PASS	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L				0 30 PASS	
Tin (Sn)	Dissolved	0.013	0.005	0.01	µg/L				14 30 PASS	
Tin (Sn)	Total	0.007	0.005	0.01	µg/L				0 30 PASS	J
Titanium (Ti)	Dissolved	11.228	0.035	0.07	µg/L				5 30 PASS	
Titanium (Ti)	Total	12.92	0.035	0.07	µg/L				20 30 PASS	
Vanadium (V)	Dissolved	2.09	0.02	0.04	µg/L				2 30 PASS	
Vanadium (V)	Total	2.22	0.02	0.04	µg/L				1 30 PASS	
Zinc (Zn)	Dissolved	18.3063	0.0025	0.005	µg/L				2 30 PASS	
Zinc (Zn)	Total	19.1961	0.0025	0.005	µg/L				2 30 PASS	
Method: EPA 200.8		Batch ID: E-5129		Prepared: 06-Sep-13		Analyzed: 06-Sep-13				
Barium (Ba)	Dissolved	8.15	0.25	0.5	µg/L				23 30 PASS	
Barium (Ba)	Total	9.29	0.25	0.5	µg/L				23 30 PASS	
Method: EPA 245.7		Batch ID: E-6015		Prepared: 30-Aug-13		Analyzed: 30-Aug-13				
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L				0 30 PASS	
Mercury (Hg)	Total	ND	0.01	0.02	µg/L				0 30 PASS	

Sample ID: 21955-LCM1

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-5129

Prepared: 21-Aug-13

Analyzed: 27-Aug-13

PHYSIS Project ID: 1307002-001

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Aluminum (Al)	Total	ND	3	6	µg/L					
Antimony (Sb)	Total	0.1	0.01	0.015	µg/L					
Arsenic (As)	Total	1.81	0.005	0.015	µg/L					
Beryllium (Be)	Total	ND	0.005	0.01	µg/L					
Cadmium (Cd)	Total	0.1079	0.0025	0.005	µg/L					
Chromium (Cr)	Total	0.1949	0.0125	0.025	µg/L					
Cobalt (Co)	Total	ND	0.005	0.01	µg/L					
Copper (Cu)	Total	ND	0.005	0.01	µg/L					
Iron (Fe)	Total	ND	0.5	1	µg/L					
Lead (Pb)	Total	0.0273	0.0025	0.005	µg/L					
Manganese (Mn)	Total	0.25	0.01	0.02	µg/L					
Molybdenum (Mo)	Total	9.08	0.005	0.01	µg/L					
Nickel (Ni)	Total	0.4248	0.0025	0.005	µg/L					
Selenium (Se)	Total	0.045	0.005	0.015	µg/L					
Silver (Ag)	Total	0.01	0.01	0.02	µg/L					
Thallium (Tl)	Total	ND	0.005	0.01	µg/L					
Tin (Sn)	Total	0.007	0.005	0.01	µg/L					
Titanium (Ti)	Total	21.995	0.035	0.07	µg/L					
Vanadium (V)	Total	2.11	0.02	0.04	µg/L					
Zinc (Zn)	Total	0.5008	0.0025	0.005	µg/L					

Sample ID: 21955-LCS1

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-5129

Prepared: 21-Aug-13

Analyzed: 27-Aug-13

Aluminum (Al)	Total	25.6	3	6	µg/L	20	0	128	0 - 191%	PASS
Antimony (Sb)	Total	2.02	0.01	0.015	µg/L	20	0.1	10	10 - 110%	PASS
Arsenic (As)	Total	23.233	0.005	0.015	µg/L	20	1.81	107	74 - 128%	PASS
Beryllium (Be)	Total	19.557	0.005	0.01	µg/L	20	0	98	60 - 118%	PASS
Cadmium (Cd)	Total	17.7194	0.0025	0.005	µg/L	20	0.1079	88	68 - 131%	PASS
Chromium (Cr)	Total	23.0625	0.0125	0.025	µg/L	20	0.1949	114	32 - 173%	PASS
Cobalt (Co)	Total	21.371	0.005	0.01	µg/L	20	0	107	87 - 119%	PASS
Copper (Cu)	Total	17.796	0.005	0.01	µg/L	20	0	89	61 - 119%	PASS
Iron (Fe)	Total	9.7	0.5	1	µg/L	20	0	48	22 - 129%	PASS

PHYSIS Project ID: 1307002-001

Client: AMEC

Project: RHMP Bight '13



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Lead (Pb)	Total	17.7212	0.0025	0.005	µg/L	20	0.0273	88 75 - 120%	PASS	
Manganese (Mn)	Total	15.84	0.01	0.02	µg/L	20	0.25	78 32 - 131%	PASS	
Molybdenum (Mo)	Total	26.047	0.005	0.01	µg/L	20	9.08	85 54 - 131%	PASS	
Nickel (Ni)	Total	17.4022	0.0025	0.005	µg/L	20	0.4248	85 60 - 113%	PASS	
Selenium (Se)	Total	19.157	0.005	0.015	µg/L	20	0.045	96 0 - 183%	PASS	
Silver (Ag)	Total	7.64	0.01	0.02	µg/L	10	0.01	76 64 - 133%	PASS	
Thallium (Tl)	Total	18.18	0.005	0.01	µg/L	20	0	91 70 - 125%	PASS	
Tin (Sn)	Total	19.862	0.005	0.01	µg/L	20	0.007	99 69 - 118%	PASS	
Titanium (Ti)	Total	35.385	0.035	0.07	µg/L	20	21.995	67 72 - 129%	FAIL	R
Vanadium (V)	Total	26.17	0.02	0.04	µg/L	20	2.11	120 72 - 137%	PASS	
Zinc (Zn)	Total	20.7541	0.0025	0.005	µg/L	20	0.5008	101 61 - 128%	PASS	

Sample ID: 21955-LCS2

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-5129

Prepared: 21-Aug-13

Analyzed: 27-Aug-13

Aluminum (Al)	Total	26.8	3	6	µg/L	20	0	134 0 - 191%	PASS	0 30 PASS
Antimony (Sb)	Total	2.01	0.01	0.015	µg/L	20	0.1	10 10 - 110%	PASS	0 30 PASS
Arsenic (As)	Total	23.451	0.005	0.015	µg/L	20	1.81	108 74 - 128%	PASS	1 30 PASS
Beryllium (Be)	Total	19.417	0.005	0.01	µg/L	20	0	97 60 - 118%	PASS	0 30 PASS
Cadmium (Cd)	Total	17.8471	0.0025	0.005	µg/L	20	0.1079	89 68 - 131%	PASS	1 30 PASS
Chromium (Cr)	Total	23.4267	0.0125	0.025	µg/L	20	0.1949	116 32 - 173%	PASS	2 30 PASS
Cobalt (Co)	Total	21.552	0.005	0.01	µg/L	20	0	108 87 - 119%	PASS	0 30 PASS
Copper (Cu)	Total	17.907	0.005	0.01	µg/L	20	0	90 61 - 119%	PASS	0 30 PASS
Iron (Fe)	Total	10.3	0.5	1	µg/L	20	0	51 22 - 129%	PASS	0 30 PASS
Lead (Pb)	Total	17.5083	0.0025	0.005	µg/L	20	0.0273	87 75 - 120%	PASS	1 30 PASS
Manganese (Mn)	Total	16.67	0.01	0.02	µg/L	20	0.25	82 32 - 131%	PASS	5 30 PASS
Molybdenum (Mo)	Total	26.337	0.005	0.01	µg/L	20	9.08	86 54 - 131%	PASS	1 30 PASS
Nickel (Ni)	Total	17.4872	0.0025	0.005	µg/L	20	0.4248	85 60 - 113%	PASS	0 30 PASS
Selenium (Se)	Total	19.243	0.005	0.015	µg/L	20	0.045	96 0 - 183%	PASS	0 30 PASS
Silver (Ag)	Total	6.83	0.01	0.02	µg/L	10	0.01	68 64 - 133%	PASS	11 30 PASS
Thallium (Tl)	Total	17.67	0.005	0.01	µg/L	20	0	88 70 - 125%	PASS	0 30 PASS
Tin (Sn)	Total	20.887	0.005	0.01	µg/L	20	0.007	104 69 - 118%	PASS	5 30 PASS
Titanium (Ti)	Total	41.357	0.035	0.07	µg/L	20	21.995	97 72 - 129%	PASS	37 30 FAIL R

PHYSIS Project ID: 1307002-001

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Project: RHMP Bight '13



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Vanadium (V)	Total	26.79	0.02	0.04	µg/L	20	2.11	123	72 - 137% PASS	2	30	PASS
Zinc (Zn)	Total	20.7915	0.0025	0.005	µg/L	20	0.5008	101	61 - 128% PASS	0	30	PASS



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 21947-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 625

Batch ID: O-4143

Prepared: 09-Aug-13

Analyzed: 24-Aug-13

(d10-Acenaphthene)	Total	82			% Recovery	100		82 50 - 150% PASS		
(d10-Phenanthrene)	Total	95			% Recovery	100		95 50 - 150% PASS		
(d12-Chrysene)	Total	120			% Recovery	100		120 50 - 150% PASS		
(d8-Naphthalene)	Total	81			% Recovery	100		81 25 - 125% PASS		
1-Methylnaphthalene	Total	ND	1	5	ng/L					
1-Methylphenanthrene	Total	ND	1	5	ng/L					
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L					
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L					
2-Methylnaphthalene	Total	ND	1	5	ng/L					
Acenaphthene	Total	ND	1	5	ng/L					
Acenaphthylene	Total	ND	1	5	ng/L					
Anthracene	Total	ND	1	5	ng/L					
Benz[a]anthracene	Total	ND	1	5	ng/L					
Benzo[a]pyrene	Total	ND	1	5	ng/L					
Benzo[b]fluoranthene	Total	ND	1	5	ng/L					
Benzo[e]pyrene	Total	ND	1	5	ng/L					
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L					
Benzo[k]fluoranthene	Total	ND	1	5	ng/L					
Biphenyl	Total	ND	1	5	ng/L					
Chrysene	Total	ND	1	5	ng/L					
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L					
Dibenzothiophene	Total	ND	1	5	ng/L					
Fluoranthene	Total	ND	1	5	ng/L					
Fluorene	Total	ND	1	5	ng/L					
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L					
Naphthalene	Total	ND	1	5	ng/L					
Perylene	Total	ND	1	5	ng/L					
Phenanthrene	Total	ND	1	5	ng/L					
Pyrene	Total	ND	1	5	ng/L					

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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 21947-BS1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 625			Batch ID: O-4143		Prepared: 09-Aug-13		Analyzed: 24-Aug-13	
(d10-Acenaphthene)	Total	81			% Recovery	100	0	81	50 - 150% PASS	
(d10-Phenanthrene)	Total	94			% Recovery	100	0	94	50 - 150% PASS	
(d12-Chrysene)	Total	125			% Recovery	100	0	125	50 - 150% PASS	
(d8-Naphthalene)	Total	60			% Recovery	100	0	60	25 - 125% PASS	
1-Methylnaphthalene	Total	784.1	1	5	ng/L	1000	0	78	50 - 150% PASS	
1-Methylphenanthrene	Total	1081.8	1	5	ng/L	1000	0	108	50 - 150% PASS	
2,3,5-Trimethylnaphthalene	Total	874.3	1	5	ng/L	1000	0	87	50 - 150% PASS	
2,6-Dimethylnaphthalene	Total	804.9	1	5	ng/L	1000	0	80	50 - 150% PASS	
2-Methylnaphthalene	Total	784.9	1	5	ng/L	1000	0	78	50 - 150% PASS	
Acenaphthene	Total	839.1	1	5	ng/L	1000	0	84	50 - 150% PASS	
Acenaphthylene	Total	847.3	1	5	ng/L	1000	0	85	50 - 150% PASS	
Anthracene	Total	998.2	1	5	ng/L	1000	0	100	50 - 150% PASS	
Benz[a]anthracene	Total	1302.3	1	5	ng/L	1000	0	130	50 - 150% PASS	
Benzo[a]pyrene	Total	1089	1	5	ng/L	1000	0	109	50 - 150% PASS	
Benzo[b]fluoranthene	Total	1245.5	1	5	ng/L	1000	0	125	50 - 150% PASS	
Benzo[e]pyrene	Total	1061.7	1	5	ng/L	1000	0	106	50 - 150% PASS	
Benzo[g,h,i]perylene	Total	920.1	1	5	ng/L	1000	0	92	50 - 150% PASS	
Benzo[k]fluoranthene	Total	1076.4	1	5	ng/L	1000	0	108	50 - 150% PASS	
Biphenyl	Total	788	1	5	ng/L	1000	0	79	50 - 150% PASS	
Chrysene	Total	1210.1	1	5	ng/L	1000	0	121	50 - 150% PASS	
Dibenz[a,h]anthracene	Total	1153.6	1	5	ng/L	1000	0	115	50 - 150% PASS	
Dibenzothiophene	Total	940.1	1	5	ng/L	1000	0	94	50 - 150% PASS	
Fluoranthene	Total	1237.5	1	5	ng/L	1000	0	124	50 - 150% PASS	
Fluorene	Total	904.5	1	5	ng/L	1000	0	90	50 - 150% PASS	
Indeno[1,2,3-c,d]pyrene	Total	1104.1	1	5	ng/L	1000	0	110	50 - 150% PASS	
Naphthalene	Total	575.8	1	5	ng/L	1000	0	58	25 - 125% PASS	
Perylene	Total	1084.3	1	5	ng/L	1000	0	108	50 - 150% PASS	
Phenanthrene	Total	965.9	1	5	ng/L	1000	0	97	50 - 150% PASS	
Pyrene	Total	1148.1	1	5	ng/L	1000	0	115	50 - 150% PASS	

PHYSIS Project ID: 1307002-001

Client: AMEC

Project: RHMP Bight '13



1904 E. Wright Circle, Anaheim CA 92806

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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 21947-BS2		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 625		Batch ID: O-4143		Prepared: 09-Aug-13		Analyzed: 24-Aug-13		
(d10-Acenaphthene)	Total	85			% Recovery	100	0	85 50 - 150% PASS	5 30 PASS	
(d10-Phenanthrene)	Total	95			% Recovery	100	0	95 50 - 150% PASS	1 30 PASS	
(d12-Chrysene)	Total	120			% Recovery	100	0	120 50 - 150% PASS	4 30 PASS	
(d8-Naphthalene)	Total	82			% Recovery	100	0	82 25 - 125% PASS	31 30 FAIL	R
1-Methylnaphthalene	Total	750.3	1	5	ng/L	1000	0	75 50 - 150% PASS	4 30 PASS	
1-Methylphenanthrene	Total	1089.2	1	5	ng/L	1000	0	109 50 - 150% PASS	1 30 PASS	
2,3,5-Trimethylnaphthalene	Total	737.8	1	5	ng/L	1000	0	74 50 - 150% PASS	16 30 PASS	
2,6-Dimethylnaphthalene	Total	853.4	1	5	ng/L	1000	0	85 50 - 150% PASS	6 30 PASS	
2-Methylnaphthalene	Total	749.1	1	5	ng/L	1000	0	75 50 - 150% PASS	4 30 PASS	
Acenaphthene	Total	875.2	1	5	ng/L	1000	0	88 50 - 150% PASS	5 30 PASS	
Acenaphthylene	Total	890.5	1	5	ng/L	1000	0	89 50 - 150% PASS	5 30 PASS	
Anthracene	Total	1022.5	1	5	ng/L	1000	0	102 50 - 150% PASS	2 30 PASS	
Benz[a]anthracene	Total	1221.1	1	5	ng/L	1000	0	122 50 - 150% PASS	6 30 PASS	
Benzo[a]pyrene	Total	1070.8	1	5	ng/L	1000	0	107 50 - 150% PASS	2 30 PASS	
Benzo[b]fluoranthene	Total	1327.5	1	5	ng/L	1000	0	133 50 - 150% PASS	6 30 PASS	
Benzo[e]pyrene	Total	1002	1	5	ng/L	1000	0	100 50 - 150% PASS	6 30 PASS	
Benzo[g,h,i]perylene	Total	1086.8	1	5	ng/L	1000	0	109 50 - 150% PASS	17 30 PASS	
Benzo[k]fluoranthene	Total	1109	1	5	ng/L	1000	0	111 50 - 150% PASS	3 30 PASS	
Biphenyl	Total	828.7	1	5	ng/L	1000	0	83 50 - 150% PASS	5 30 PASS	
Chrysene	Total	1124.6	1	5	ng/L	1000	0	112 50 - 150% PASS	8 30 PASS	
Dibenz[a,h]anthracene	Total	1199.8	1	5	ng/L	1000	0	120 50 - 150% PASS	4 30 PASS	
Dibenzothiophene	Total	960.9	1	5	ng/L	1000	0	96 50 - 150% PASS	2 30 PASS	
Fluoranthene	Total	1250	1	5	ng/L	1000	0	125 50 - 150% PASS	1 30 PASS	
Fluorene	Total	938.3	1	5	ng/L	1000	0	94 50 - 150% PASS	4 30 PASS	
Indeno[1,2,3-c,d]pyrene	Total	1241.6	1	5	ng/L	1000	0	124 50 - 150% PASS	12 30 PASS	
Naphthalene	Total	795	1	5	ng/L	1000	0	80 25 - 125% PASS	32 30 FAIL	R
Perylene	Total	1225.8	1	5	ng/L	1000	0	123 50 - 150% PASS	13 30 PASS	
Phenanthrene	Total	979.2	1	5	ng/L	1000	0	98 50 - 150% PASS	1 30 PASS	
Pyrene	Total	1153.3	1	5	ng/L	1000	0	115 50 - 150% PASS	0 30 PASS	

SUBCONTRACT

REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature



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13 August 2013

Misty Mercier
PHYSIS Environmental Laboratories, Inc.
1904 E. Wright Circle
Anaheim, CA 92806
RE: 1307002-001

Enclosed are the results of analyses for samples received by the laboratory on 08/06/13 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez
Project Manager



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PHYSIS Environmental Laboratories, Inc.
1904 E. Wright Circle
Anaheim CA, 92806

Project: 1307002-001
Project Number: 1307002
Project Manager: Misty Mercier

Reported:
08/13/13 16:43

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B13-8233	T131718-01	Water	08/06/13 08:00	08/06/13 16:30
B13-8236	T131718-02	Water	08/06/13 09:50	08/06/13 16:30
B13-8239	T131718-03	Water	08/06/13 11:10	08/06/13 16:30
B13-8259	T131718-04	Water	08/05/13 08:52	08/06/13 16:30
B13-8267	T131718-05	Water	08/05/13 11:09	08/06/13 16:30
B13-8265	T131718-06	Water	08/05/13 12:40	08/06/13 16:30
B13-8263	T131718-07	Water	08/05/13 14:35	08/06/13 16:30

SunStar Laboratories, Inc.

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PHYSIS Environmental Laboratories, Inc.
1904 E. Wright Circle
Anaheim CA, 92806

Project: 1307002-001
Project Number: 1307002
Project Manager: Misty Mercier

Reported:
08/13/13 16:43

B13-8233

T131718-01(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Purgeables by EPA Method 624

Methyl tert-butyl ether	ND	0.15	1.0	ug/l	1	3080723	08/07/13	08/07/13	EPA 624	
Surrogate: Dibromofluoromethane			110 %	81-136		"	"	"	"	
Surrogate: Toluene-d8			95.9 %	88.8-117		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			107 %	83.5-119		"	"	"	"	

Conventional Chemistry Parameters by APHA/EPA/ASTM Methods

Dissolved Organic Carbon	0.58	0.062	0.50	mg/l	1	3080732	08/07/13	08/08/13	EPA 415.3	
Total Organic Carbon	0.58	0.062	0.50	"	"	3080727	08/07/13	08/08/13	"	

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PHYSIS Environmental Laboratories, Inc.
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Anaheim CA, 92806

Project: 1307002-001
Project Number: 1307002
Project Manager: Misty Mercier

Reported:
08/13/13 16:43

B13-8236
T131718-02(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Purgeables by EPA Method 624

Methyl tert-butyl ether	ND	0.15	1.0	ug/l	1	3080723	08/07/13	08/07/13	EPA 624	
Surrogate: Dibromofluoromethane			107 %	81-136		"	"	"	"	
Surrogate: Toluene-d8			102 %	88.8-117		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			105 %	83.5-119		"	"	"	"	

Conventional Chemistry Parameters by APHA/EPA/ASTM Methods

Dissolved Organic Carbon	0.57	0.062	0.50	mg/l	1	3080732	08/07/13	08/08/13	EPA 415.3	
Total Organic Carbon	0.55	0.062	0.50	"	"	3080727	08/07/13	08/08/13	"	

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Anaheim CA, 92806

Project: 1307002-001
Project Number: 1307002
Project Manager: Misty Mercier

Reported:
08/13/13 16:43

B13-8239
T131718-03(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Purgeables by EPA Method 624

Methyl tert-butyl ether	ND	0.15	1.0	ug/l	1	3080723	08/07/13	08/07/13	EPA 624	
Surrogate: Dibromofluoromethane			104 %	81-136		"	"	"	"	
Surrogate: Toluene-d8			100 %	88.8-117		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			102 %	83.5-119		"	"	"	"	

Conventional Chemistry Parameters by APHA/EPA/ASTM Methods

Dissolved Organic Carbon	0.50	0.062	0.50	mg/l	1	3080732	08/07/13	08/08/13	EPA 415.3	
Total Organic Carbon	0.56	0.062	0.50	"	"	3080727	08/07/13	08/08/13	"	

SunStar Laboratories, Inc.

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PHYSIS Environmental Laboratories, Inc.
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Project: 1307002-001
Project Number: 1307002
Project Manager: Misty Mercier

Reported:
08/13/13 16:43

B13-8259
T131718-04(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Purgeables by EPA Method 624

Methyl tert-butyl ether	ND	0.15	1.0	ug/l	1	3080723	08/07/13	08/07/13	EPA 624	
Surrogate: Dibromofluoromethane			109 %	81-136		"	"	"	"	
Surrogate: Toluene-d8			99.8 %	88.8-117		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			100 %	83.5-119		"	"	"	"	

Conventional Chemistry Parameters by APHA/EPA/ASTM Methods

Dissolved Organic Carbon	0.47	0.062	0.50	mg/l	1	3080732	08/07/13	08/08/13	EPA 415.3	J
Total Organic Carbon	0.51	0.062	0.50	"	"	3080727	08/07/13	08/08/13	"	

SunStar Laboratories, Inc.

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Project: 1307002-001
Project Number: 1307002
Project Manager: Misty Mercier

Reported:
08/13/13 16:43

B13-8267
T131718-05(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Purgeables by EPA Method 624

Methyl tert-butyl ether	ND	0.15	1.0	ug/l	1	3080723	08/07/13	08/07/13	EPA 624	
Surrogate: Dibromofluoromethane			108 %	81-136		"	"	"	"	
Surrogate: Toluene-d8			99.1 %	88.8-117		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			103 %	83.5-119		"	"	"	"	

Conventional Chemistry Parameters by APHA/EPA/ASTM Methods

Dissolved Organic Carbon	0.48	0.062	0.50	mg/l	1	3080732	08/07/13	08/08/13	EPA 415.3	J
Total Organic Carbon	0.54	0.062	0.50	"	"	3080727	08/07/13	08/08/13	"	

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Project: 1307002-001
Project Number: 1307002
Project Manager: Misty Mercier

Reported:
08/13/13 16:43

B13-8265
T131718-06(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Purgeables by EPA Method 624

Methyl tert-butyl ether	ND	0.15	1.0	ug/l	1	3080723	08/07/13	08/07/13	EPA 624	
Surrogate: Dibromofluoromethane			108 %	81-136		"	"	"	"	
Surrogate: Toluene-d8			101 %	88.8-117		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			102 %	83.5-119		"	"	"	"	

Conventional Chemistry Parameters by APHA/EPA/ASTM Methods

Dissolved Organic Carbon	0.49	0.062	0.50	mg/l	1	3080732	08/07/13	08/08/13	EPA 415.3	J
Total Organic Carbon	0.50	0.062	0.50	"	"	3080727	08/07/13	08/08/13	"	

SunStar Laboratories, Inc.

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Project: 1307002-001
Project Number: 1307002
Project Manager: Misty Mercier

Reported:
08/13/13 16:43

B13-8263
T131718-07(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Purgeables by EPA Method 624

Methyl tert-butyl ether	ND	0.15	1.0	ug/l	1	3080723	08/07/13	08/07/13	EPA 624	
Surrogate: Dibromofluoromethane			114 %	81-136		"	"	"	"	
Surrogate: Toluene-d8			96.0 %	88.8-117		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			99.8 %	83.5-119		"	"	"	"	

Conventional Chemistry Parameters by APHA/EPA/ASTM Methods

Dissolved Organic Carbon	0.54	0.062	0.50	mg/l	1	3080732	08/07/13	08/08/13	EPA 415.3	
Total Organic Carbon	0.49	0.062	0.50	"	"	3080727	08/07/13	08/08/13	"	J

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PHYSIS Environmental Laboratories, Inc.
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Project: 1307002-001
Project Number: 1307002
Project Manager: Misty Mercier

Reported:
08/13/13 16:43

Purgeables by EPA Method 624 - Quality Control
SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 3080723 - EPA 5030 GCMS

Blank (3080723-BLK1)

Prepared & Analyzed: 08/07/13

Surrogate: Dibromofluoromethane	8.03			ug/l	8.00		100	81-136		
Surrogate: Toluene-d8	7.91			"	8.00		98.9	88.8-117		
Surrogate: 4-Bromofluorobenzene	8.00			"	8.00		100	83.5-119		
Methyl tert-butyl ether	ND	0.15	1.0	"						

LCS (3080723-BS1)

Prepared & Analyzed: 08/07/13

Surrogate: Dibromofluoromethane	9.02			ug/l	8.00		113	81-136		
Surrogate: Toluene-d8	7.62			"	8.00		95.2	88.8-117		
Surrogate: 4-Bromofluorobenzene	8.02			"	8.00		100	83.5-119		

LCS Dup (3080723-BSD1)

Prepared & Analyzed: 08/07/13

Surrogate: Dibromofluoromethane	8.85			ug/l	8.00		111	81-136		
Surrogate: Toluene-d8	7.79			"	8.00		97.4	88.8-117		
Surrogate: 4-Bromofluorobenzene	8.15			"	8.00		102	83.5-119		

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PHYSIS Environmental Laboratories, Inc.
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Anaheim CA, 92806

Project: 1307002-001
Project Number: 1307002
Project Manager: Misty Mercier

Reported:
08/13/13 16:43

Conventional Chemistry Parameters by APHA/EPA/ASTM Methods - Quality Control
SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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Batch 3080727 - General Preparation

Blank (3080727-BLK1) Prepared: 08/07/13 Analyzed: 08/08/13

Total Organic Carbon ND 0.062 0.50 mg/l

Duplicate (3080727-DUP1) Source: T131720-01 Prepared: 08/07/13 Analyzed: 08/08/13

Total Organic Carbon 0.678 0.062 0.50 mg/l 0.679 0.251 20

Batch 3080732 - General Preparation

Blank (3080732-BLK1) Prepared: 08/07/13 Analyzed: 08/08/13

Dissolved Organic Carbon ND 0.062 0.50 mg/l

Duplicate (3080732-DUP1) Source: T131718-01 Prepared: 08/07/13 Analyzed: 08/08/13

Dissolved Organic Carbon 0.634 0.062 0.50 mg/l 0.578 9.29 20

SunStar Laboratories, Inc.

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PHYSIS Environmental Laboratories, Inc.
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Anaheim CA, 92806

Project: 1307002-001
Project Number: 1307002
Project Manager: Misty Mercier

Reported:
08/13/13 16:43

Notes and Definitions

J Detected but below the Standard Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

SunStar Laboratories, Inc.

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SAMPLE RECEIVING REVIEW SHEET

BATCH # T131718

Client Name: Physis

Project: 1307002-001

Received by: DM

Date/Time Received: 8/6/13 1630

Delivered by: ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other _____

Total number of coolers received 1 Temp criteria = 6°C > 0°C (no frozen containers)

Temperature: cooler #1 5. °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

Samples outside temp. but received on ice, w/in 6 hours of final sampling. ☒ Yes ☐ No* ☐ N/A

Custody Seals Intact on Cooler/Sample ☐ Yes ☐ No* ☒ N/A

Sample Containers Intact ☒ Yes ☐ No*

Sample labels match COC ID's ☒ Yes ☐ No*

Total number of containers received match COC ☒ Yes ☐ No*

Proper containers received for analyses requested on COC ☒ Yes ☐ No*

Proper preservative indicated on COC/containers for analyses requested ☒ Yes ☐ No* ☐ N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ Yes ☐ No*

* Complete Non-Conformance Receiving Sheet if checked

Cooler/Sample Review - Initials and date DM 8/6/13

Comments:

PHYSIS

CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

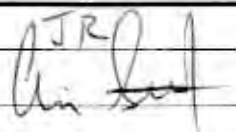
To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8233	8/6/13	0800	Ammonia	Grab	250 mL Glass	H2SO4	
B13-8233	8/6/13	0800	Dissolved Metals and Hardness	Grab	250 mL HDPE	None	
B13-8233	8/6/13	0800	DOC	Grab	40 mL VOA	None	
B13-8233	8/6/13	0800	MTBE	Grab	40 mL VOA	HCl	
B13-8233	8/6/13	0800	Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	
B13-8233	8/6/13	0800	Oil and Grease	Grab	1 L Glass	H2SO4	
B13-8233	8/6/13	0800	PAHs	Grab	1 L Glass	None	
B13-8233	8/6/13	0800	TDS	Grab	1 L HDPE	None	
B13-8233	8/6/13	0800	TOC	Grab	40 mL VOA	H2SO4	
B13-8233	8/6/13	0800	Total Metals	Grab	1 L HDPE	None	

Comments: See attachment for detailed analytical list.

Sampler's Initials:



Relinquished By:

Date/Time:

8-6-13/1250

Received By:

C. N. Mercier

Date/Time:

8/6/13 1250

Relinquished By:

Date/Time:

Received By:

Date/Time:

1307002-001

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8236	8/6/13	0950	Ammonia	Grab	250 mL Glass	H2SO4	
B13-8236	8/6/13	0950	Dissolved Metals and Hardness	Grab	250 mL HDPE	None	
B13-8236	8/6/13	0950	DOC	Grab	40 mL VOA	None	
B13-8236	8/6/13	0950	MTBE	Grab	40 mL VOA	HCl	
B13-8236	8/6/13	0950	Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	
B13-8236	8/6/13	0950	Oil and Grease	Grab	1 L Glass	H2SO4	
B13-8236	8/6/13	0950	PAHs	Grab	1 L Glass	None	
B13-8236	8/6/13	0950	TDS	Grab	1 L HDPE	None	
B13-8236	8/6/13	0950	TOC	Grab	40 mL VOA	H2SO4	
B13-8236	8/6/13	0950	Total Metals	Grab	1 L HDPE	None	

Comments: See attachment for detailed analytical list.

Sampler's Initials:

JR

Relinquished By:

Chris Stransky

Date/Time:

8-6-13 / 1250

Received By:

C. Nwadiwe

Date/Time:

8/6/13 1250

Relinquished By:

Date/Time:

Received By:

Date/Time:

1307002-001

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8239	8/6/13	1110	Ammonia	Grab	250 mL Glass	H2SO4	
B13-8239	8/6/13	1110	Dissolved Metals and Hardness	Grab	250 mL HDPE	None	
B13-8239	8/6/13	1110	DOC	Grab	40 mL VOA	None	
B13-8239	8/6/13	1110	MTBE	Grab	40 mL VOA	HCl	
B13-8239	8/6/13	1110	Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	
B13-8239	8/6/13	1110	Oil and Grease	Grab	1 L Glass	H2SO4	
B13-8239	8/6/13	1110	PAHs	Grab	1 L Glass	None	
B13-8239	8/6/13	1110	TDS	Grab	1 L HDPE	None	
B13-8239	8/6/13	1110	TOC	Grab	40 mL VOA	H2SO4	
B13-8239	8/6/13	1110	Total Metals	Grab	1 L HDPE	None	

Comments: See attachment for detailed analytical list.
Sampler's Initials: JBRelinquished By: [Signature]Date/Time: 8/6/13 1250Received By: C. NwadiweDate/Time: 8/6/13 1250

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8259	8/5/13	0852	Ammonia	Grab	250 mL Glass	H2SO4	
B13-8259	8/5/13	0852	Dissolved Metals and Hardness	Grab	250 mL HDPE	None	
B13-8259	8/5/13	0852	DOC	Grab	40 mL VOA	None	
B13-8259	8/5/13	0852	MTBE	Grab	40 mL VOA	HCl	
B13-8259	8/5/13	0852	Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	
B13-8259	8/5/13	0852	Oil and Grease	Grab	1 L Glass	H2SO4	
B13-8259	8/5/13	0852	PAHs	Grab	1 L Glass	None	
B13-8259	8/5/13	0852	TDS	Grab	1 L HDPE	None	
B13-8259	8/5/13	0852	TOC	Grab	40 mL VOA	H2SO4	
B13-8259	8/5/13	0852	Total Metals	Grab	1 L HDPE	None	

Comments: See attachment for detailed analytical list.

Sampler's Initials: JR

Relinquished By: [Signature]

Date/Time: 8-6-13/1250

Received By: C. Nwadiwe

Date/Time: 8/6/13 1250

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8267	8/5/13	1109	Ammonia	Grab	250 mL Glass	H2SO4	
B13-8267	8/5/13	1109	Dissolved Metals and Hardness	Grab	250 mL HDPE	None	
B13-8267	8/5/13	1109	DOC	Grab	40 mL VOA	None	
B13-8267	8/5/13	1109	MTBE	Grab	40 mL VOA	HCl	
B13-8267	8/5/13	1109	Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	
B13-8267	8/5/13	1109	Oil and Grease	Grab	1 L Glass	H2SO4	
B13-8267	8/5/13	1109	PAHs	Grab	1 L Glass	None	
B13-8267	8/5/13	1109	TDS	Grab	1 L HDPE	None	
B13-8267	8/5/13	1109	TOC	Grab	40 mL VOA	H2SO4	
B13-8267	8/5/13	1109	Total Metals	Grab	1 L HDPE	None	

Comments: See attachment for detailed analytical list.

Sampler's Initials: JR

Relinquished By: [Signature]

Date/Time: 8-6-13/1250

Received By: C. Nwadiume

Date/Time: 8/6/13 1250

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

1307002-001

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8265	8/5/13	1240	Ammonia	Grab	250 mL Glass	H2SO4	
B13-8265	8/5/13	1240	Dissolved Metals and Hardness	Grab	250 mL HDPE	None	
B13-8265	8/5/13	1240	DOC	Grab	40 mL VOA	None	
B13-8265	8/5/13	1240	MTBE	Grab	40 mL VOA	HCl	
B13-8265	8/5/13	1240	Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	
B13-8265	8/5/13	1240	Oil and Grease	Grab	1 L Glass	H2SO4	
B13-8265	8/5/13	1240	PAHs	Grab	1 L Glass	None	
B13-8265	8/5/13	1240	TDS	Grab	1 L HDPE	None	
B13-8265	8/5/13	1240	TOC	Grab	40 mL VOA	H2SO4	
B13-8265	8/5/13	1240	Total Metals	Grab	1 L HDPE	None	

Comments: See attachment for detailed analytical list.

Sampler's Initials:

[Signature]

Relinquished By:

[Signature]

Date/Time:

8/6/13 1250

Received By:

C. Nwadiwe

Date/Time:

8/6/13 1250

Relinquished By:

Date/Time:

Received By:

Date/Time:

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
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To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8263	8/5/13	1435	Ammonia	Grab	250 mL Glass	H2SO4	
B13-8263	8/5/13	1435	Dissolved Metals and Hardness	Grab	250 mL HDPE	None	
B13-8263	8/5/13	1435	DOC	Grab	40 mL VOA	None	
B13-8263	8/5/13	1435	MTBE	Grab	40 mL VOA	HCl	
B13-8263	8/5/13	1435	Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	
B13-8263	8/5/13	1435	Oil and Grease	Grab	1 L Glass	H2SO4	
B13-8263	8/5/13	1435	PAHs	Grab	1 L Glass	None	
B13-8263	8/5/13	1435	TDS	Grab	1 L HDPE	None	
B13-8263	8/5/13	1435	TOC	Grab	40 mL VOA	H2SO4	
B13-8263	8/5/13	1435	Total Metals	Grab	1 L HDPE	None	

Comments: See attachment for detailed analytical list.

Sampler's Initials:

Relinquished By:

Date/Time:

8-6-13/1250

Received By:

C. Nurgidine

Date/Time:

8/6/13 1250

Relinquished By:

Date/Time:

Received By:

Date/Time:

SAMPLE RECEIPT SUMMARY

CLIENT: AMEC Date Received: 8/6/13 Received By: CN Inspected By: RGH

COURIER

☒ PHYSIS ☐ CLIENT ☐ FEDEX ☐ UPS
start end ☐ OTHER:

COOLER

☒ COOLER ☐ BOX total #
☐ OTHER: 4

TEMPERATURE

°C ☒ WET ICE ☐ BLUE ICE
☐ DRY ICE ☐ NONE

SAMPLE INTEGRITY UPON RECEIPT

1. COC(s) included and completely filled out..... **YES**
2. All sample containers arrived intact..... **YES**
3. All samples listed on COC(s) are present..... **YES**
4. Information on containers consistent with information on COC(s)..... **YES**
5. Correct containers and volume for all analyses indicated..... **YES**
6. All samples received within method holding time..... **YES**
7. Correct preservation used for all analyses indicated..... **NO; see notes below**

NOTES

The samples collected on 8/5 had a temperature of 12.0°C.
The samples collected on 8/6 had a temperature of 19.1°C.



November 07, 2013

Chris Stransky
AMEC
9210 Sky Park Court
Suite 200
San Diego, CA 92123-

Project Name: RHMP B'13
Physis Project ID: 1307002-003

Dear Chris,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 8/8/2013. A total of 9 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventionals
Total Orthophosphate as P by SM 4500-P E
Total Dissolved Solids by SM 2540 C
Oil & Grease by EPA 1664A
Nitrate as N by SM 4500-NO ₃ E
MBAS by SM 5540-C
Ammonia as N by SM 4500-NH ₃ D
Elements
Total and Dissolved Barium by EPA 200.8
Total & Dissolved Trace Metals by EPA 1640
Total & Dissolved Mercury by EPA 245.7
Organics
Polynuclear Aromatic Hydrocarbons by EPA 625
Subcontract
Total Organic Carbon by SM 5310 B
Methyl Tertiary Butyl Ether (MTBE) by EPA 624
Dissolved Organic Carbon by SM 5310 B

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.



Regards,

Misty Mercier
Extension 202
714-335-5918 cell
mistymercier@physislabs.com

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and are used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use was assessed through the analysis of procedural blanks at a minimum frequency of one per batch. Physis' QM requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the procedural blanks be flagged in the project sample results with a B qualifier.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS₁/MS₂, BS₁/BS₂, LCS₁/LCS₂, LCM₁/LCM₂, CRM₁/CRM₂, surrogate spikes and/or replicate project sample analysis (R₁/R₂) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

MATRIX SPIKES: MS samples were employed to assess the effect a particular project sample matrix has on the accuracy of a measurement. It is prepared by adding a known amount of the target analyte(s) to an aliquot of the project sample. Matrix spikes indicate the bias of analytical measurements due to chemical interferences inherent in the sample matrix. If the matrix spike recovery does not fall within the specified acceptance limits, it may be an indication of sample matrix interference in the specific project sample used for the MS. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

BLANK SPIKES: BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

CERTIFIED REFERENCE MATERIALS: CRMs are pre-homogenized materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of a preparation and analytical method. CRMs are analyzed to provide evidence that the laboratory method produces results that are comparable to those obtained by an independent organization.

SURROGATES: Where CRMs are unavailable, target analyte recovery can be assessed by monitoring added surrogate compounds/elements. A surrogate is a pure analyte unlikely to be found in any project sample and most often used with organic analytical procedures. Percent recovery is calculated for each surrogate and is used to monitor method performance within each discrete sample and is indicative of the procedure's ability to recover the actual analytes of interest.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored

under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes. Physis' QM requires that all samples analyzed beyond the method recommended holding time be flagged in the sample results with an H qualifier.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
*	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified recovery and/or RPD acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore MS recovery and/or RPD acceptance limits do not apply
SL	analyte results for R1 and/or R2 were lower than 10 times the MDL, therefore RPD acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore MS recovery and/or RPD were outside the specified acceptance limits
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

ANALYTICAL REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature



1904 E. Wright Circle, Anaheim CA 92806

main: (714) 602-5320

fax: (714) 602-5321

www.physislabs.com

info@physilabs.com

CA ELAP #2769

Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22025-R1 B13-8145 Grab Matrix: Liquid Sampled: 07-Aug-13 10:00 Received: 08-Aug-13 Method: SM 4500-P E Batch ID: C-13077 Prepared: 09-Aug-13 Analyzed: 09-Aug-13						
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
Method: SM 5540-C Batch ID: C-13079 Prepared: 09-Aug-13 Analyzed: 09-Aug-13						
MBAS	NA	ND	0.005	0.025	mg/L	
Method: SM 4500-NH ₃ D Batch ID: C-13142 Prepared: 02-Sep-13 Analyzed: 02-Sep-13						
Ammonia as N	NA	0.09	0.02	0.05	mg/L	
Method: EPA 1664A Batch ID: C-13143 Prepared: 04-Sep-13 Analyzed: 04-Sep-13						
Oil & Grease	NA	ND	1	1	mg/L	
Method: SM 4500-NO ₃ E Batch ID: C-13152 Prepared: 09-Aug-13 Analyzed: 03-Sep-13						
Nitrate as N	NA	ND	0.01	0.05	mg/L	
Sample ID: 22026-R1 B13-8146 Grab Matrix: Liquid Sampled: 07-Aug-13 11:20 Received: 08-Aug-13 Method: SM 4500-P E Batch ID: C-13077 Prepared: 09-Aug-13 Analyzed: 09-Aug-13						
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
Method: SM 5540-C Batch ID: C-13079 Prepared: 09-Aug-13 Analyzed: 09-Aug-13						
MBAS	NA	ND	0.005	0.025	mg/L	
Method: SM 4500-NH ₃ D Batch ID: C-13142 Prepared: 02-Sep-13 Analyzed: 02-Sep-13						
Ammonia as N	NA	0.08	0.02	0.05	mg/L	
Method: EPA 1664A Batch ID: C-13143 Prepared: 04-Sep-13 Analyzed: 04-Sep-13						
Oil & Grease	NA	ND	1	1	mg/L	
Method: SM 4500-NO ₃ E Batch ID: C-13152 Prepared: 09-Aug-13 Analyzed: 03-Sep-13						
Nitrate as N	NA	ND	0.01	0.05	mg/L	
Sample ID: 22027-R1 B13-8151 Grab Matrix: Liquid Sampled: 07-Aug-13 15:00 Received: 08-Aug-13 Method: SM 4500-P E Batch ID: C-13077 Prepared: 09-Aug-13 Analyzed: 09-Aug-13						
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
Method: SM 5540-C Batch ID: C-13079 Prepared: 09-Aug-13 Analyzed: 09-Aug-13						
MBAS	NA	ND	0.005	0.025	mg/L	
Method: SM 4500-NH ₃ D Batch ID: C-13142 Prepared: 02-Sep-13 Analyzed: 02-Sep-13						
Ammonia as N	NA	0.04	0.02	0.05	mg/L	J
Method: EPA 1664A Batch ID: C-13143 Prepared: 04-Sep-13 Analyzed: 04-Sep-13						



1904 E. Wright Circle, Anaheim CA 92806

main: (714) 602-5320

fax: (714) 602-5321

www.physislabs.com

info@physislabs.com

CA ELAP #2769

Conventionals

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Oil & Grease	NA	ND	1	1	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-13152		Prepared: 09-Aug-13		Analyzed: 03-Sep-13
Nitrate as N	NA	0.01	0.01	0.05	mg/L	J
Sample ID: 22028-R1	B13-8152 Grab	Matrix: Liquid		Sampled: 07-Aug-13 13:40		Received: 08-Aug-13
	Method: SM 4500-P E	Batch ID: C-13077		Prepared: 09-Aug-13		Analyzed: 09-Aug-13
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13079		Prepared: 09-Aug-13		Analyzed: 09-Aug-13
MBAS	NA	ND	0.005	0.025	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-13142		Prepared: 02-Sep-13		Analyzed: 02-Sep-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-13143		Prepared: 04-Sep-13		Analyzed: 04-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-13152		Prepared: 09-Aug-13		Analyzed: 03-Sep-13
Nitrate as N	NA	ND	0.01	0.05	mg/L	
Sample ID: 22029-R1	B13-8156 Grab	Matrix: Liquid		Sampled: 07-Aug-13 16:40		Received: 08-Aug-13
	Method: SM 4500-P E	Batch ID: C-13077		Prepared: 09-Aug-13		Analyzed: 09-Aug-13
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13079		Prepared: 09-Aug-13		Analyzed: 09-Aug-13
MBAS	NA	ND	0.005	0.025	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-13142		Prepared: 02-Sep-13		Analyzed: 02-Sep-13
Ammonia as N	NA	0.06	0.02	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-13143		Prepared: 04-Sep-13		Analyzed: 04-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-13152		Prepared: 09-Aug-13		Analyzed: 03-Sep-13
Nitrate as N	NA	ND	0.01	0.05	mg/L	
Sample ID: 22030-R1	B13-8157 Grab	Matrix: Liquid		Sampled: 08-Aug-13 7:05		Received: 08-Aug-13
	Method: SM 4500-P E	Batch ID: C-13077		Prepared: 09-Aug-13		Analyzed: 09-Aug-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13079		Prepared: 09-Aug-13		Analyzed: 09-Aug-13
MBAS	NA	ND	0.005	0.025	mg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-13142		Prepared: 02-Sep-13		Analyzed: 02-Sep-13
	NA	0.03	0.02	0.05	mg/L	J
Oil & Grease	Method: EPA 1664A	Batch ID: C-13143		Prepared: 04-Sep-13		Analyzed: 04-Sep-13
	NA	ND	1	1	mg/L	
Nitrate as N	Method: SM 4500-NO ₃ E	Batch ID: C-13152		Prepared: 09-Aug-13		Analyzed: 03-Sep-13
	NA	ND	0.01	0.05	mg/L	
Sample ID: 22031-R1 B13-8159 Grab Matrix: Liquid Sampled: 08-Aug-13 11:35 Received: 08-Aug-13						
Total Orthophosphate as P	Method: SM 4500-P E	Batch ID: C-13077		Prepared: 09-Aug-13		Analyzed: 09-Aug-13
	NA	0.05	0.01	0.02	mg/L	
MBAS	Method: SM 5540-C	Batch ID: C-13079		Prepared: 09-Aug-13		Analyzed: 09-Aug-13
	NA	ND	0.005	0.025	mg/L	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-13142		Prepared: 02-Sep-13		Analyzed: 02-Sep-13
	NA	0.07	0.02	0.05	mg/L	
Oil & Grease	Method: EPA 1664A	Batch ID: C-13143		Prepared: 04-Sep-13		Analyzed: 04-Sep-13
	NA	ND	1	1	mg/L	
Nitrate as N	Method: SM 4500-NO ₃ E	Batch ID: C-13152		Prepared: 09-Aug-13		Analyzed: 03-Sep-13
	NA	ND	0.01	0.05	mg/L	
Sample ID: 22032-R1 B13-8160 Grab Matrix: Liquid Sampled: 08-Aug-13 8:45 Received: 08-Aug-13						
Total Orthophosphate as P	Method: SM 4500-P E	Batch ID: C-13077		Prepared: 09-Aug-13		Analyzed: 09-Aug-13
	NA	0.06	0.01	0.02	mg/L	
MBAS	Method: SM 5540-C	Batch ID: C-13079		Prepared: 09-Aug-13		Analyzed: 09-Aug-13
	NA	ND	0.005	0.025	mg/L	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-13142		Prepared: 02-Sep-13		Analyzed: 02-Sep-13
	NA	ND	0.02	0.05	mg/L	
Oil & Grease	Method: EPA 1664A	Batch ID: C-13143		Prepared: 04-Sep-13		Analyzed: 04-Sep-13
	NA	ND	1	1	mg/L	
Nitrate as N	Method: SM 4500-NO ₃ E	Batch ID: C-13152		Prepared: 09-Aug-13		Analyzed: 03-Sep-13
	NA	ND	0.01	0.05	mg/L	
Sample ID: 22033-R1 B13-8163 Grab Matrix: Liquid Sampled: 08-Aug-13 10:47 Received: 08-Aug-13						
	Method: SM 4500-P E	Batch ID: C-13077		Prepared: 09-Aug-13		Analyzed: 09-Aug-13



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Total Orthophosphate as P	NA	0.04	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13079		Prepared: 09-Aug-13		Analyzed: 09-Aug-13
MBAS	NA	ND	0.005	0.025	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-13142		Prepared: 02-Sep-13		Analyzed: 02-Sep-13
Ammonia as N	NA		0.02	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-13143		Prepared: 04-Sep-13		Analyzed: 04-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-13152		Prepared: 09-Aug-13		Analyzed: 03-Sep-13
Nitrate as N	NA	ND	0.01	0.05	mg/L	



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22025-R1</div> <div>B13-8145 Grab</div> <div>Method: EPA 1640</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: E-5129</div> </div> <div> <div>Sampled: 07-Aug-13 10:00</div> <div>Prepared: 21-Aug-13</div> </div> <div> <div>Received: 08-Aug-13</div> <div>Analyzed: 27-Aug-13</div> </div>						
Aluminum (Al)	Total	25.6	3	6	µg/L	
Aluminum (Al)	Dissolved	3.2	3	6	µg/L	J
Antimony (Sb)	Total	0.08	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.11	0.01	0.015	µg/L	
Arsenic (As)	Total	1.363	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.261	0.005	0.015	µg/L	
Beryllium (Be)	Total	0.005	0.005	0.01	µg/L	J
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0247	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0221	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2743	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.2366	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.07	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.067	0.005	0.01	µg/L	
Copper (Cu)	Total	4.829	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	3.993	0.005	0.01	µg/L	
Iron (Fe)	Total	13.7	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.0548	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0212	0.0025	0.005	µg/L	
Manganese (Mn)	Total	2.06	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	1.87	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	8.669	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	8.792	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.2495	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.2672	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.009	0.005	0.015	µg/L	J
Selenium (Se)	Dissolved	0.018	0.005	0.015	µg/L	
Silver (Ag)	Total	0.09	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.1	0.01	0.02	µg/L	

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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.017	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.01	0.005	0.01	µg/L	
Titanium (Ti)	Total	11.408	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	13.21	0.035	0.07	µg/L	
Vanadium (V)	Total	2.18	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.24	0.02	0.04	µg/L	
Zinc (Zn)	Total	18.3095	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	15.8274	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-5129		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Barium (Ba)	Total	5.3	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	5.84	0.25	0.5	µg/L	
Method: EPA 245.7		Batch ID: E-6015		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 245.7		Batch ID: E-6016		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Sample ID: 22026-R1		B13-8146 Grab		Matrix: Liquid		Sampled: 07-Aug-13 11:20
Method: EPA 1640		Batch ID: E-5129		Prepared: 21-Aug-13		Received: 08-Aug-13
Aluminum (Al)	Total	10.7	3	6	µg/L	
Aluminum (Al)	Dissolved	3.8	3	6	µg/L	J
Antimony (Sb)	Total	0.09	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.11	0.01	0.015	µg/L	
Arsenic (As)	Total	1.321	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.427	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0291	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0316	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.4838	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.218	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.074	0.005	0.01	µg/L	

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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Cobalt (Co)	Dissolved	0.065	0.005	0.01	µg/L	
Copper (Cu)	Total	6.541	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	6.203	0.005	0.01	µg/L	
Iron (Fe)	Total	7.5	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.0459	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0252	0.0025	0.005	µg/L	
Manganese (Mn)	Total	1.97	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	1.76	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	8.427	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.139	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.399	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.2895	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.013	0.005	0.015	µg/L	J
Selenium (Se)	Dissolved	0.016	0.005	0.015	µg/L	
Silver (Ag)	Total	0.1	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.09	0.01	0.02	µg/L	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.01	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.016	0.005	0.01	µg/L	
Titanium (Ti)	Total	10.755	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	13.338	0.035	0.07	µg/L	
Vanadium (V)	Total	2.15	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.2	0.02	0.04	µg/L	
Zinc (Zn)	Total	32.0436	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	28.8905	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-5129

Prepared: 06-Sep-13

Analyzed: 06-Sep-13

Barium (Ba)	Total	6.27	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	5.65	0.25	0.5	µg/L	

Method: EPA 245.7

Batch ID: E-6015

Prepared: 30-Aug-13

Analyzed: 30-Aug-13

Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Method: EPA 245.7		Batch ID: E-6016		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Sample ID: 22027-R1		B13-8151 Grab		Matrix: Liquid		Sampled: 07-Aug-13 15:00
Method: EPA 1640		Batch ID: E-5129		Prepared: 21-Aug-13		Received: 08-Aug-13
Aluminum (Al)	Total	74.5	3	6	µg/L	
Aluminum (Al)	Dissolved	4.2	3	6	µg/L	J
Antimony (Sb)	Total	0.09	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.1	0.01	0.015	µg/L	
Arsenic (As)	Total	1.417	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.473	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	0.005	0.005	0.01	µg/L	J
Cadmium (Cd)	Total	0.0238	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.022	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.3574	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.227	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.083	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.067	0.005	0.01	µg/L	
Copper (Cu)	Total	2.57	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	1.869	0.005	0.01	µg/L	
Iron (Fe)	Total	47	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1206	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0206	0.0025	0.005	µg/L	
Manganese (Mn)	Total	2.93	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	2.4	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	8.049	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	8.785	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.2867	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.2439	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.015	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.02	0.005	0.015	µg/L	

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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Silver (Ag)	Total	0.1	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.1	0.01	0.02	µg/L	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.018	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.013	0.005	0.01	µg/L	
Titanium (Ti)	Total	14.329	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	15.147	0.035	0.07	µg/L	
Vanadium (V)	Total	2.44	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.26	0.02	0.04	µg/L	
Zinc (Zn)	Total	11.2858	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	8.8967	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-5129		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Barium (Ba)	Total	6.95	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	6.8	0.25	0.5	µg/L	
Method: EPA 245.7		Batch ID: E-6015		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 245.7		Batch ID: E-6016		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	

Sample ID: 22028-R1

B13-8152 Grab

Matrix: Liquid

Sampled: 07-Aug-13 13:40

Received: 08-Aug-13

Method: EPA 1640

Batch ID: E-5130

Prepared: 21-Aug-13

Analyzed: 27-Aug-13

Aluminum (Al)	Total	41.2	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.1	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.11	0.01	0.015	µg/L	
Arsenic (As)	Total	1.184	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.253	0.005	0.015	µg/L	
Beryllium (Be)	Total	0.005	0.005	0.01	µg/L	J
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0142	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0115	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2516	0.0125	0.025	µg/L	

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Chromium (Cr)	Dissolved	0.1386	0.0125	0.025	µg/L	
Cobalt (Co)	Total	ND	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	ND	0.005	0.01	µg/L	
Copper (Cu)	Total	0.357	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	0.244	0.005	0.01	µg/L	
Iron (Fe)	Total	32.8	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.0656	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0078	0.0025	0.005	µg/L	
Manganese (Mn)	Total	1.97	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	1.46	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	8.219	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	8.965	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.2086	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.2071	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.008	0.005	0.015	µg/L	J
Selenium (Se)	Dissolved	0.012	0.005	0.015	µg/L	J
Silver (Ag)	Total	ND	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.006	0.005	0.01	µg/L	J
Tin (Sn)	Dissolved	0.009	0.005	0.01	µg/L	J
Titanium (Ti)	Total	14.629	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	10.82	0.035	0.07	µg/L	
Vanadium (V)	Total	2.13	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	1.99	0.02	0.04	µg/L	
Zinc (Zn)	Total	ND	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	ND	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-5130

Prepared: 06-Sep-13

Analyzed: 06-Sep-13

Barium (Ba)	Total	6.33	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	5.3	0.25	0.5	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Method: EPA 245.7		Batch ID: E-6015		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 245.7		Batch ID: E-6016		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Sample ID: 22029-R1		B13-8156 Grab		Matrix: Liquid		Sampled: 07-Aug-13 16:40
Method: EPA 1640		Batch ID: E-5130		Prepared: 21-Aug-13		Received: 08-Aug-13
Aluminum (Al)	Total	54.5	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.1	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.1	0.01	0.015	µg/L	
Arsenic (As)	Total	1.275	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.281	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.018	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0156	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.3331	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1463	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.021	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	ND	0.005	0.01	µg/L	
Copper (Cu)	Total	0.621	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	0.445	0.005	0.01	µg/L	
Iron (Fe)	Total	40.8	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.0959	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0109	0.0025	0.005	µg/L	
Manganese (Mn)	Total	2.77	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	2.21	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	8.721	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.069	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.2672	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.1878	0.0025	0.005	µg/L	

PHYSIS Project ID: 1307002-003

Client: AMEC

Project: RHMP B'13



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	Total	0.025	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.01	0.005	0.015	µg/L	J
Silver (Ag)	Total	ND	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.009	0.005	0.01	µg/L	J
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	13.675	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	11.49	0.035	0.07	µg/L	
Vanadium (V)	Total	2.31	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.08	0.02	0.04	µg/L	
Zinc (Zn)	Total	1.9898	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	0.0311	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-5130		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Barium (Ba)	Total	6.11	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	5.03	0.25	0.5	µg/L	
Method: EPA 245.7		Batch ID: E-6015		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 245.7		Batch ID: E-6016		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Sample ID: 22030-R1		B13-8157 Grab		Matrix: Liquid		Sampled: 08-Aug-13 7:05
Method: EPA 1640		Batch ID: E-5130		Prepared: 21-Aug-13		Received: 08-Aug-13
Aluminum (Al)	Total	99.9	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.12	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.12	0.01	0.015	µg/L	
Arsenic (As)	Total	1.321	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.322	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	0.005	0.005	0.01	µg/L	J
Cadmium (Cd)	Total	0.0196	0.0025	0.005	µg/L	

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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Cadmium (Cd)	Dissolved	0.0176	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2493	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.081	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.073	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.044	0.005	0.01	µg/L	
Copper (Cu)	Total	0.622	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	0.481	0.005	0.01	µg/L	
Iron (Fe)	Total	71.4	0.5	1	µg/L	
Iron (Fe)	Dissolved	1	0.5	1	µg/L	
Lead (Pb)	Total	0.137	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0091	0.0025	0.005	µg/L	
Manganese (Mn)	Total	8.27	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	7.05	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	8.427	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	8.933	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.3099	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.2394	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.013	0.005	0.015	µg/L	J
Selenium (Se)	Dissolved	0.04	0.005	0.015	µg/L	
Silver (Ag)	Total	ND	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.008	0.005	0.01	µg/L	J
Tin (Sn)	Dissolved	0.011	0.005	0.01	µg/L	
Titanium (Ti)	Total	16.081	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	11.757	0.035	0.07	µg/L	
Vanadium (V)	Total	2.6	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.28	0.02	0.04	µg/L	
Zinc (Zn)	Total	ND	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	ND	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-5130

Prepared: 06-Sep-13

Analyzed: 06-Sep-13



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Barium (Ba)	Total	8.81	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	9.05	0.25	0.5	µg/L	
	Method: EPA 245.7	Batch ID: E-6015		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
	Method: EPA 245.7	Batch ID: E-6016		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	

Sample ID: 22031-R1

B13-8159 Grab

Matrix: Liquid

Sampled: 08-Aug-13 11:35

Received: 08-Aug-13

Method: EPA 1640

Batch ID: E-5130

Prepared: 21-Aug-13

Analyzed: 27-Aug-13

Aluminum (Al)	Total	380.9	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.14	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.17	0.01	0.015	µg/L	
Arsenic (As)	Total	1.876	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.867	0.005	0.015	µg/L	
Beryllium (Be)	Total	0.01	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0169	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0177	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.5713	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.0486	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.255	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.161	0.005	0.01	µg/L	
Copper (Cu)	Total	1.151	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	0.737	0.005	0.01	µg/L	
Iron (Fe)	Total	265.1	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.5759	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0352	0.0025	0.005	µg/L	
Manganese (Mn)	Total	21.29	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	15.58	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	7.341	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.406	0.005	0.01	µg/L	

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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Nickel (Ni)	Total	0.5171	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.3533	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.033	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.023	0.005	0.015	µg/L	
Silver (Ag)	Total	ND	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.036	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	30.048	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	11.603	0.035	0.07	µg/L	
Vanadium (V)	Total	4.47	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	3.63	0.02	0.04	µg/L	
Zinc (Zn)	Total	2.2552	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	ND	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-5130		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Barium (Ba)	Total	13.32	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	12.41	0.25	0.5	µg/L	
Method: EPA 245.7		Batch ID: E-6015		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 245.7		Batch ID: E-6016		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Sample ID: 22032-R1		B13-8160 Grab		Matrix: Liquid		Sampled: 08-Aug-13 8:45
Method: EPA 1640		Batch ID: E-5130		Prepared: 21-Aug-13		Received: 08-Aug-13
Aluminum (Al)	Total	581.8	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.12	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.17	0.01	0.015	µg/L	
Arsenic (As)	Total	1.988	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.842	0.005	0.015	µg/L	
Beryllium (Be)	Total	0.019	0.005	0.01	µg/L	

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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0216	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0163	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.9356	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.0399	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.3	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.156	0.005	0.01	µg/L	
Copper (Cu)	Total	1.284	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	0.637	0.005	0.01	µg/L	
Iron (Fe)	Total	396.4	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.7936	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0407	0.0025	0.005	µg/L	
Manganese (Mn)	Total	29.64	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	19.93	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	7.123	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.603	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.6672	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.3786	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.033	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.028	0.005	0.015	µg/L	
Silver (Ag)	Total	ND	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.034	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.006	0.005	0.01	µg/L	J
Titanium (Ti)	Total	42.25	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	17.661	0.035	0.07	µg/L	
Vanadium (V)	Total	4.84	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	3.7	0.02	0.04	µg/L	
Zinc (Zn)	Total	1.1561	0.0025	0.005	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Zinc (Zn)	Dissolved	ND	0.0025	0.005	µg/L	
	Method: EPA 200.8	Batch ID: E-5130		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Barium (Ba)	Total	12.44	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	11.74	0.25	0.5	µg/L	
	Method: EPA 245.7	Batch ID: E-6015		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
	Method: EPA 245.7	Batch ID: E-6016		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	

Sample ID: 22033-R1

B13-8163 Grab

Matrix: Liquid

Sampled: 08-Aug-13 10:47

Received: 08-Aug-13

Method: EPA 1640

Batch ID: E-5130

Prepared: 21-Aug-13

Analyzed: 27-Aug-13

Aluminum (Al)	Total	18.9	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.14	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.15	0.01	0.015	µg/L	
Arsenic (As)	Total	1.745	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.611	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	0.005	0.005	0.01	µg/L	J
Cadmium (Cd)	Total	0.0201	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.02	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.1008	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.0553	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.07	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.075	0.005	0.01	µg/L	
Copper (Cu)	Total	0.838	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	0.887	0.005	0.01	µg/L	
Iron (Fe)	Total	15	0.5	1	µg/L	
Iron (Fe)	Dissolved	1	0.5	1	µg/L	
Lead (Pb)	Total	0.0565	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0137	0.0025	0.005	µg/L	
Manganese (Mn)	Total	17.69	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	15.75	0.01	0.02	µg/L	

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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Molybdenum (Mo)	Total	9.064	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.201	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.2918	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.2864	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.02	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.02	0.005	0.015	µg/L	
Silver (Ag)	Total	ND	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	ND	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	14.427	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	12.754	0.035	0.07	µg/L	
Vanadium (V)	Total	2.71	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.66	0.02	0.04	µg/L	
Zinc (Zn)	Total	ND	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	ND	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-5130		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Barium (Ba)	Total	11.33	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	10.53	0.25	0.5	µg/L	
Method: EPA 245.7		Batch ID: E-6015		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 245.7		Batch ID: E-6016		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22025-R1</div> <div>B13-8145 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-4143</div> </div> <div> <div>Sampled: 07-Aug-13 10:00</div> <div>Prepared: 09-Aug-13</div> </div> <div> <div>Received: 08-Aug-13</div> <div>Analyzed: 25-Aug-13</div> </div>						
(d10-Acenaphthene)	Total	81			% Recovery	
(d10-Phenanthrene)	Total	90			% Recovery	
(d12-Chrysene)	Total	143			% Recovery	
(d8-Naphthalene)	Total	53			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	1.6	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.5	1	5	ng/L	J
Pyrene	Total	ND	1	5	ng/L	



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22026-R1</div> <div>B13-8146 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-4143</div> </div> <div> <div>Sampled: 07-Aug-13 11:20</div> <div>Prepared: 09-Aug-13</div> </div> <div> <div>Received: 08-Aug-13</div> <div>Analyzed: 25-Aug-13</div> </div>						
(d10-Acenaphthene)	Total	66			% Recovery	
(d10-Phenanthrene)	Total	94			% Recovery	
(d12-Chrysene)	Total	150			% Recovery	
(d8-Naphthalene)	Total	48			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	1.8	1	5	ng/L	J
Benzo[a]pyrene	Total	2.8	1	5	ng/L	J
Benzo[b]fluoranthene	Total	4.9	1	5	ng/L	J
Benzo[e]pyrene	Total	5.3	1	5	ng/L	
Benzo[g,h,i]perylene	Total	8.4	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	1.7	1	5	ng/L	J
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	43.8	1	5	ng/L	
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	6.4	1	5	ng/L	
Pyrene	Total	147.5	1	5	ng/L	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22027-R1</div> <div>B13-8151 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-4143</div> </div> <div> <div>Sampled: 07-Aug-13 15:00</div> <div>Prepared: 09-Aug-13</div> </div> <div> <div>Received: 08-Aug-13</div> <div>Analyzed: 25-Aug-13</div> </div>						
(d10-Acenaphthene)	Total	74			% Recovery	
(d10-Phenanthrene)	Total	95			% Recovery	
(d12-Chrysene)	Total	150			% Recovery	
(d8-Naphthalene)	Total	64			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	1.6	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	ND	1	5	ng/L	
Pyrene	Total	1.1	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22028-R1</div> <div>B13-8152 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-4143</div> </div> <div> <div>Sampled: 07-Aug-13 13:40</div> <div>Prepared: 09-Aug-13</div> </div> <div> <div>Received: 08-Aug-13</div> <div>Analyzed: 25-Aug-13</div> </div>						
(d10-Acenaphthene)	Total	73			% Recovery	
(d10-Phenanthrene)	Total	93			% Recovery	
(d12-Chrysene)	Total	140			% Recovery	
(d8-Naphthalene)	Total	61			% Recovery	
1-Methylnaphthalene	Total	1.4	1	5	ng/L	J
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	2.3	1	5	ng/L	J
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	1.2	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	3.9	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.1	1	5	ng/L	J
Pyrene	Total	ND	1	5	ng/L	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22029-R1 B13-8156 Grab Method: EPA 625		Matrix: Liquid Batch ID: O-4143		Sampled: 07-Aug-13 16:40 Prepared: 09-Aug-13		Received: 08-Aug-13 Analyzed: 25-Aug-13
(d10-Acenaphthene)	Total	56			% Recovery	
(d10-Phenanthrene)	Total	95			% Recovery	
(d12-Chrysene)	Total	150			% Recovery	
(d8-Naphthalene)	Total	66			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	1	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	ND	1	5	ng/L	
Pyrene	Total	ND	1	5	ng/L	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22030-R1</div> <div>B13-8157 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-4143</div> </div> <div> <div>Sampled: 08-Aug-13 7:05</div> <div>Prepared: 09-Aug-13</div> </div> <div> <div>Received: 08-Aug-13</div> <div>Analyzed: 25-Aug-13</div> </div>						
(d10-Acenaphthene)	Total	73			% Recovery	
(d10-Phenanthrene)	Total	91			% Recovery	
(d12-Chrysene)	Total	137			% Recovery	
(d8-Naphthalene)	Total	56			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	1.5	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	ND	1	5	ng/L	
Pyrene	Total	ND	1	5	ng/L	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22031-R1</div> <div>B13-8159 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-4143</div> </div> <div> <div>Sampled: 08-Aug-13 11:35</div> <div>Prepared: 09-Aug-13</div> </div> <div> <div>Received: 08-Aug-13</div> <div>Analyzed: 25-Aug-13</div> </div>						
(d10-Acenaphthene)	Total	76			% Recovery	
(d10-Phenanthrene)	Total	94			% Recovery	
(d12-Chrysene)	Total	139			% Recovery	
(d8-Naphthalene)	Total	48			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	2.1	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	ND	1	5	ng/L	
Pyrene	Total	1.6	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22032-R1</div> <div>B13-8160 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-4143</div> </div> <div> <div>Sampled: 08-Aug-13 8:45</div> <div>Prepared: 09-Aug-13</div> </div> <div> <div>Received: 08-Aug-13</div> <div>Analyzed: 25-Aug-13</div> </div>						
(d10-Acenaphthene)	Total	71			% Recovery	
(d10-Phenanthrene)	Total	93			% Recovery	
(d12-Chrysene)	Total	147			% Recovery	
(d8-Naphthalene)	Total	46			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	1.4	1	5	ng/L	J
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	2.6	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	ND	1	5	ng/L	
Pyrene	Total	2.1	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22033-R1</div> <div>B13-8163 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-4143</div> </div> <div> <div>Sampled: 08-Aug-13 10:47</div> <div>Prepared: 09-Aug-13</div> </div> <div> <div>Received: 08-Aug-13</div> <div>Analyzed: 25-Aug-13</div> </div>						
(d10-Acenaphthene)	Total	66			% Recovery	
(d10-Phenanthrene)	Total	93			% Recovery	
(d12-Chrysene)	Total	149			% Recovery	
(d8-Naphthalene)	Total	86			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	1.9	1	5	ng/L	J
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	1.5	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	4.1	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.2	1	5	ng/L	J
Pyrene	Total	ND	1	5	ng/L	

QUALITY CONTROL REPORT

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ENVIRONMENTAL LABORATORIES, INC.

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CA ELAP #2769

Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Ammonia as N		Method: SM 4500-NH₃ D		Fraction: NA		Prepared: 02-Sep-13			Analyzed: 02-Sep-13			
22024-B1	QAQC Procedural Blank	C-13142	ND	0.02	0.05	mg/L						
22024-BS1	QAQC Procedural Blank	C-13142	0.26	0.02	0.05	mg/L	0.25	0	104	70 - 130%	PASS	
22024-BS2	QAQC Procedural Blank	C-13142	0.29	0.02	0.05	mg/L	0.25	0	116	70 - 130%	PASS	11 30 PASS
MBAS		Method: SM 5540-C		Fraction: NA		Prepared: 09-Aug-13			Analyzed: 09-Aug-13			
22024-B1	QAQC Procedural Blank	C-13079	ND	0.005	0.025	mg/L						
22024-BS1	QAQC Procedural Blank	C-13079	0.088	0.005	0.025	mg/L	0.1	0	88	70 - 130%	PASS	
22024-BS2	QAQC Procedural Blank	C-13079	0.095	0.005	0.025	mg/L	0.1	0	95	70 - 130%	PASS	8 30 PASS
22033-MS1	B13-8163	C-13079	0.13	0.005	0.025	mg/L	0.1	0	130	70 - 130%	PASS	
22033-MS2	B13-8163	C-13079	0.094	0.005	0.025	mg/L	0.1	0	94	70 - 130%	PASS	32 30 FAIL R
22033-R2	B13-8163	C-13079	ND	0.005	0.025	mg/L				0	30	PASS
Nitrate as N		Method: SM 4500-NO₃ E		Fraction: NA		Prepared: 09-Aug-13			Analyzed: 03-Sep-13			
22024-B1	QAQC Procedural Blank	C-13152	ND	0.01	0.05	mg/L						
22024-BS1	QAQC Procedural Blank	C-13152	0.1	0.01	0.05	mg/L	0.11	0	91	70 - 130%	PASS	
22024-BS2	QAQC Procedural Blank	C-13152	0.11	0.01	0.05	mg/L	0.11	0	100	70 - 130%	PASS	9 30 PASS
22026-MS1	B13-8146	C-13152	0.14	0.01	0.05	mg/L	0.11	0	127	70 - 130%	PASS	
22026-MS2	B13-8146	C-13152	0.14	0.01	0.05	mg/L	0.11	0	127	70 - 130%	PASS	0 30 PASS
22026-R2	B13-8146	C-13152	ND	0.01	0.05	mg/L				0	30	PASS
Oil & Grease		Method: EPA 1664A		Fraction: NA		Prepared: 04-Sep-13			Analyzed: 04-Sep-13			
22024-B1	QAQC Procedural Blank	C-13143	ND	1	1	mg/L						
22024-BS1	QAQC Procedural Blank	C-13143	17.1	1	1	mg/L	20.1	0	85	70 - 130%	PASS	
22024-BS2	QAQC Procedural Blank	C-13143	14.1	1	1	mg/L	20.1	0	70	70 - 130%	PASS	19 30 PASS
Total Orthophosphate as P		Method: SM 4500-P E		Fraction: NA		Prepared: 09-Aug-13			Analyzed: 09-Aug-13			
22024-B1	QAQC Procedural Blank	C-13077	ND	0.01	0.02	mg/L						
22024-BS1	QAQC Procedural Blank	C-13077	0.18	0.01	0.02	mg/L	0.2	0	90	70 - 130%	PASS	
22024-BS2	QAQC Procedural Blank	C-13077	0.19	0.01	0.02	mg/L	0.2	0	95	70 - 130%	PASS	5 30 PASS
22025-MS1	B13-8145	C-13077	0.2	0.01	0.02	mg/L	0.2	0.02	90	70 - 130%	PASS	
22025-MS2	B13-8145	C-13077	0.2	0.01	0.02	mg/L	0.2	0.02	90	70 - 130%	PASS	0 30 PASS



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CA ELAP #2769

Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
22025-R2	B13-8145	C-13077	0.02	0.01	0.02	mg/L			0 30	PASS



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22024-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 1640		Batch ID: E-5130		Prepared: 21-Aug-13		Analyzed: 27-Aug-13		
Aluminum (Al)	Dissolved	ND	3	6	µg/L					
Aluminum (Al)	Total	ND	3	6	µg/L					
Antimony (Sb)	Dissolved	ND	0.01	0.015	µg/L					
Antimony (Sb)	Total	ND	0.01	0.015	µg/L					
Arsenic (As)	Dissolved	ND	0.005	0.015	µg/L					
Arsenic (As)	Total	ND	0.005	0.015	µg/L					
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L					
Beryllium (Be)	Total	ND	0.005	0.01	µg/L					
Cadmium (Cd)	Dissolved	ND	0.0025	0.005	µg/L					
Cadmium (Cd)	Total	ND	0.0025	0.005	µg/L					
Chromium (Cr)	Dissolved	ND	0.0125	0.025	µg/L					
Chromium (Cr)	Total	ND	0.0125	0.025	µg/L					
Cobalt (Co)	Dissolved	ND	0.005	0.01	µg/L					
Cobalt (Co)	Total	ND	0.005	0.01	µg/L					
Copper (Cu)	Dissolved	ND	0.005	0.01	µg/L					
Copper (Cu)	Total	ND	0.005	0.01	µg/L					
Iron (Fe)	Dissolved	ND	0.5	1	µg/L					
Iron (Fe)	Total	ND	0.5	1	µg/L					
Lead (Pb)	Dissolved	ND	0.0025	0.005	µg/L					
Lead (Pb)	Total	ND	0.0025	0.005	µg/L					
Manganese (Mn)	Dissolved	ND	0.01	0.02	µg/L					
Manganese (Mn)	Total	ND	0.01	0.02	µg/L					
Molybdenum (Mo)	Dissolved	ND	0.005	0.01	µg/L					
Molybdenum (Mo)	Total	ND	0.005	0.01	µg/L					
Nickel (Ni)	Dissolved	ND	0.0025	0.005	µg/L					
Nickel (Ni)	Total	ND	0.0025	0.005	µg/L					
Selenium (Se)	Dissolved	ND	0.005	0.015	µg/L					
Selenium (Se)	Total	ND	0.005	0.015	µg/L					
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L					

PHYSIS Project ID: 1307002-003

Client: AMEC

Project: RHMP B'13



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Silver (Ag)	Total	ND	0.01	0.02	µg/L					
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L					
Thallium (Tl)	Total	ND	0.005	0.01	µg/L					
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L					
Tin (Sn)	Total	ND	0.005	0.01	µg/L					
Titanium (Ti)	Dissolved	ND	0.035	0.07	µg/L					
Titanium (Ti)	Total	ND	0.035	0.07	µg/L					
Vanadium (V)	Dissolved	ND	0.02	0.04	µg/L					
Vanadium (V)	Total	ND	0.02	0.04	µg/L					
Zinc (Zn)	Dissolved	ND	0.0025	0.005	µg/L					
Zinc (Zn)	Total	ND	0.0025	0.005	µg/L					

Method: EPA 200.8

Batch ID: E-5130

Prepared: 06-Sep-13

Analyzed: 06-Sep-13

Barium (Ba)	Dissolved	ND	0.25	0.5	µg/L					
Barium (Ba)	Total	ND	0.25	0.5	µg/L					

Method: EPA 245.7

Batch ID: E-6015

Prepared: 30-Aug-13

Analyzed: 30-Aug-13

Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L					
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Method: EPA 245.7

Batch ID: E-6016

Prepared: 30-Aug-13

Analyzed: 30-Aug-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L					
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Sample ID: 22024-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 200.8

Batch ID: E-5130

Prepared: 06-Sep-13

Analyzed: 06-Sep-13

Barium (Ba)	Total	1054.14	0.25	0.5	µg/L	1000	0	105	75 - 125%	PASS
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Method: EPA 245.7

Batch ID: E-6016

Prepared: 30-Aug-13

Analyzed: 30-Aug-13

Mercury (Hg)	Total	0.09	0.01	0.02	µg/L	0.1	0	90	80 - 120%	PASS
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Sample ID: 22024-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 200.8

Batch ID: E-5130

Prepared: 06-Sep-13

Analyzed: 06-Sep-13

Barium (Ba)	Total	1058.36	0.25	0.5	µg/L	1000	0	106	75 - 125%	PASS	1	30	PASS
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Method: EPA 245.7

Batch ID: E-6016

Prepared: 30-Aug-13

Analyzed: 30-Aug-13

Mercury (Hg)	Total	0.09	0.01	0.02	µg/L	0.1	0	90	80 - 120%	PASS	0	30	PASS
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Sample ID: 22028-MS1

B13-8152 Grab

Matrix: Liquid

Sampled: 07-Aug-13 13:40

Received: 08-Aug-13



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Method: EPA 200.8		Batch ID: E-5130		Prepared: 06-Sep-13		Analyzed: 06-Sep-13				
Barium (Ba)	Dissolved	1043.58	0.25	0.5	µg/L	1000	5.28	104 75 - 125% PASS		
Method: EPA 245.7		Batch ID: E-6016		Prepared: 30-Aug-13		Analyzed: 30-Aug-13				
Mercury (Hg)	Total	0.11	0.01	0.02	µg/L	0.1	0	110 80 - 120% PASS		
Sample ID: 22028-MS2 B13-8152 Grab		Matrix: Liquid		Sampled: 07-Aug-13 13:40		Received: 08-Aug-13				
Method: EPA 200.8		Batch ID: E-5130		Prepared: 06-Sep-13		Analyzed: 06-Sep-13				
Barium (Ba)	Dissolved	1063.64	0.25	0.5	µg/L	1000	5.28	106 75 - 125% PASS	2 30 PASS	
Method: EPA 245.7		Batch ID: E-6016		Prepared: 30-Aug-13		Analyzed: 30-Aug-13				
Mercury (Hg)	Total	0.11	0.01	0.02	µg/L	0.1	0	110 80 - 120% PASS	0 30 PASS	
Sample ID: 22028-R2 B13-8152 Grab		Matrix: Liquid		Sampled: 07-Aug-13 13:40		Received: 08-Aug-13				
Method: EPA 1640		Batch ID: E-5130		Prepared: 21-Aug-13		Analyzed: 27-Aug-13				
Aluminum (Al)	Dissolved	ND	3	6	µg/L				0 30 PASS	
Aluminum (Al)	Total	39.2	3	6	µg/L				5 30 PASS	
Antimony (Sb)	Dissolved	0.11	0.01	0.015	µg/L				0 30 PASS	
Antimony (Sb)	Total	0.1	0.01	0.015	µg/L				0 30 PASS	
Arsenic (As)	Dissolved	1.225	0.005	0.015	µg/L				2 30 PASS	
Arsenic (As)	Total	1.309	0.005	0.015	µg/L				10 30 PASS	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L				0 30 PASS	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L				0 30 PASS	
Cadmium (Cd)	Dissolved	0.0138	0.0025	0.005	µg/L				18 30 PASS	
Cadmium (Cd)	Total	0.0133	0.0025	0.005	µg/L				7 30 PASS	
Chromium (Cr)	Dissolved	0.1699	0.0125	0.025	µg/L				20 30 PASS	
Chromium (Cr)	Total	0.2473	0.0125	0.025	µg/L				2 30 PASS	
Cobalt (Co)	Dissolved	ND	0.005	0.01	µg/L				0 30 PASS	
Cobalt (Co)	Total	0.008	0.005	0.01	µg/L				46 30 FAIL	J,SL
Copper (Cu)	Dissolved	0.232	0.005	0.01	µg/L				5 30 PASS	
Copper (Cu)	Total	0.34	0.005	0.01	µg/L				5 30 PASS	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L				0 30 PASS	
Iron (Fe)	Total	34	0.5	1	µg/L				4 30 PASS	
Lead (Pb)	Dissolved	0.0068	0.0025	0.005	µg/L				14 30 PASS	



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Lead (Pb)	Total	0.0653	0.0025	0.005	µg/L				0 30 PASS	
Manganese (Mn)	Dissolved	1.47	0.01	0.02	µg/L				1 30 PASS	
Manganese (Mn)	Total	1.9	0.01	0.02	µg/L				4 30 PASS	
Molybdenum (Mo)	Dissolved	8.566	0.005	0.01	µg/L				5 30 PASS	
Molybdenum (Mo)	Total	8.179	0.005	0.01	µg/L				0 30 PASS	
Nickel (Ni)	Dissolved	0.2155	0.0025	0.005	µg/L				4 30 PASS	
Nickel (Ni)	Total	0.2269	0.0025	0.005	µg/L				8 30 PASS	
Selenium (Se)	Dissolved	ND	0.005	0.015	µg/L				82 30 FAIL	J,SL
Selenium (Se)	Total	0.009	0.005	0.015	µg/L				12 30 PASS	J
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L				0 30 PASS	
Silver (Ag)	Total	ND	0.01	0.02	µg/L				0 30 PASS	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L				0 30 PASS	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L				0 30 PASS	
Tin (Sn)	Dissolved	0.006	0.005	0.01	µg/L				40 30 FAIL	J,SL
Tin (Sn)	Total	0.008	0.005	0.01	µg/L				29 30 PASS	J
Titanium (Ti)	Dissolved	11.028	0.035	0.07	µg/L				2 30 PASS	
Titanium (Ti)	Total	15.282	0.035	0.07	µg/L				4 30 PASS	
Vanadium (V)	Dissolved	2.01	0.02	0.04	µg/L				1 30 PASS	
Vanadium (V)	Total	2.11	0.02	0.04	µg/L				1 30 PASS	
Zinc (Zn)	Dissolved	ND	0.0025	0.005	µg/L				0 30 PASS	
Zinc (Zn)	Total	ND	0.0025	0.005	µg/L				0 30 PASS	
Method: EPA 200.8				Batch ID: E-5130		Prepared: 06-Sep-13		Analyzed: 06-Sep-13		
Barium (Ba)	Dissolved	5.26	0.25	0.5	µg/L				1 30 PASS	
Barium (Ba)	Total	5.91	0.25	0.5	µg/L				7 30 PASS	
Method: EPA 245.7				Batch ID: E-6015		Prepared: 30-Aug-13		Analyzed: 30-Aug-13		
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L				0 30 PASS	
Method: EPA 245.7				Batch ID: E-6016		Prepared: 30-Aug-13		Analyzed: 30-Aug-13		
Mercury (Hg)	Total	ND	0.01	0.02	µg/L				0 30 PASS	
Sample ID: 22034-LCM1		QAQC LCM - Physis Seawater			Matrix: Seawater		Sampled:		Received:	
Method: EPA 1640					Batch ID: E-5130		Prepared: 21-Aug-13		Analyzed: 27-Aug-13	
Aluminum (Al)	Total	ND	3	6	µg/L					

PHYSIS Project ID: 1307002-003

Client: AMEC

Project: RHMP B'13



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Antimony (Sb)	Total	0.09	0.01	0.015	µg/L					
Arsenic (As)	Total	1.708	0.005	0.015	µg/L					
Beryllium (Be)	Total	0.005	0.005	0.01	µg/L					
Cadmium (Cd)	Total	0.0985	0.0025	0.005	µg/L					
Chromium (Cr)	Total	0.2359	0.0125	0.025	µg/L					
Cobalt (Co)	Total	ND	0.005	0.01	µg/L					
Copper (Cu)	Total	0.117	0.005	0.01	µg/L					
Iron (Fe)	Total	ND	0.5	1	µg/L					
Lead (Pb)	Total	0.0217	0.0025	0.005	µg/L					
Manganese (Mn)	Total	0.26	0.01	0.02	µg/L					
Molybdenum (Mo)	Total	8.761	0.005	0.01	µg/L					
Nickel (Ni)	Total	0.3734	0.0025	0.005	µg/L					
Selenium (Se)	Total	0.039	0.005	0.015	µg/L					
Silver (Ag)	Total	ND	0.01	0.02	µg/L					
Thallium (Tl)	Total	ND	0.005	0.01	µg/L					
Tin (Sn)	Total	0.006	0.005	0.01	µg/L					
Titanium (Ti)	Total	18.44	0.035	0.07	µg/L					
Vanadium (V)	Total	1.97	0.02	0.04	µg/L					
Zinc (Zn)	Total	ND	0.0025	0.005	µg/L					

Sample ID: 22034-LCS1

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-5130

Prepared: 21-Aug-13

Analyzed: 27-Aug-13

Aluminum (Al)	Total	22.8	3	6	µg/L	20	0	114	0 - 191%	PASS
Antimony (Sb)	Total	2.02	0.01	0.015	µg/L	20	0.09	10	10 - 110%	PASS
Arsenic (As)	Total	21.382	0.005	0.015	µg/L	20	1.708	98	74 - 128%	PASS
Beryllium (Be)	Total	16.583	0.005	0.01	µg/L	20	0.005	83	60 - 118%	PASS
Cadmium (Cd)	Total	18.1292	0.0025	0.005	µg/L	20	0.0985	90	68 - 131%	PASS
Chromium (Cr)	Total	21.463	0.0125	0.025	µg/L	20	0.2359	106	32 - 173%	PASS
Cobalt (Co)	Total	19.136	0.005	0.01	µg/L	20	0	96	87 - 119%	PASS
Copper (Cu)	Total	18.397	0.005	0.01	µg/L	20	0.117	91	61 - 119%	PASS
Iron (Fe)	Total	10.1	0.5	1	µg/L	20	0	50	22 - 129%	PASS
Lead (Pb)	Total	18.4452	0.0025	0.005	µg/L	20	0.0217	92	75 - 120%	PASS

PHYSIS Project ID: 1307002-003

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Project: RHMP B'13



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Manganese (Mn)	Total	13.74	0.01	0.02	µg/L	20	0.26	67 32 - 131%	PASS	
Molybdenum (Mo)	Total	27.999	0.005	0.01	µg/L	20	8.761	96 54 - 131%	PASS	
Nickel (Ni)	Total	17.7067	0.0025	0.005	µg/L	20	0.3734	87 60 - 113%	PASS	
Selenium (Se)	Total	18.538	0.005	0.015	µg/L	20	0.039	92 0 - 183%	PASS	
Silver (Ag)	Total	5.05	0.01	0.02	µg/L	5	0	101 64 - 133%	PASS	
Thallium (Tl)	Total	18.066	0.005	0.01	µg/L	20	0	90 70 - 125%	PASS	
Tin (Sn)	Total	20.197	0.005	0.01	µg/L	20	0.006	101 69 - 118%	PASS	
Titanium (Ti)	Total	31.338	0.035	0.07	µg/L	20	18.44	64 72 - 129%	FAIL	R
Vanadium (V)	Total	23.69	0.02	0.04	µg/L	20	1.97	109 72 - 137%	PASS	
Zinc (Zn)	Total	19.8436	0.0025	0.005	µg/L	20	0	99 61 - 128%	PASS	

Sample ID: 22034-LCS2

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-5130

Prepared: 21-Aug-13

Analyzed: 27-Aug-13

Aluminum (Al)	Total	23.1	3	6	µg/L	20	0	115 0 - 191%	PASS	0 30 PASS	
Antimony (Sb)	Total	2	0.01	0.015	µg/L	20	0.09	10 10 - 110%	PASS	0 30 PASS	
Arsenic (As)	Total	21.673	0.005	0.015	µg/L	20	1.708	100 74 - 128%	PASS	2 30 PASS	
Beryllium (Be)	Total	16.515	0.005	0.01	µg/L	20	0.005	83 60 - 118%	PASS	0 30 PASS	
Cadmium (Cd)	Total	17.988	0.0025	0.005	µg/L	20	0.0985	89 68 - 131%	PASS	1 30 PASS	
Chromium (Cr)	Total	21.8002	0.0125	0.025	µg/L	20	0.2359	108 32 - 173%	PASS	2 30 PASS	
Cobalt (Co)	Total	19.508	0.005	0.01	µg/L	20	0	98 87 - 119%	PASS	0 30 PASS	
Copper (Cu)	Total	18.12	0.005	0.01	µg/L	20	0.117	90 61 - 119%	PASS	1 30 PASS	
Iron (Fe)	Total	9.5	0.5	1	µg/L	20	0	47 22 - 129%	PASS	0 30 PASS	
Lead (Pb)	Total	18.3623	0.0025	0.005	µg/L	20	0.0217	92 75 - 120%	PASS	0 30 PASS	
Manganese (Mn)	Total	13.53	0.01	0.02	µg/L	20	0.26	66 32 - 131%	PASS	2 30 PASS	
Molybdenum (Mo)	Total	27.983	0.005	0.01	µg/L	20	8.761	96 54 - 131%	PASS	0 30 PASS	
Nickel (Ni)	Total	17.5443	0.0025	0.005	µg/L	20	0.3734	86 60 - 113%	PASS	1 30 PASS	
Selenium (Se)	Total	18.529	0.005	0.015	µg/L	20	0.039	92 0 - 183%	PASS	0 30 PASS	
Silver (Ag)	Total	8.12	0.01	0.02	µg/L	5	0	162 64 - 133%	FAIL	0 30 PASS	R
Thallium (Tl)	Total	18.44	0.005	0.01	µg/L	20	0	92 70 - 125%	PASS	0 30 PASS	
Tin (Sn)	Total	21.331	0.005	0.01	µg/L	20	0.006	107 69 - 118%	PASS	6 30 PASS	
Titanium (Ti)	Total	34.483	0.035	0.07	µg/L	20	18.44	80 72 - 129%	PASS	22 30 PASS	
Vanadium (V)	Total	24.26	0.02	0.04	µg/L	20	1.97	111 72 - 137%	PASS	2 30 PASS	

PHYSIS Project ID: 1307002-003

Client: AMEC

Project: RHMP B'13



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CA ELAP #2769

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Zinc (Zn)	Total	20.294	0.0025	0.005	µg/L	20	0	101	61 - 128% PASS	0	30 PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22024-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 625

Batch ID: O-4143

Prepared: 09-Aug-13

Analyzed: 24-Aug-13

(d10-Acenaphthene)	Total	82			% Recovery	100		82 50 - 150% PASS		
(d10-Phenanthrene)	Total	95			% Recovery	100		95 50 - 150% PASS		
(d12-Chrysene)	Total	120			% Recovery	100		120 50 - 150% PASS		
(d8-Naphthalene)	Total	81			% Recovery	100		81 25 - 125% PASS		
1-Methylnaphthalene	Total	ND	1	5	ng/L					
1-Methylphenanthrene	Total	ND	1	5	ng/L					
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L					
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L					
2-Methylnaphthalene	Total	ND	1	5	ng/L					
Acenaphthene	Total	ND	1	5	ng/L					
Acenaphthylene	Total	ND	1	5	ng/L					
Anthracene	Total	ND	1	5	ng/L					
Benz[a]anthracene	Total	ND	1	5	ng/L					
Benzo[a]pyrene	Total	ND	1	5	ng/L					
Benzo[b]fluoranthene	Total	ND	1	5	ng/L					
Benzo[e]pyrene	Total	ND	1	5	ng/L					
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L					
Benzo[k]fluoranthene	Total	ND	1	5	ng/L					
Biphenyl	Total	ND	1	5	ng/L					
Chrysene	Total	ND	1	5	ng/L					
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L					
Dibenzothiophene	Total	ND	1	5	ng/L					
Fluoranthene	Total	ND	1	5	ng/L					
Fluorene	Total	ND	1	5	ng/L					
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L					
Naphthalene	Total	ND	1	5	ng/L					
Perylene	Total	ND	1	5	ng/L					
Phenanthrene	Total	ND	1	5	ng/L					
Pyrene	Total	ND	1	5	ng/L					

PHYSIS Project ID: 1307002-003

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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22024-BS1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 625			Batch ID: O-4143		Prepared: 09-Aug-13		Analyzed: 24-Aug-13	
(d10-Acenaphthene)	Total	81			% Recovery	100	0	81	50 - 150% PASS	
(d10-Phenanthrene)	Total	94			% Recovery	100	0	94	50 - 150% PASS	
(d12-Chrysene)	Total	125			% Recovery	100	0	125	50 - 150% PASS	
(d8-Naphthalene)	Total	60			% Recovery	100	0	60	25 - 125% PASS	
1-Methylnaphthalene	Total	784.1	1	5	ng/L	1000	0	78	50 - 150% PASS	
1-Methylphenanthrene	Total	1081.8	1	5	ng/L	1000	0	108	50 - 150% PASS	
2,3,5-Trimethylnaphthalene	Total	874.3	1	5	ng/L	1000	0	87	50 - 150% PASS	
2,6-Dimethylnaphthalene	Total	804.9	1	5	ng/L	1000	0	80	50 - 150% PASS	
2-Methylnaphthalene	Total	784.9	1	5	ng/L	1000	0	78	50 - 150% PASS	
Acenaphthene	Total	839.1	1	5	ng/L	1000	0	84	50 - 150% PASS	
Acenaphthylene	Total	847.3	1	5	ng/L	1000	0	85	50 - 150% PASS	
Anthracene	Total	998.2	1	5	ng/L	1000	0	100	50 - 150% PASS	
Benz[a]anthracene	Total	1302.3	1	5	ng/L	1000	0	130	50 - 150% PASS	
Benzo[a]pyrene	Total	1089	1	5	ng/L	1000	0	109	50 - 150% PASS	
Benzo[b]fluoranthene	Total	1245.5	1	5	ng/L	1000	0	125	50 - 150% PASS	
Benzo[e]pyrene	Total	1061.7	1	5	ng/L	1000	0	106	50 - 150% PASS	
Benzo[g,h,i]perylene	Total	920.1	1	5	ng/L	1000	0	92	50 - 150% PASS	
Benzo[k]fluoranthene	Total	1076.4	1	5	ng/L	1000	0	108	50 - 150% PASS	
Biphenyl	Total	788	1	5	ng/L	1000	0	79	50 - 150% PASS	
Chrysene	Total	1210.1	1	5	ng/L	1000	0	121	50 - 150% PASS	
Dibenz[a,h]anthracene	Total	1153.6	1	5	ng/L	1000	0	115	50 - 150% PASS	
Dibenzothiophene	Total	940.1	1	5	ng/L	1000	0	94	50 - 150% PASS	
Fluoranthene	Total	1237.5	1	5	ng/L	1000	0	124	50 - 150% PASS	
Fluorene	Total	904.5	1	5	ng/L	1000	0	90	50 - 150% PASS	
Indeno[1,2,3-c,d]pyrene	Total	1104.1	1	5	ng/L	1000	0	110	50 - 150% PASS	
Naphthalene	Total	575.8	1	5	ng/L	1000	0	58	25 - 125% PASS	
Perylene	Total	1084.3	1	5	ng/L	1000	0	108	50 - 150% PASS	
Phenanthrene	Total	965.9	1	5	ng/L	1000	0	97	50 - 150% PASS	
Pyrene	Total	1148.1	1	5	ng/L	1000	0	115	50 - 150% PASS	

PHYSIS Project ID: 1307002-003

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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Sample ID: 22024-BS2		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 625			Batch ID: O-4143		Prepared: 09-Aug-13		Analyzed: 24-Aug-13	
(d10-Acenaphthene)	Total	85			% Recovery	100	0	85	50 - 150% PASS	5
(d10-Phenanthrene)	Total	95			% Recovery	100	0	95	50 - 150% PASS	1
(d12-Chrysene)	Total	120			% Recovery	100	0	120	50 - 150% PASS	4
(d8-Naphthalene)	Total	82			% Recovery	100	0	82	25 - 125% PASS	31
1-Methylnaphthalene	Total	750.3	1	5	ng/L	1000	0	75	50 - 150% PASS	4
1-Methylphenanthrene	Total	1089.2	1	5	ng/L	1000	0	109	50 - 150% PASS	1
2,3,5-Trimethylnaphthalene	Total	737.8	1	5	ng/L	1000	0	74	50 - 150% PASS	16
2,6-Dimethylnaphthalene	Total	853.4	1	5	ng/L	1000	0	85	50 - 150% PASS	6
2-Methylnaphthalene	Total	749.1	1	5	ng/L	1000	0	75	50 - 150% PASS	4
Acenaphthene	Total	875.2	1	5	ng/L	1000	0	88	50 - 150% PASS	5
Acenaphthylene	Total	890.5	1	5	ng/L	1000	0	89	50 - 150% PASS	5
Anthracene	Total	1022.5	1	5	ng/L	1000	0	102	50 - 150% PASS	2
Benz[a]anthracene	Total	1221.1	1	5	ng/L	1000	0	122	50 - 150% PASS	6
Benzo[a]pyrene	Total	1070.8	1	5	ng/L	1000	0	107	50 - 150% PASS	2
Benzo[b]fluoranthene	Total	1327.5	1	5	ng/L	1000	0	133	50 - 150% PASS	6
Benzo[e]pyrene	Total	1002	1	5	ng/L	1000	0	100	50 - 150% PASS	6
Benzo[g,h,i]perylene	Total	1086.8	1	5	ng/L	1000	0	109	50 - 150% PASS	17
Benzo[k]fluoranthene	Total	1109	1	5	ng/L	1000	0	111	50 - 150% PASS	3
Biphenyl	Total	828.7	1	5	ng/L	1000	0	83	50 - 150% PASS	5
Chrysene	Total	1124.6	1	5	ng/L	1000	0	112	50 - 150% PASS	8
Dibenz[a,h]anthracene	Total	1199.8	1	5	ng/L	1000	0	120	50 - 150% PASS	4
Dibenzothiophene	Total	960.9	1	5	ng/L	1000	0	96	50 - 150% PASS	2
Fluoranthene	Total	1250	1	5	ng/L	1000	0	125	50 - 150% PASS	1
Fluorene	Total	938.3	1	5	ng/L	1000	0	94	50 - 150% PASS	4
Indeno[1,2,3-c,d]pyrene	Total	1241.6	1	5	ng/L	1000	0	124	50 - 150% PASS	12
Naphthalene	Total	795	1	5	ng/L	1000	0	80	25 - 125% PASS	32
Perylene	Total	1225.8	1	5	ng/L	1000	0	123	50 - 150% PASS	13
Phenanthrene	Total	979.2	1	5	ng/L	1000	0	98	50 - 150% PASS	1
Pyrene	Total	1153.3	1	5	ng/L	1000	0	115	50 - 150% PASS	0

PHYSIS Project ID: 1307002-003

Client: AMEC

Project: RHMP B'13

SUBCONTRACT

REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS

CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

1307002-003 10 of 10

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8145	8/7/13	1000	Ammonia	Grab	250 mL Glass	H2SO4	
B13-8145	8/7/13	1000	Dissolved Metals and Hardness	Grab	250 mL HDPE	None	
B13-8145	8/7/13	1000	DOC	Grab	40 mL VOA	None	
B13-8145	8/7/13	1000	MTBE	Grab	40 mL VOA	HCl	
B13-8145	8/7/13	1000	Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	
B13-8145	8/7/13	1000	Oil and Grease	Grab	1 L Glass	H2SO4	
B13-8145	8/7/13	1000	PAHs	Grab	1 L Glass	None	
B13-8145	8/7/13	1000	TDS	Grab	1 L HDPE	None	
B13-8145	8/7/13	1000	TOC	Grab	40 mL VOA	H2SO4	
B13-8145	8/7/13	1000	Total Metals	Grab	1 L HDPE	None	

Comments: See attachment for detailed analytical list.

Sampler's Initials: JS

Relinquished By: [Signature]

Date/Time: 8/8/13 1357

Received By: [Signature]

Date/Time: 8/8/13 1400

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

1307002-003

Z of 10

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
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To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8146	8/7/13	1120	Ammonia	Grab	250 mL Glass	H2SO4	
B13-8146	8/7/13	1120	Dissolved Metals and Hardness	Grab	250 mL HDPE	None	
B13-8146	8/7/13	1120	DOC	Grab	40 mL VOA	None	
B13-8146	8/7/13	1120	MTBE	Grab	40 mL VOA	HCl	
B13-8146	8/7/13	1120	Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	
B13-8146	8/7/13	1120	Oil and Grease	Grab	1 L Glass	H2SO4	
B13-8146	8/7/13	1120	PAHs	Grab	1 L Glass	None	
B13-8146	8/7/13	1120	TDS	Grab	1 L HDPE	None	
B13-8146	8/7/13	1120	TOC	Grab	40 mL VOA	H2SO4	
B13-8146	8/7/13	1120	Total Metals	Grab	1 L HDPE	None	

Comments: See attachment for detailed analytical list.

 Sampler's Initials: JS

 Relinquished By: [Signature]

 Date/Time: 8/8/13 1357

 Received By: [Signature]

 Date/Time: 8/8/13 1400

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

1307002-003

3 of 10

Analysis Request and Chain of Custody

RHMP

Bight '13

From:

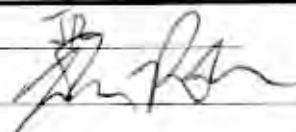
AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

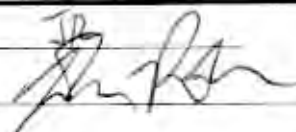
To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8151	8/7/13	1500	Ammonia	Grab	250 mL Glass	H2SO4	
B13-8151	8/7/13	1500	Dissolved Metals and Hardness	Grab	250 mL HDPE	None	
B13-8151	8/7/13	1500	DOC	Grab	40 mL VOA	None	
B13-8151	8/7/13	1500	MTBE	Grab	40 mL VOA	HCl	
B13-8151	8/7/13	1500	Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	
B13-8151	8/7/13	1500	Oil and Grease	Grab	1 L Glass	H2SO4	
B13-8151	8/7/13	1500	PAHs	Grab	1 L Glass	None	
B13-8151	8/7/13	1500	TDS	Grab	1 L HDPE	None	
B13-8151	8/7/13	1500	TOC	Grab	40 mL VOA	H2SO4	
B13-8151	8/7/13	1500	Total Metals	Grab	1 L HDPE	None	

Comments: See attachment for detailed analytical list.


Sampler's Initials: 

Relinquished By: 

Relinquished By: _____

Date/Time: 8/8/13 1357

Date/Time: _____

Received By: 

Received By: _____

Date/Time: 8/8/13 1400

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

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To:

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 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
* B13-8152	8/7/13	1340	Ammonia	Grab	250 mL Glass	H2SO4	
B13-8152	8/7/13	1340	Dissolved Metals and Hardness	Grab	250 mL HDPE	None	
B13-8152	8/7/13	1340	DOC	Grab	40 mL VOA	None	
B13-8152	8/7/13	1340	MTBE	Grab	40 mL VOA	HCl	
B13-8152	8/7/13	1340	Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	
B13-8152	8/7/13	1340	Oil and Grease	Grab	1 L Glass	H2SO4	
B13-8152	8/7/13	1340	PAHs	Grab	1 L Glass	None	
B13-8152	8/7/13	1340	TDS	Grab	1 L HDPE	None	
B13-8152	8/7/13	1340	TOC	Grab	40 mL VOA	H2SO4	
B13-8152	8/7/13	1340	Total Metals	Grab	1 L HDPE	None	

Comments: See attachment for detailed analytical list.

Sampler's Initials:

Relinquished By:

Date/Time:

8/8/13 1257

Received By:

Henderson

Date/Time:

8/8/13 1400

Relinquished By:

Date/Time:

Received By:

Date/Time:

Analysis Request and Chain of Custody**RHMP**

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To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8156	8/7/13	1640	Ammonia	Grab	250 mL Glass	H2SO4	
B13-8156	8/7/13	1640	Dissolved Metals and Hardness	Grab	250 mL HDPE	None	
B13-8156	8/7/13	1640	DOC	Grab	40 mL VOA	None	
B13-8156	8/7/13	1640	MTBE	Grab	40 mL VOA	HCl	
B13-8156	8/7/13	1640	Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	
B13-8156	8/7/13	1640	Oil and Grease	Grab	1 L Glass	H2SO4	
B13-8156	8/7/13	1640	PAHs	Grab	1 L Glass	None	
B13-8156	8/7/13	1640	TDS	Grab	1 L HDPE	None	
B13-8156	8/7/13	1640	TOC	Grab	40 mL VOA	H2SO4	
B13-8156	8/7/13	1640	Total Metals	Grab	1 L HDPE	None	

Comments: See attachment for detailed analytical list.

 Sampler's Initials: JS

 Relinquished By: [Signature]

 Date/Time: 8/8/13 1357

 Received By: [Signature]

 Date/Time: 8/8/13 1400

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

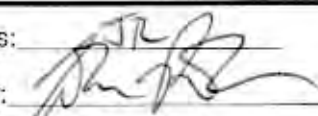
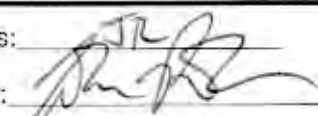
AMEC Environment & Infrastructure
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 9210 Sky Park Court, Suite 200
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Physis Environmental Laboratories, Inc.
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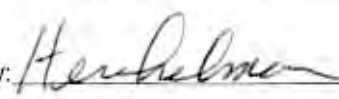
SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8157	8/8/13	0705	Ammonia	Grab	250 mL Glass	H2SO4	
B13-8157	8/8/13	0705	Dissolved Metals and Hardness	Grab	250 mL HDPE	None	
B13-8157	8/8/13	0705	DOC	Grab	40 mL VOA	None	
B13-8157	8/8/13	0705	MTBE	Grab	40 mL VOA	HCl	
B13-8157	8/8/13	0705	Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	
B13-8157	8/8/13	0705	Oil and Grease	Grab	1 L Glass	H2SO4	
B13-8157	8/8/13	0705	PAHs	Grab	1 L Glass	None	
B13-8157	8/8/13	0705	TDS	Grab	1 L HDPE	None	
B13-8157	8/8/13	0705	TOC	Grab	40 mL VOA	H2SO4	
B13-8157	8/8/13	0705	Total Metals	Grab	1 L HDPE	None	

Comments: See attachment for detailed analytical list.
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Sampler's Initials: Relinquished By: 

Date/Time:

8/8/13 1307

Received By: 

Date/Time:

8/8/13 1400

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

1307002-003 7 of 10

Analysis Request and Chain of Custody**RHMP**

Bight '13



From:

AMEC Environment & Infrastructure
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 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

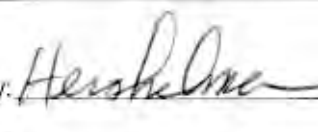
To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8159	8/8/13	1135	Ammonia	Grab	250 mL Glass	H2SO4	
B13-8159	8/8/13	1135	Dissolved Metals and Hardness	Grab	250 mL HDPE	None	
B13-8159	8/8/13	1135	DOC	Grab	40 mL VOA	None	
B13-8159	8/8/13	1135	MTBE	Grab	40 mL VOA	HCl	
B13-8159	8/8/13	1135	Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	
B13-8159	8/8/13	1135	Oil and Grease	Grab	1 L Glass	H2SO4	
B13-8159	8/8/13	1135	PAHs	Grab	1 L Glass	None	
B13-8159	8/8/13	1135	TDS	Grab	1 L HDPE	None	
B13-8159	8/8/13	1135	TOC	Grab	40 mL VOA	H2SO4	
B13-8159	8/8/13	1135	Total Metals	Grab	1 L HDPE	None	

Comments: See attachment for detailed analytical list.
Sampler's Initials: Relinquished By: 

Date/Time: 8/8/13 1307

Received By: 

Date/Time: 8/8/13 1400

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

1307002-003 8 of 10

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8160	8/8/13	0845	Ammonia	Grab	250 mL Glass	H2SO4	
B13-8160	8/8/13	0845	Dissolved Metals and Hardness	Grab	250 mL HDPE	None	
B13-8160	8/8/13	0845	DOC	Grab	40 mL VOA	None	
B13-8160	8/8/13	0845	MTBE	Grab	40 mL VOA	HCl	
B13-8160	8/8/13	0845	Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	
B13-8160	8/8/13	0845	Oil and Grease	Grab	1 L Glass	H2SO4	
B13-8160	8/8/13	0845	PAHs	Grab	1 L Glass	None	
B13-8160	8/8/13	0845	TDS	Grab	1 L HDPE	None	
B13-8160	8/8/13	0845	TOC	Grab	40 mL VOA	H2SO4	
B13-8160	8/8/13	0845	Total Metals	Grab	1 L HDPE	None	

Comments: See attachment for detailed analytical list.
Sampler's Initials: JSRelinquished By: [Signature]Date/Time: 8/8/13 1357Received By: [Signature]Date/Time: 8/8/13 1400

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

1307002-003 9 of 10

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
* B13-8163	8/8/13	1047	Ammonia	Grab	250 mL Glass	H2SO4	
B13-8163	8/8/13	1047	Dissolved Metals and Hardness	Grab	250 mL HDPE	None	
B13-8163	8/8/13	1047	DOC	Grab	40 mL VOA	None	
B13-8163	8/8/13	1047	MTBE	Grab	40 mL VOA	HCl	
B13-8163	8/8/13	1047	Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	
B13-8163	8/8/13	1047	Oil and Grease	Grab	1 L Glass	H2SO4	
B13-8163	8/8/13	1047	PAHs	Grab	1 L Glass	None	
B13-8163	8/8/13	1047	TDS	Grab	1 L HDPE	None	
B13-8163	8/8/13	1047	TOC	Grab	40 mL VOA	H2SO4	
B13-8163	8/8/13	1047	Total Metals	Grab	1 L HDPE	None	

Comments: See attachment for detailed analytical list.
--

Sampler's Initials: JSRelinquished By: [Signature]Date/Time: 8/8/13 1357Received By: [Signature]Date/Time: 8/8/13 1400

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Table 4-1.
Chemical Analyses of Water Samples

Analyte	Analysis Method	Water Target Reporting Limits ^a	Units
pH	Field Measures	--	--
Specific Conductance	Field Measures	--	µS/cm
Dissolved Oxygen	Field Measures	--	mg/L
Temperature	Field Measures	--	°C
Salinity	Field Measures	--	ppt
Transmissivity	Field Measures	--	%
Ammonia-N	SM 4500-NH3 D	0.05	mg/L
Methylene Blue-Activated Substances (MBAS)	SM 5540 C	0.025	mg/L
Nitrate-N	EPA 300.0/SM 4500-NO3 E	0.05	mg/L
Oil & Grease	EPA 1664A	1.0	mg/L
Dissolved Organic Carbon (DOC)	EPA 415.3	0.5	mg/L
Total Organic Carbon (TOC)	EPA 415.3	0.5	mg/L
Total Orthophosphate as P	SM 4500 P E	0.05	mg/L
Aluminum (Al)	EPA 1640	1.0	µg/L
Antimony (Sb)	EPA 1640	0.015	µg/L
Arsenic (As)	EPA 1640	0.015	µg/L
Barium (Ba)	EPA 200.8	0.5	µg/L
Beryllium (Be)	EPA 1640	0.01	µg/L
Cadmium (Cd)	EPA 1640	0.005	µg/L
Chromium (Cr)	EPA 1640	0.025	µg/L
Cobalt (Co)	EPA 1640	0.01	µg/L
Copper (Cu)	EPA 1640	0.01	µg/L
Iron (Fe)	EPA 1640	1.0	µg/L
Lead (Pb)	EPA 1640	0.005	µg/L
Manganese (Mn)	EPA 1640	0.02	µg/L
Mercury (Hg)	EPA 245.7	0.02	µg/L
Molybdenum (Mo)	EPA 1640	0.01	µg/L
Nickel (Ni)	EPA 1640	0.005	µg/L
Selenium (Se)	EPA 1640	0.015	µg/L
Silver (Ag)	EPA 1640	0.02	µg/L
Thallium (Tl)	EPA 1640	0.01	µg/L
Tin (Sn)	EPA 1640	0.01	µg/L
Titanium (Ti)	EPA 1640	0.07	µg/L
Vanadium (V)	EPA 1640	0.04	µg/L
Zinc (Zn)	EPA 1640	0.005	µg/L
Polycyclic Aromatic Hydrocarbons (PAHs) ^b	EPA 625	5.0	ng/L
Methyl-t-butyl Ether (MTBE)	EPA 8260B	1.0	µg/L

Notes: Metals analysis will consist of both total and dissolved fractions. Filtering for the dissolved fraction will occur in the field immediately after collection.

^a Reporting limits provided by Physis Environmental Laboratories.

^b Includes acenaphthene, acenaphthylene, anthracene, benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[e]pyrene, benzo[g,h,i]perylene, benzo[k]fluoranthene, biphenyl, chrysene, dibenz[a,h]anthracene, di benzo[thiophene, fluoranthene, fluorene, indeno[1,2,3-c,d]pyrene, naphthalene, perylene, phenanthrene, pyrene, 2,6-dimethylnaphthalene, 1-methylnaphthalene, 2-methylnaphthalene, 1-methylphenanthrene, 2,3,5-trimethylnaphthalene, and 1,6,7-trimethylnaphthalene.

µg/L - micrograms per liter (parts per billion) mg/L - milligrams per liter

µS/cm - microSiemens per centimeter ppt - parts per thousand °C - degrees Celsius

SAMPLE RECEIPT SUMMARY

CLIENT: AMEC Date Received: 8/8/13 Received By: RGH Inspected By: RGH

COURIER

☒ PHYSIS ☐ CLIENT ☐ FEDEX ☐ UPS
start end ☐ OTHER:

COOLER

☒ COOLER ☐ BOX total #
☐ OTHER: 4

TEMPERATURE

6.0 °C ☒ WET ICE ☐ BLUE ICE
☐ DRY ICE ☐ NONE

SAMPLE INTEGRITY UPON RECEIPT

1. COC(s) included and completely filled out..... **YES**
2. All sample containers arrived intact..... **YES**
3. All samples listed on COC(s) are present..... **YES**
4. Information on containers consistent with information on COC(s)..... **YES**
5. Correct containers and volume for all analyses indicated..... **YES**
6. All samples received within method holding time..... **YES**
7. Correct preservation used for all analyses indicated..... **YES**

NOTES



November 08, 2013

Chris Stransky
AMEC
9210 Sky Park Court
Suite 200
San Diego, CA 92123-

Project Name: RHMP B'13
Physis Project ID: 1307002-005

Dear Chris,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 8/12/2013. A total of 12 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventionals
Total Orthophosphate as P by SM 4500-P E
Oil & Grease by EPA 1664A
Nitrate as N by SM 4500-NO ₃ E
MBAS by SM 5540-C
Ammonia as N by SM 4500-NH ₃ D
Elements
Total and Dissolved Barium by EPA 200.8
Total & Dissolved Trace Metals by EPA 1640
Total & Dissolved Mercury by EPA 245.7
Organics
Polynuclear Aromatic Hydrocarbons by EPA 625
Subcontract
Total Organic Carbon by SM 5310 B
Methyl Tertiary Butyl Ether (MTBE) by EPA 624
Dissolved Organic Carbon by SM 5310 B

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,



Misty Mercier
Extension 202
714-335-5918 cell
mistymercier@physislabs.com

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and are used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use was assessed through the analysis of procedural blanks at a minimum frequency of one per batch. Physis' QM requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the procedural blanks be flagged in the project sample results with a B qualifier.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS₁/MS₂, BS₁/BS₂, LCS₁/LCS₂, LCM₁/LCM₂, CRM₁/CRM₂, surrogate spikes and/or replicate project sample analysis (R₁/R₂) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

MATRIX SPIKES: MS samples were employed to assess the effect a particular project sample matrix has on the accuracy of a measurement. It is prepared by adding a known amount of the target analyte(s) to an aliquot of the project sample. Matrix spikes indicate the bias of analytical measurements due to chemical interferences inherent in the sample matrix. If the matrix spike recovery does not fall within the specified acceptance limits, it may be an indication of sample matrix interference in the specific project sample used for the MS. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

BLANK SPIKES: BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

CERTIFIED REFERENCE MATERIALS: CRMs are pre-homogenized materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of a preparation and analytical method. CRMs are analyzed to provide evidence that the laboratory method produces results that are comparable to those obtained by an independent organization.

SURROGATES: Where CRMs are unavailable, target analyte recovery can be assessed by monitoring added surrogate compounds/elements. A surrogate is a pure analyte unlikely to be found in any project sample and most often used with organic analytical procedures. Percent recovery is calculated for each surrogate and is used to monitor method performance within each discrete sample and is indicative of the procedure's ability to recover the actual analytes of interest.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored

under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes. Physis' QM requires that all samples analyzed beyond the method recommended holding time be flagged in the sample results with an H qualifier.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
*	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified recovery and/or RPD acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore MS recovery and/or RPD acceptance limits do not apply
SL	analyte results for R1 and/or R2 were lower than 10 times the MDL, therefore RPD acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore MS recovery and/or RPD were outside the specified acceptance limits
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

ANALYTICAL REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature



1904 E. Wright Circle, Anaheim CA 92806

main: (714) 602-5320

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www.physislabs.com

info@physislabs.com

CA ELAP #2769

Conventionals

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22064-R1 B13-8020 Grab Matrix: Seawater Sampled: 11-Aug-13 11:05 Received: 12-Aug-13 Method: SM 4500-P E Batch ID: C-13082 Prepared: 13-Aug-13 Analyzed: 13-Aug-13						
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
Method: SM 5540-C Batch ID: C-13084 Prepared: 13-Aug-13 Analyzed: 13-Aug-13						
MBAS	NA	0.019	0.005	0.025	mg/L	J
Method: SM 4500-NO ₃ E Batch ID: C-14047 Prepared: 13-Aug-13 Analyzed: 05-Sep-13						
Nitrate as N	NA	ND	0.01	0.05	mg/L	
Method: SM 4500-NH ₃ D Batch ID: C-14050 Prepared: 06-Sep-13 Analyzed: 06-Sep-13						
Ammonia as N	NA	0.16	0.02	0.05	mg/L	
Method: EPA 1664A Batch ID: C-14055 Prepared: 06-Sep-13 Analyzed: 06-Sep-13						
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22065-R1 B13-8017 Grab Matrix: Seawater Sampled: 11-Aug-13 14:30 Received: 12-Aug-13 Method: SM 4500-P E Batch ID: C-13082 Prepared: 13-Aug-13 Analyzed: 13-Aug-13						
Total Orthophosphate as P	NA	0.04	0.01	0.02	mg/L	
Method: SM 5540-C Batch ID: C-13084 Prepared: 13-Aug-13 Analyzed: 13-Aug-13						
MBAS	NA	0.007	0.005	0.025	mg/L	J
Method: SM 4500-NO ₃ E Batch ID: C-14047 Prepared: 13-Aug-13 Analyzed: 05-Sep-13						
Nitrate as N	NA	ND	0.01	0.05	mg/L	
Method: SM 4500-NH ₃ D Batch ID: C-14050 Prepared: 06-Sep-13 Analyzed: 06-Sep-13						
Ammonia as N	NA	0.08	0.02	0.05	mg/L	
Method: EPA 1664A Batch ID: C-14055 Prepared: 06-Sep-13 Analyzed: 06-Sep-13						
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22066-R1 B13-FB Grab Matrix: Seawater Sampled: 11-Aug-13 17:00 Received: 12-Aug-13 Method: SM 4500-P E Batch ID: C-13082 Prepared: 13-Aug-13 Analyzed: 13-Aug-13						
Total Orthophosphate as P	NA	ND	0.01	0.02	mg/L	
Method: SM 5540-C Batch ID: C-13084 Prepared: 13-Aug-13 Analyzed: 13-Aug-13						
MBAS	NA	ND	0.005	0.025	mg/L	
Method: SM 4500-NO ₃ E Batch ID: C-14047 Prepared: 13-Aug-13 Analyzed: 05-Sep-13						
Nitrate as N	NA	ND	0.01	0.05	mg/L	
Method: SM 4500-NH ₃ D Batch ID: C-14050 Prepared: 06-Sep-13 Analyzed: 06-Sep-13						



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CA ELAP #2769

Conventionals

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14055		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22067-R1	B13-NBEB Grab	Matrix: Seawater	Sampled: 11-Aug-13	17:00	Received: 12-Aug-13	
	Method: SM 4500-P E	Batch ID: C-13082	Prepared: 13-Aug-13		Analyzed: 13-Aug-13	
Total Orthophosphate as P	NA	ND	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13084	Prepared: 13-Aug-13		Analyzed: 13-Aug-13	
MBAS	NA	ND	0.005	0.025	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14047	Prepared: 13-Aug-13		Analyzed: 05-Sep-13	
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14050	Prepared: 06-Sep-13		Analyzed: 06-Sep-13	
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14055	Prepared: 06-Sep-13		Analyzed: 06-Sep-13	
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22068-R1	B13-8064 Grab	Matrix: Seawater	Sampled: 12-Aug-13	9:00	Received: 12-Aug-13	
	Method: SM 4500-P E	Batch ID: C-13082	Prepared: 13-Aug-13		Analyzed: 13-Aug-13	
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13084	Prepared: 13-Aug-13		Analyzed: 13-Aug-13	
MBAS	NA	0.007	0.005	0.025	mg/L	J
	Method: SM 4500-NO ₃ E	Batch ID: C-14047	Prepared: 13-Aug-13		Analyzed: 05-Sep-13	
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14050	Prepared: 06-Sep-13		Analyzed: 06-Sep-13	
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14055	Prepared: 06-Sep-13		Analyzed: 06-Sep-13	
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22069-R1	B13-8050 Grab	Matrix: Seawater	Sampled: 12-Aug-13	14:50	Received: 12-Aug-13	
	Method: SM 4500-P E	Batch ID: C-13082	Prepared: 13-Aug-13		Analyzed: 13-Aug-13	
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13084	Prepared: 13-Aug-13		Analyzed: 13-Aug-13	
MBAS	NA	0.029	0.005	0.025	mg/L	



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CA ELAP #2769

Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Nitrate as N	Method: SM 4500-NO ₃ E	Batch ID: C-14047		Prepared: 13-Aug-13		Analyzed: 05-Sep-13
	NA	ND	0.01	0.05	mg/L	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14050		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
	NA	0.1	0.02	0.05	mg/L	
Oil & Grease	Method: EPA 1664A	Batch ID: C-14055		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
	NA	ND	1	1	mg/L	
Sample ID: 22070-R1 B13-8029 Grab Matrix: Seawater Sampled: 11-Aug-13 8:05 Received: 12-Aug-13						
Total Orthophosphate as P	Method: SM 4500-P E	Batch ID: C-13082		Prepared: 13-Aug-13		Analyzed: 13-Aug-13
	NA	0.03	0.01	0.02	mg/L	
MBAS	Method: SM 5540-C	Batch ID: C-13084		Prepared: 13-Aug-13		Analyzed: 13-Aug-13
	NA	0.011	0.005	0.025	mg/L	J
Nitrate as N	Method: SM 4500-NO ₃ E	Batch ID: C-14047		Prepared: 13-Aug-13		Analyzed: 05-Sep-13
	NA	0.02	0.01	0.05	mg/L	J
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14050		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
	NA	0.04	0.02	0.05	mg/L	J
Oil & Grease	Method: EPA 1664A	Batch ID: C-14055		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
	NA	ND	1	1	mg/L	
Sample ID: 22071-R1 B13-8069 Grab Matrix: Seawater Sampled: 12-Aug-13 12:15 Received: 12-Aug-13						
Total Orthophosphate as P	Method: SM 4500-P E	Batch ID: C-13082		Prepared: 13-Aug-13		Analyzed: 13-Aug-13
	NA	0.03	0.01	0.02	mg/L	
MBAS	Method: SM 5540-C	Batch ID: C-13084		Prepared: 13-Aug-13		Analyzed: 13-Aug-13
	NA	0.016	0.005	0.025	mg/L	J
Nitrate as N	Method: SM 4500-NO ₃ E	Batch ID: C-14047		Prepared: 13-Aug-13		Analyzed: 05-Sep-13
	NA	0.01	0.01	0.05	mg/L	J
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14050		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
	NA	ND	0.02	0.05	mg/L	
Oil & Grease	Method: EPA 1664A	Batch ID: C-14055		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
	NA	ND	1	1	mg/L	
Sample ID: 22072-R1 B13-8056 Grab Matrix: Seawater Sampled: 12-Aug-13 13:50 Received: 12-Aug-13						
	Method: SM 4500-P E	Batch ID: C-13082		Prepared: 13-Aug-13		Analyzed: 13-Aug-13



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Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13084		Prepared: 13-Aug-13		Analyzed: 13-Aug-13
MBAS	NA	ND	0.005	0.025	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14047		Prepared: 13-Aug-13		Analyzed: 05-Sep-13
Nitrate as N	NA	0.01	0.01	0.05	mg/L	J
	Method: SM 4500-NH ₃ D	Batch ID: C-14050		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14055		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22073-R1 B13-8049 Grab Matrix: Seawater Sampled: 12-Aug-13 15:55 Received: 12-Aug-13						
	Method: SM 4500-P E	Batch ID: C-13082		Prepared: 13-Aug-13		Analyzed: 13-Aug-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13084		Prepared: 13-Aug-13		Analyzed: 13-Aug-13
MBAS	NA	0.015	0.005	0.025	mg/L	J
	Method: SM 4500-NO ₃ E	Batch ID: C-14047		Prepared: 13-Aug-13		Analyzed: 05-Sep-13
Nitrate as N	NA	0.02	0.01	0.05	mg/L	J
	Method: SM 4500-NH ₃ D	Batch ID: C-14050		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Ammonia as N	NA	0.03	0.02	0.05	mg/L	J
	Method: EPA 1664A	Batch ID: C-14055		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22074-R1 B13-8066 Grab Matrix: Seawater Sampled: 12-Aug-13 10:20 Received: 12-Aug-13						
	Method: SM 4500-P E	Batch ID: C-13082		Prepared: 13-Aug-13		Analyzed: 13-Aug-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13084		Prepared: 13-Aug-13		Analyzed: 13-Aug-13
MBAS	NA	ND	0.005	0.025	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14047		Prepared: 13-Aug-13		Analyzed: 05-Sep-13
Nitrate as N	NA	0.02	0.01	0.05	mg/L	J
	Method: SM 4500-NH ₃ D	Batch ID: C-14050		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Ammonia as N	NA	0.04	0.02	0.05	mg/L	J
	Method: EPA 1664A	Batch ID: C-14055		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	



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Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22075-R1	B13-8065 Grab	Matrix: Seawater		Sampled: 12-Aug-13 7:20		Received: 12-Aug-13
	Method: SM 4500-P E	Batch ID: C-13082		Prepared: 13-Aug-13		Analyzed: 13-Aug-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13084		Prepared: 13-Aug-13		Analyzed: 13-Aug-13
MBAS	NA	ND	0.005	0.025	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14047		Prepared: 13-Aug-13		Analyzed: 05-Sep-13
Nitrate as N	NA	0.02	0.01	0.05	mg/L	J
	Method: SM 4500-NH ₃ D	Batch ID: C-14050		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14055		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22064-R1</div> <div>B13-8020 Grab Method: EPA 1640</div> <div>Matrix: Seawater Batch ID: E-5135</div> <div>Sampled: 11-Aug-13 11:05 Prepared: 11-Sep-13</div> <div>Received: 12-Aug-13 Analyzed: 17-Sep-13</div> </div>						
Aluminum (Al)	Total	386.3	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.14	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.18	0.01	0.015	µg/L	
Arsenic (As)	Total	1.325	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.135	0.005	0.015	µg/L	
Beryllium (Be)	Total	0.009	0.005	0.01	µg/L	J
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0708	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0688	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.7637	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1078	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.169	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.081	0.005	0.01	µg/L	
Copper (Cu)	Total	3.652	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.863	0.005	0.01	µg/L	
Iron (Fe)	Total	160.9	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.3315	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0395	0.0025	0.005	µg/L	
Manganese (Mn)	Total	12.22	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	7.75	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	8.703	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.916	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.8034	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.6418	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.03	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.034	0.005	0.015	µg/L	
Silver (Ag)	Total	0.07	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.04	0.01	0.02	µg/L	

PHYSIS Project ID: 1307002-005

Client: AMEC

Project: RHMP B'13



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Thallium (Tl)	Total	0.008	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	0.007	0.005	0.01	µg/L	J
Tin (Sn)	Total	0.051	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.034	0.005	0.01	µg/L	
Titanium (Ti)	Total	35.273	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	13.984	0.035	0.07	µg/L	
Vanadium (V)	Total	3.89	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	3.08	0.02	0.04	µg/L	
Zinc (Zn)	Total	4.5279	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	2.8749	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-5135

Prepared: 11-Sep-13

Analyzed: 11-Sep-13

Barium (Ba)	Total	9.02	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	8.78	0.25	0.5	µg/L	

Method: EPA 245.7

Batch ID: E-6020

Prepared: 24-Sep-13

Analyzed: 24-Sep-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Sample ID: 22065-R1

B13-8017 Grab

Matrix: Seawater

Sampled: 11-Aug-13 14:30

Received: 12-Aug-13

Method: EPA 1640

Batch ID: E-5135

Prepared: 11-Sep-13

Analyzed: 17-Sep-13

Aluminum (Al)	Total	322.1	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.16	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.17	0.01	0.015	µg/L	
Arsenic (As)	Total	1.356	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.223	0.005	0.015	µg/L	
Beryllium (Be)	Total	0.009	0.005	0.01	µg/L	J
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0755	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0758	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.6143	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1551	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.154	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.08	0.005	0.01	µg/L	

PHYSIS Project ID: 1307002-005

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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Copper (Cu)	Total	3.499	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.88	0.005	0.01	µg/L	
Iron (Fe)	Total	160.9	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.2748	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0213	0.0025	0.005	µg/L	
Manganese (Mn)	Total	13.3	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	10.55	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	8.923	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	10.119	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.799	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.6249	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.038	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.032	0.005	0.015	µg/L	
Silver (Ag)	Total	0.06	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.05	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.006	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	0.006	0.005	0.01	µg/L	J
Tin (Sn)	Total	0.057	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	26.188	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	14.309	0.035	0.07	µg/L	
Vanadium (V)	Total	3.73	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	3.21	0.02	0.04	µg/L	
Zinc (Zn)	Total	4.7995	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	3.3856	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-5135		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
Barium (Ba)	Total	10.77	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	10.48	0.25	0.5	µg/L	
Method: EPA 245.7		Batch ID: E-6020		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22066-R1</div> <div>B13-FB Grab</div> <div>Method: EPA 1640</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: E-5135</div> </div> <div> <div>Sampled: 11-Aug-13 17:00</div> <div>Prepared: 11-Sep-13</div> </div> <div> <div>Received: 12-Aug-13</div> <div>Analyzed: 17-Sep-13</div> </div>						
Aluminum (Al)	Total	ND	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	ND	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	ND	0.01	0.015	µg/L	
Arsenic (As)	Total	ND	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	ND	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	ND	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	ND	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.0934	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	ND	0.0125	0.025	µg/L	
Cobalt (Co)	Total	ND	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	ND	0.005	0.01	µg/L	
Copper (Cu)	Total	ND	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	ND	0.005	0.01	µg/L	
Iron (Fe)	Total	ND	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	ND	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	ND	0.0025	0.005	µg/L	
Manganese (Mn)	Total	ND	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	ND	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	0.01	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	0.01	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.0216	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	ND	0.0025	0.005	µg/L	
Selenium (Se)	Total	ND	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	ND	0.005	0.015	µg/L	
Silver (Ag)	Total	0.03	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.03	0.01	0.02	µg/L	

PHYSIS Project ID: 1307002-005

Client: AMEC

Project: RHMP B'13



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	ND	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	ND	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	ND	0.035	0.07	µg/L	
Vanadium (V)	Total	ND	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	ND	0.02	0.04	µg/L	
Zinc (Zn)	Total	ND	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	ND	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-5135

Prepared: 11-Sep-13

Analyzed: 11-Sep-13

Barium (Ba)	Total	ND	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	ND	0.25	0.5	µg/L	

Method: EPA 245.7

Batch ID: E-6020

Prepared: 24-Sep-13

Analyzed: 24-Sep-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Sample ID: 22067-R1

B13-NBEB Grab

Matrix: Seawater

Sampled: 11-Aug-13

17:00

Received: 12-Aug-13

Method: EPA 1640

Batch ID: E-5135

Prepared: 11-Sep-13

Analyzed: 17-Sep-13

Aluminum (Al)	Total	ND	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	ND	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	ND	0.01	0.015	µg/L	
Arsenic (As)	Total	0.005	0.005	0.015	µg/L	J
Arsenic (As)	Dissolved	ND	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	ND	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	ND	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.0162	0.0125	0.025	µg/L	J
Chromium (Cr)	Dissolved	ND	0.0125	0.025	µg/L	
Cobalt (Co)	Total	ND	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	ND	0.005	0.01	µg/L	

PHYSIS Project ID: 1307002-005

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Project: RHMP B'13



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Copper (Cu)	Total	ND	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	ND	0.005	0.01	µg/L	
Iron (Fe)	Total	ND	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.0032	0.0025	0.005	µg/L	J
Lead (Pb)	Dissolved	0.0028	0.0025	0.005	µg/L	J
Manganese (Mn)	Total	0.01	0.01	0.02	µg/L	J
Manganese (Mn)	Dissolved	0.03	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	0.007	0.005	0.01	µg/L	J
Molybdenum (Mo)	Dissolved	0.006	0.005	0.01	µg/L	J
Nickel (Ni)	Total	0.0237	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	ND	0.0025	0.005	µg/L	
Selenium (Se)	Total	ND	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	ND	0.005	0.015	µg/L	
Silver (Ag)	Total	0.03	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.02	0.01	0.02	µg/L	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.04	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.031	0.005	0.01	µg/L	
Titanium (Ti)	Total	ND	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	ND	0.035	0.07	µg/L	
Vanadium (V)	Total	ND	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	ND	0.02	0.04	µg/L	
Zinc (Zn)	Total	0.0763	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	ND	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-5135		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
Barium (Ba)	Total	ND	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	ND	0.25	0.5	µg/L	
Method: EPA 245.7		Batch ID: E-6020		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22068-R1</div> <div>B13-8064 Grab</div> <div>Method: EPA 1640</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: E-5135</div> </div> <div> <div>Sampled: 12-Aug-13 9:00</div> <div>Prepared: 11-Sep-13</div> </div> <div> <div>Received: 12-Aug-13</div> <div>Analyzed: 17-Sep-13</div> </div>						
Aluminum (Al)	Total	39.3	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.16	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.15	0.01	0.015	µg/L	
Arsenic (As)	Total	1.274	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.227	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0686	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0662	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.3309	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1056	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.059	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.051	0.005	0.01	µg/L	
Copper (Cu)	Total	3.717	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	3.338	0.005	0.01	µg/L	
Iron (Fe)	Total	18.1	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1445	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0434	0.0025	0.005	µg/L	
Manganese (Mn)	Total	10.08	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	7.51	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	10.199	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.969	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.7671	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.6189	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.022	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.019	0.005	0.015	µg/L	
Silver (Ag)	Total	0.06	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.05	0.01	0.02	µg/L	

PHYSIS Project ID: 1307002-005

Client: AMEC

Project: RHMP B'13



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Thallium (Tl)	Total	0.006	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	0.005	0.005	0.01	µg/L	J
Tin (Sn)	Total	0.014	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.019	0.005	0.01	µg/L	
Titanium (Ti)	Total	12.576	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	14.405	0.035	0.07	µg/L	
Vanadium (V)	Total	2.9	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.8	0.02	0.04	µg/L	
Zinc (Zn)	Total	4.8596	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	4.2759	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-5135

Prepared: 11-Sep-13

Analyzed: 11-Sep-13

Barium (Ba)	Total	8.6	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	8.63	0.25	0.5	µg/L	

Method: EPA 245.7

Batch ID: E-6020

Prepared: 24-Sep-13

Analyzed: 24-Sep-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Sample ID: 22069-R1

B13-8050 Grab

Matrix: Seawater

Sampled: 12-Aug-13 14:50

Received: 12-Aug-13

Method: EPA 1640

Batch ID: E-5135

Prepared: 11-Sep-13

Analyzed: 17-Sep-13

Aluminum (Al)	Total	102.5	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.16	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.15	0.01	0.015	µg/L	
Arsenic (As)	Total	1.257	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.423	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.068	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0609	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.345	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1477	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.097	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.071	0.005	0.01	µg/L	

PHYSIS Project ID: 1307002-005

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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Copper (Cu)	Total	3.439	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.951	0.005	0.01	µg/L	
Iron (Fe)	Total	42.1	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1867	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0358	0.0025	0.005	µg/L	
Manganese (Mn)	Total	11.11	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	8.18	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.896	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.948	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.6796	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.5907	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.027	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.021	0.005	0.015	µg/L	
Silver (Ag)	Total	0.07	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.06	0.01	0.02	µg/L	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.023	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	18	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	13.034	0.035	0.07	µg/L	
Vanadium (V)	Total	3.13	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.98	0.02	0.04	µg/L	
Zinc (Zn)	Total	3.5808	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	2.4195	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-5135		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
Barium (Ba)	Total	9.17	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	9.37	0.25	0.5	µg/L	
Method: EPA 245.7		Batch ID: E-6020		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22070-R1</div> <div>B13-8029 Grab</div> <div>Method: EPA 1640</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: E-5135</div> </div> <div> <div>Sampled: 11-Aug-13</div> <div>Prepared: 11-Sep-13</div> </div> <div> <div>8:05</div> </div> <div> <div>Received: 12-Aug-13</div> <div>Analyzed: 17-Sep-13</div> </div>						
Aluminum (Al)	Total	145.2	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.17	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.15	0.01	0.015	µg/L	
Arsenic (As)	Total	1.213	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.216	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0813	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.082	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.361	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.0885	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.125	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.092	0.005	0.01	µg/L	
Copper (Cu)	Total	3.103	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.739	0.005	0.01	µg/L	
Iron (Fe)	Total	69.3	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1765	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0253	0.0025	0.005	µg/L	
Manganese (Mn)	Total	14.29	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	12.49	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.368	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	10.585	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.6954	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.6523	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.031	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.026	0.005	0.015	µg/L	
Silver (Ag)	Total	0.06	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.05	0.01	0.02	µg/L	

PHYSIS Project ID: 1307002-005

Client: AMEC

Project: RHMP B'13



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Thallium (Tl)	Total	0.005	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.026	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.01	0.005	0.01	µg/L	
Titanium (Ti)	Total	16.958	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	11.063	0.035	0.07	µg/L	
Vanadium (V)	Total	3.44	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	3.17	0.02	0.04	µg/L	
Zinc (Zn)	Total	3.1322	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	3.2607	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-5135

Prepared: 11-Sep-13

Analyzed: 11-Sep-13

Barium (Ba)	Total	10.64	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	11.19	0.25	0.5	µg/L	

Method: EPA 245.7

Batch ID: E-6020

Prepared: 24-Sep-13

Analyzed: 24-Sep-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Sample ID: 22071-R1

B13-8069 Grab

Matrix: Seawater

Sampled: 12-Aug-13

12:15

Received: 12-Aug-13

Method: EPA 1640

Batch ID: E-5135

Prepared: 11-Sep-13

Analyzed: 17-Sep-13

Aluminum (Al)	Total	75.3	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.12	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.15	0.01	0.015	µg/L	
Arsenic (As)	Total	1.239	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.339	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.066	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.066	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2957	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.114	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.067	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.047	0.005	0.01	µg/L	

PHYSIS Project ID: 1307002-005

Client: AMEC

Project: RHMP B'13



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Copper (Cu)	Total	3.734	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	3.212	0.005	0.01	µg/L	
Iron (Fe)	Total	33.6	0.5	1	µg/L	
Iron (Fe)	Dissolved	0.7	0.5	1	µg/L	J
Lead (Pb)	Total	0.2075	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0545	0.0025	0.005	µg/L	
Manganese (Mn)	Total	9.33	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	6.06	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.109	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	10.004	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.6255	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.5843	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.021	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.016	0.005	0.015	µg/L	
Silver (Ag)	Total	0.06	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.05	0.01	0.02	µg/L	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.023	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.03	0.005	0.01	µg/L	
Titanium (Ti)	Total	16.81	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	14.051	0.035	0.07	µg/L	
Vanadium (V)	Total	2.88	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.71	0.02	0.04	µg/L	
Zinc (Zn)	Total	4.6655	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	3.9068	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-5135		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
Barium (Ba)	Total	8.96	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	8.54	0.25	0.5	µg/L	
Method: EPA 245.7		Batch ID: E-6020		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22072-R1</div> <div>B13-8056 Grab</div> <div>Method: EPA 1640</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: E-5135</div> </div> <div> <div>Sampled: 12-Aug-13 13:50</div> <div>Prepared: 11-Sep-13</div> </div> <div> <div>Received: 12-Aug-13</div> <div>Analyzed: 17-Sep-13</div> </div>						
Aluminum (Al)	Total	106.4	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.13	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.14	0.01	0.015	µg/L	
Arsenic (As)	Total	1.389	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.107	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0624	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0691	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.3316	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.111	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.092	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.064	0.005	0.01	µg/L	
Copper (Cu)	Total	3.253	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	3.012	0.005	0.01	µg/L	
Iron (Fe)	Total	40.8	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1957	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0376	0.0025	0.005	µg/L	
Manganese (Mn)	Total	10.85	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	7.94	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	8.725	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.689	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.6104	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.5664	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.021	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.017	0.005	0.015	µg/L	
Silver (Ag)	Total	0.06	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.05	0.01	0.02	µg/L	

PHYSIS Project ID: 1307002-005

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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.025	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.008	0.005	0.01	µg/L	J
Titanium (Ti)	Total	17.581	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	13.111	0.035	0.07	µg/L	
Vanadium (V)	Total	3.07	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.9	0.02	0.04	µg/L	
Zinc (Zn)	Total	3.7151	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	3.9833	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-5135		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
Barium (Ba)	Total	10.73	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	9.22	0.25	0.5	µg/L	
Method: EPA 245.7		Batch ID: E-6020		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Sample ID: 22073-R1

B13-8049 Grab

Matrix: Seawater

Sampled: 12-Aug-13 15:55

Received: 12-Aug-13

Method: EPA 1640

Batch ID: E-5135

Prepared: 11-Sep-13

Analyzed: 17-Sep-13

Aluminum (Al)	Total	89.8	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.14	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.15	0.01	0.015	µg/L	
Arsenic (As)	Total	1.16	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.282	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0727	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0679	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.3245	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1512	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.086	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.071	0.005	0.01	µg/L	

PHYSIS Project ID: 1307002-005

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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Copper (Cu)	Total	3.37	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	3.068	0.005	0.01	µg/L	
Iron (Fe)	Total	30.4	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1551	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0349	0.0025	0.005	µg/L	
Manganese (Mn)	Total	10.79	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	8.22	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.971	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	10.23	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.6832	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.5895	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.018	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.022	0.005	0.015	µg/L	
Silver (Ag)	Total	0.06	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.05	0.01	0.02	µg/L	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.027	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.011	0.005	0.01	µg/L	
Titanium (Ti)	Total	16.58	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	12.932	0.035	0.07	µg/L	
Vanadium (V)	Total	3.09	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.9	0.02	0.04	µg/L	
Zinc (Zn)	Total	3.4407	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	3.145	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-5135		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
Barium (Ba)	Total	9.76	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	10.59	0.25	0.5	µg/L	
Method: EPA 245.7		Batch ID: E-6020		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22074-R1</div> <div>B13-8066 Grab</div> <div>Method: EPA 1640</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: E-5136</div> </div> <div> <div>Sampled: 12-Aug-13 10:20</div> <div>Prepared: 11-Sep-13</div> </div> <div> <div>Received: 12-Aug-13</div> <div>Analyzed: 17-Sep-13</div> </div>						
Aluminum (Al)	Total	56.2	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.13	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.17	0.01	0.015	µg/L	
Arsenic (As)	Total	1.221	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.251	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0669	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0761	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2402	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1051	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.063	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.06	0.005	0.01	µg/L	
Copper (Cu)	Total	4.011	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	3.416	0.005	0.01	µg/L	
Iron (Fe)	Total	24.5	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1532	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0771	0.0025	0.005	µg/L	
Manganese (Mn)	Total	9.82	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	7.68	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.799	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.786	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.7078	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.5997	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.024	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.018	0.005	0.015	µg/L	
Silver (Ag)	Total	0.06	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.06	0.01	0.02	µg/L	

PHYSIS Project ID: 1307002-005

Client: AMEC

Project: RHMP B'13



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	0.007	0.005	0.01	µg/L	
Tin (Sn)	Total	0.013	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.013	0.005	0.01	µg/L	
Titanium (Ti)	Total	15.151	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	12.136	0.035	0.07	µg/L	
Vanadium (V)	Total	2.79	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.79	0.02	0.04	µg/L	
Zinc (Zn)	Total	3.9739	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	2.7553	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-5136		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
Barium (Ba)	Total	9.02	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	8.86	0.25	0.5	µg/L	
Method: EPA 245.7		Batch ID: E-6020		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Sample ID: 22075-R1

B13-8065 Grab

Matrix: Seawater

Sampled: 12-Aug-13 7:20

Received: 12-Aug-13

Method: EPA 1640

Batch ID: E-5136

Prepared: 11-Sep-13

Analyzed: 17-Sep-13

Aluminum (Al)	Total	31.9	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.17	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.17	0.01	0.015	µg/L	
Arsenic (As)	Total	1.189	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.197	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0686	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0726	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.1942	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.0932	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.049	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.052	0.005	0.01	µg/L	

PHYSIS Project ID: 1307002-005

Client: AMEC

Project: RHMP B'13



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Copper (Cu)	Total	4.273	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	4	0.005	0.01	µg/L	
Iron (Fe)	Total	16	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1414	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0488	0.0025	0.005	µg/L	
Manganese (Mn)	Total	9.84	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	8.03	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	10.101	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	10.228	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.6463	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.6387	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.021	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.013	0.005	0.015	µg/L	J
Silver (Ag)	Total	0.06	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.05	0.01	0.02	µg/L	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.019	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.009	0.005	0.01	µg/L	J
Titanium (Ti)	Total	11.571	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	12.816	0.035	0.07	µg/L	
Vanadium (V)	Total	2.7	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.61	0.02	0.04	µg/L	
Zinc (Zn)	Total	18.5663	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	18.5741	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-5136		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
Barium (Ba)	Total	9.76	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	7.95	0.25	0.5	µg/L	
Method: EPA 245.7		Batch ID: E-6020		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22064-R1</div> <div>B13-8020 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: O-4144</div> </div> <div> <div>Sampled: 11-Aug-13 11:05</div> <div>Prepared: 16-Aug-13</div> </div> <div> <div>Received: 12-Aug-13</div> <div>Analyzed: 06-Sep-13</div> </div>						
(d10-Acenaphthene)	Total	78			% Recovery	
(d10-Phenanthrene)	Total	101			% Recovery	
(d12-Chrysene)	Total	107			% Recovery	
(d8-Naphthalene)	Total	64			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	2	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	2.2	1	5	ng/L	J
Benz[a]anthracene	Total	1.1	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	2.2	1	5	ng/L	J
Benzo[e]pyrene	Total	1.2	1	5	ng/L	J
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	1.5	1	5	ng/L	J
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	1.7	1	5	ng/L	J
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	4.7	1	5	ng/L	J
Fluorene	Total	1.6	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	2.9	1	5	ng/L	J
Pyrene	Total	2.2	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22065-R1 B13-8017 Grab Method: EPA 625		Matrix: Seawater Batch ID: O-4144		Sampled: 11-Aug-13 14:30 Prepared: 16-Aug-13		Received: 12-Aug-13 Analyzed: 07-Sep-13
(d10-Acenaphthene)	Total	79			% Recovery	
(d10-Phenanthrene)	Total	101			% Recovery	
(d12-Chrysene)	Total	111			% Recovery	
(d8-Naphthalene)	Total	63			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	1.7	1	5	ng/L	J
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	1.7	1	5	ng/L	J
Benz[a]anthracene	Total	2.1	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	1.7	1	5	ng/L	J
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	2.2	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.5	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.7	1	5	ng/L	J
Pyrene	Total	1.6	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22066-R1 B13-FB Grab Method: EPA 625		Matrix: Seawater Batch ID: O-4144		Sampled: 11-Aug-13 17:00 Prepared: 16-Aug-13		Received: 12-Aug-13 Analyzed: 07-Sep-13
(d10-Acenaphthene)	Total	97			% Recovery	
(d10-Phenanthrene)	Total	99			% Recovery	
(d12-Chrysene)	Total	114			% Recovery	
(d8-Naphthalene)	Total	88			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	ND	1	5	ng/L	
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	ND	1	5	ng/L	
Pyrene	Total	ND	1	5	ng/L	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22067-R1 B13-NBEB Grab Method: EPA 625		Matrix: Seawater Batch ID: O-4144		Sampled: 11-Aug-13 17:00 Prepared: 16-Aug-13		Received: 12-Aug-13 Analyzed: 07-Sep-13
(d10-Acenaphthene)	Total	95			% Recovery	
(d10-Phenanthrene)	Total	100			% Recovery	
(d12-Chrysene)	Total	117			% Recovery	
(d8-Naphthalene)	Total	88			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	ND	1	5	ng/L	
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	ND	1	5	ng/L	
Pyrene	Total	ND	1	5	ng/L	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22068-R1</div> <div>B13-8064 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: O-4144</div> </div> <div> <div>Sampled: 12-Aug-13 9:00</div> <div>Prepared: 16-Aug-13</div> </div> <div> <div>Received: 12-Aug-13</div> <div>Analyzed: 07-Sep-13</div> </div>						
(d10-Acenaphthene)	Total	72			% Recovery	
(d10-Phenanthrene)	Total	98			% Recovery	
(d12-Chrysene)	Total	106			% Recovery	
(d8-Naphthalene)	Total	57			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	3.1	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	2.3	1	5	ng/L	J
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	1.3	1	5	ng/L	J
Benzo[b]fluoranthene	Total	2.3	1	5	ng/L	J
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	1.4	1	5	ng/L	J
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	7.2	1	5	ng/L	
Fluorene	Total	1.8	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	3.4	1	5	ng/L	J
Pyrene	Total	2.6	1	5	ng/L	J



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22069-R1</div> <div>B13-8050 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: O-4144</div> </div> <div> <div>Sampled: 12-Aug-13 14:50</div> <div>Prepared: 16-Aug-13</div> </div> <div> <div>Received: 12-Aug-13</div> <div>Analyzed: 07-Sep-13</div> </div>						
(d10-Acenaphthene)	Total	76			% Recovery	
(d10-Phenanthrene)	Total	99			% Recovery	
(d12-Chrysene)	Total	111			% Recovery	
(d8-Naphthalene)	Total	62			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	3.1	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	2.3	1	5	ng/L	J
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	1.7	1	5	ng/L	J
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	1.3	1	5	ng/L	J
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	1.2	1	5	ng/L	J
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	8.1	1	5	ng/L	
Fluorene	Total	1.9	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	3.5	1	5	ng/L	J
Pyrene	Total	2.5	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22070-R1</div> <div>B13-8029 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: O-4144</div> </div> <div> <div>Sampled: 11-Aug-13 8:05</div> <div>Prepared: 16-Aug-13</div> </div> <div> <div>Received: 12-Aug-13</div> <div>Analyzed: 07-Sep-13</div> </div>						
(d10-Acenaphthene)	Total	75			% Recovery	
(d10-Phenanthrene)	Total	96			% Recovery	
(d12-Chrysene)	Total	110			% Recovery	
(d8-Naphthalene)	Total	61			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	1.8	1	5	ng/L	J
Acenaphthene	Total	1.9	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	2	1	5	ng/L	J
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	4	1	5	ng/L	J
Fluorene	Total	1.3	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.2	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	2.4	1	5	ng/L	J
Pyrene	Total	1.6	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22071-R1</div> <div>B13-8069 Grab Method: EPA 625</div> <div>Matrix: Seawater Batch ID: O-4144</div> <div>Sampled: 12-Aug-13 12:15 Prepared: 16-Aug-13</div> <div>Received: 12-Aug-13 Analyzed: 07-Sep-13</div> </div>						
(d10-Acenaphthene)	Total	75			% Recovery	
(d10-Phenanthrene)	Total	99			% Recovery	
(d12-Chrysene)	Total	109			% Recovery	
(d8-Naphthalene)	Total	60			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	2.1	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	2.4	1	5	ng/L	J
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	2.3	1	5	ng/L	J
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	1.6	1	5	ng/L	J
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	5.9	1	5	ng/L	
Fluorene	Total	1.6	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.2	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	2.1	1	5	ng/L	J
Pyrene	Total	2.6	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22072-R1</div> <div>B13-8056 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: O-4144</div> </div> <div> <div>Sampled: 12-Aug-13 13:50</div> <div>Prepared: 16-Aug-13</div> </div> <div> <div>Received: 12-Aug-13</div> <div>Analyzed: 07-Sep-13</div> </div>						
(d10-Acenaphthene)	Total	73			% Recovery	
(d10-Phenanthrene)	Total	97			% Recovery	
(d12-Chrysene)	Total	112			% Recovery	
(d8-Naphthalene)	Total	57			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	2.7	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	2.6	1	5	ng/L	J
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	2.2	1	5	ng/L	J
Benzo[e]pyrene	Total	1.5	1	5	ng/L	J
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	1.7	1	5	ng/L	J
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	1.3	1	5	ng/L	J
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	6.4	1	5	ng/L	
Fluorene	Total	2.1	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	2.6	1	5	ng/L	J
Pyrene	Total	2.7	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22073-R1</div> <div>B13-8049 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: O-4144</div> </div> <div> <div>Sampled: 12-Aug-13 15:55</div> <div>Prepared: 16-Aug-13</div> </div> <div> <div>Received: 12-Aug-13</div> <div>Analyzed: 07-Sep-13</div> </div>						
(d10-Acenaphthene)	Total	77			% Recovery	
(d10-Phenanthrene)	Total	101			% Recovery	
(d12-Chrysene)	Total	113			% Recovery	
(d8-Naphthalene)	Total	63			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	3.5	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	2.8	1	5	ng/L	J
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	2.8	1	5	ng/L	J
Benzo[e]pyrene	Total	1.1	1	5	ng/L	J
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	1.4	1	5	ng/L	J
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	1.5	1	5	ng/L	J
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	7.4	1	5	ng/L	
Fluorene	Total	2	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.1	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	3.7	1	5	ng/L	J
Pyrene	Total	2.3	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22074-R1</div> <div>B13-8066 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: O-4144</div> </div> <div> <div>Sampled: 12-Aug-13 10:20</div> <div>Prepared: 16-Aug-13</div> </div> <div> <div>Received: 12-Aug-13</div> <div>Analyzed: 07-Sep-13</div> </div>						
(d10-Acenaphthene)	Total	72			% Recovery	
(d10-Phenanthrene)	Total	96			% Recovery	
(d12-Chrysene)	Total	106			% Recovery	
(d8-Naphthalene)	Total	60			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	2.8	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	2.7	1	5	ng/L	J
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	1.6	1	5	ng/L	J
Benzo[b]fluoranthene	Total	3	1	5	ng/L	J
Benzo[e]pyrene	Total	1.6	1	5	ng/L	J
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	1.5	1	5	ng/L	J
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	6.7	1	5	ng/L	
Fluorene	Total	1.9	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	1.5	1	5	ng/L	J
Phenanthrene	Total	2.8	1	5	ng/L	J
Pyrene	Total	2.8	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22075-R1</div> <div>B13-8065 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: O-4144</div> </div> <div> <div>Sampled: 12-Aug-13 7:20</div> <div>Prepared: 16-Aug-13</div> </div> <div> <div>Received: 12-Aug-13</div> <div>Analyzed: 07-Sep-13</div> </div>						
(d10-Acenaphthene)	Total	69			% Recovery	
(d10-Phenanthrene)	Total	97			% Recovery	
(d12-Chrysene)	Total	102			% Recovery	
(d8-Naphthalene)	Total	54			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	2.8	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	2.2	1	5	ng/L	J
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	6.4	1	5	ng/L	
Fluorene	Total	2.1	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	3.2	1	5	ng/L	J
Pyrene	Total	2.9	1	5	ng/L	J

QUALITY CONTROL REPORT

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CA ELAP #2769

Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
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Ammonia as N		Method: SM 4500-NH ₃ D		Fraction: NA		Prepared: 06-Sep-13		Analyzed: 06-Sep-13	
22063-B1	QAQC Procedural Blank	C-14050	ND	0.02	0.05	mg/L			
22063-BS1	QAQC Procedural Blank	C-14050	0.24	0.02	0.05	mg/L	0.25	0	96 70 - 130% PASS
22063-BS2	QAQC Procedural Blank	C-14050	0.24	0.02	0.05	mg/L	0.25	0	96 70 - 130% PASS
22075-MS1	B13-8065	C-14050	0.23	0.02	0.05	mg/L	0.25	0	92 70 - 130% PASS
22075-MS2	B13-8065	C-14050	0.23	0.02	0.05	mg/L	0.25	0	92 70 - 130% PASS
22075-R2	B13-8065	C-14050	ND	0.02	0.05	mg/L			0 30 PASS

MBAS		Method: SM 5540-C		Fraction: NA		Prepared: 13-Aug-13		Analyzed: 13-Aug-13	
22063-B1	QAQC Procedural Blank	C-13084	ND	0.005	0.025	mg/L			
22063-BS1	QAQC Procedural Blank	C-13084	0.103	0.005	0.025	mg/L	0.1	0	103 70 - 130% PASS
22063-BS2	QAQC Procedural Blank	C-13084	0.117	0.005	0.025	mg/L	0.1	0	117 70 - 130% PASS
22064-MS1	B13-8020	C-13084	0.153	0.005	0.025	mg/L	0.13	0.016	105 70 - 130% PASS
22064-MS2	B13-8020	C-13084	0.166	0.005	0.025	mg/L	0.13	0.016	115 70 - 130% PASS
22064-R2	B13-8020	C-13084	0.013	0.005	0.025	mg/L			37 30 FAIL J,SL

Nitrate as N		Method: SM 4500-NO ₃ E		Fraction: NA		Prepared: 13-Aug-13		Analyzed: 05-Sep-13	
22063-B1	QAQC Procedural Blank	C-14047	ND	0.01	0.05	mg/L			
22063-BS1	QAQC Procedural Blank	C-14047	0.11	0.01	0.05	mg/L	0.11	0	100 70 - 130% PASS
22063-BS2	QAQC Procedural Blank	C-14047	0.11	0.01	0.05	mg/L	0.11	0	100 70 - 130% PASS
22064-MS1	B13-8020	C-14047	0.12	0.01	0.05	mg/L	0.11	0	109 70 - 130% PASS
22064-MS2	B13-8020	C-14047	0.12	0.01	0.05	mg/L	0.11	0	109 70 - 130% PASS
22064-R2	B13-8020	C-14047	ND	0.01	0.05	mg/L			0 30 PASS

Oil & Grease		Method: EPA 1664A		Fraction: NA		Prepared: 06-Sep-13		Analyzed: 06-Sep-13	
22063-B1	QAQC Procedural Blank	C-14055	ND	1	1	mg/L			
22063-BS1	QAQC Procedural Blank	C-14055	17.5	1	1	mg/L	20.1	0	87 70 - 130% PASS
22063-BS2	QAQC Procedural Blank	C-14055	17	1	1	mg/L	20.1	0	85 70 - 130% PASS

Total Orthophosphate as P		Method: SM 4500-P E		Fraction: NA		Prepared: 13-Aug-13		Analyzed: 13-Aug-13	
22063-B1	QAQC Procedural Blank	C-13082	ND	0.01	0.02	mg/L			
22063-BS1	QAQC Procedural Blank	C-13082	0.19	0.01	0.02	mg/L	0.2	0	95 70 - 130% PASS



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QUALITY CONTROL REPORT

SAMPLE ID		BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS		PRECISION %		QA CODE
22063-BS2	QAQC Procedural Blank	C-13082	0.18	0.01	0.02	mg/L	0.2	0	90	70 - 130%	PASS	5	30	PASS
22064-MS1	B13-8020	C-13082	0.21	0.01	0.02	mg/L	0.2	0.03	90	70 - 130%	PASS			
22064-MS2	B13-8020	C-13082	0.21	0.01	0.02	mg/L	0.2	0.03	90	70 - 130%	PASS	0	30	PASS
22064-R2	B13-8020	C-13082	0.03	0.01	0.02	mg/L						0	30	PASS



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22063-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 1640		Batch ID: E-5135		Prepared: 11-Sep-13		Analyzed: 17-Sep-13		
Aluminum (Al)	Dissolved	ND	3	6	µg/L					
Aluminum (Al)	Total	ND	3	6	µg/L					
Antimony (Sb)	Dissolved	ND	0.01	0.015	µg/L					
Antimony (Sb)	Total	ND	0.01	0.015	µg/L					
Arsenic (As)	Dissolved	ND	0.005	0.015	µg/L					
Arsenic (As)	Total	ND	0.005	0.015	µg/L					
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L					
Beryllium (Be)	Total	ND	0.005	0.01	µg/L					
Cadmium (Cd)	Dissolved	ND	0.0025	0.005	µg/L					
Cadmium (Cd)	Total	ND	0.0025	0.005	µg/L					
Chromium (Cr)	Dissolved	ND	0.0125	0.025	µg/L					
Chromium (Cr)	Total	ND	0.0125	0.025	µg/L					
Cobalt (Co)	Dissolved	ND	0.005	0.01	µg/L					
Cobalt (Co)	Total	ND	0.005	0.01	µg/L					
Copper (Cu)	Dissolved	ND	0.005	0.01	µg/L					
Copper (Cu)	Total	ND	0.005	0.01	µg/L					
Iron (Fe)	Dissolved	ND	0.5	1	µg/L					
Iron (Fe)	Total	ND	0.5	1	µg/L					
Lead (Pb)	Dissolved	ND	0.0025	0.005	µg/L					
Lead (Pb)	Total	ND	0.0025	0.005	µg/L					
Manganese (Mn)	Dissolved	ND	0.01	0.02	µg/L					
Manganese (Mn)	Total	ND	0.01	0.02	µg/L					
Molybdenum (Mo)	Dissolved	ND	0.005	0.01	µg/L					
Molybdenum (Mo)	Total	ND	0.005	0.01	µg/L					
Nickel (Ni)	Dissolved	ND	0.0025	0.005	µg/L					
Nickel (Ni)	Total	ND	0.0025	0.005	µg/L					
Selenium (Se)	Dissolved	ND	0.005	0.015	µg/L					
Selenium (Se)	Total	ND	0.005	0.015	µg/L					
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L					

PHYSIS Project ID: 1307002-005

Client: AMEC

Project: RHMP B'13



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Silver (Ag)	Total	ND	0.01	0.02	µg/L					
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L					
Thallium (Tl)	Total	ND	0.005	0.01	µg/L					
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L					
Tin (Sn)	Total	ND	0.005	0.01	µg/L					
Titanium (Ti)	Dissolved	ND	0.035	0.07	µg/L					
Titanium (Ti)	Total	ND	0.035	0.07	µg/L					
Vanadium (V)	Dissolved	ND	0.02	0.04	µg/L					
Vanadium (V)	Total	ND	0.02	0.04	µg/L					
Zinc (Zn)	Dissolved	ND	0.0025	0.005	µg/L					
Zinc (Zn)	Total	ND	0.0025	0.005	µg/L					

Method: EPA 200.8

Batch ID: E-5135

Prepared: 11-Sep-13

Analyzed: 11-Sep-13

Barium (Ba)	Dissolved	ND	0.25	0.5	µg/L					
Barium (Ba)	Total	ND	0.25	0.5	µg/L					

Method: EPA 245.7

Batch ID: E-6020

Prepared: 24-Sep-13

Analyzed: 24-Sep-13

Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L					
Mercury (Hg)	Total	ND	0.01	0.02	µg/L					

Sample ID: 22063-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 200.8

Batch ID: E-5135

Prepared: 11-Sep-13

Analyzed: 11-Sep-13

Barium (Ba)	Total	1021.85	0.25	0.5	µg/L	1000	0	102	75 - 125%	PASS
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Method: EPA 245.7

Batch ID: E-6020

Prepared: 24-Sep-13

Analyzed: 24-Sep-13

Mercury (Hg)	Total	0.11	0.01	0.02	µg/L	0.1	0	110	80 - 120%	PASS
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Sample ID: 22063-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 200.8

Batch ID: E-5135

Prepared: 11-Sep-13

Analyzed: 11-Sep-13

Barium (Ba)	Total	994.37	0.25	0.5	µg/L	1000	0	99	75 - 125%	PASS	3	30	PASS
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Method: EPA 245.7

Batch ID: E-6020

Prepared: 24-Sep-13

Analyzed: 24-Sep-13

Mercury (Hg)	Total	0.11	0.01	0.02	µg/L	0.1	0	110	80 - 120%	PASS	0	30	PASS
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Sample ID: 22064-MS1

B13-8020 Grab

Matrix: Seawater

Sampled: 11-Aug-13 11:05

Received: 12-Aug-13

Method: EPA 200.8

Batch ID: E-5135

Prepared: 11-Sep-13

Analyzed: 11-Sep-13



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Barium (Ba)	Dissolved	1039.23	0.25	0.5	µg/L	1000	9.24	103 75 - 125% PASS		
	Method: EPA 245.7				Batch ID: E-6020		Prepared: 24-Sep-13		Analyzed: 24-Sep-13	
Mercury (Hg)	Total	0.12	0.01	0.02	µg/L	0.1	0	120 80 - 120% PASS		

Sample ID: 22064-MS2

B13-8020 Grab

Matrix: Seawater

Sampled: 11-Aug-13

11:05

Received: 12-Aug-13

Method: EPA 200.8

Batch ID: E-5135

Prepared: 11-Sep-13

Analyzed: 11-Sep-13

Barium (Ba)	Dissolved	1052.9	0.25	0.5	µg/L	1000	9.24	104 75 - 125% PASS	1 30 PASS	
	Method: EPA 245.7				Batch ID: E-6020		Prepared: 24-Sep-13		Analyzed: 24-Sep-13	
Mercury (Hg)	Total	0.12	0.01	0.02	µg/L	0.1	0	120 80 - 120% PASS	0 30 PASS	

Sample ID: 22064-R2

B13-8020 Grab

Matrix: Seawater

Sampled: 11-Aug-13

11:05

Received: 12-Aug-13

Method: EPA 1640

Batch ID: E-5135

Prepared: 11-Sep-13

Analyzed: 17-Sep-13

Aluminum (Al)	Dissolved	ND	3	6	µg/L				0 30 PASS	
Aluminum (Al)	Total	335.8	3	6	µg/L				14 30 PASS	
Antimony (Sb)	Dissolved	0.17	0.01	0.015	µg/L				6 30 PASS	
Antimony (Sb)	Total	0.14	0.01	0.015	µg/L				0 30 PASS	
Arsenic (As)	Dissolved	1.217	0.005	0.015	µg/L				7 30 PASS	
Arsenic (As)	Total	1.173	0.005	0.015	µg/L				12 30 PASS	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L				0 30 PASS	
Beryllium (Be)	Total	0.01	0.005	0.01	µg/L				11 30 PASS	
Cadmium (Cd)	Dissolved	0.0683	0.0025	0.005	µg/L				1 30 PASS	
Cadmium (Cd)	Total	0.0648	0.0025	0.005	µg/L				9 30 PASS	
Chromium (Cr)	Dissolved	0.1036	0.0125	0.025	µg/L				4 30 PASS	
Chromium (Cr)	Total	0.6799	0.0125	0.025	µg/L				12 30 PASS	
Cobalt (Co)	Dissolved	0.081	0.005	0.01	µg/L				0 30 PASS	
Cobalt (Co)	Total	0.149	0.005	0.01	µg/L				13 30 PASS	
Copper (Cu)	Dissolved	2.749	0.005	0.01	µg/L				4 30 PASS	
Copper (Cu)	Total	3.621	0.005	0.01	µg/L				1 30 PASS	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L				0 30 PASS	
Iron (Fe)	Total	157.6	0.5	1	µg/L				2 30 PASS	
Lead (Pb)	Dissolved	0.0376	0.0025	0.005	µg/L				5 30 PASS	
Lead (Pb)	Total	0.3313	0.0025	0.005	µg/L				0 30 PASS	



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Manganese (Mn)	Dissolved	7.77	0.01	0.02	µg/L				0 30	PASS
Manganese (Mn)	Total	11.68	0.01	0.02	µg/L				5 30	PASS
Molybdenum (Mo)	Dissolved	9.856	0.005	0.01	µg/L				1 30	PASS
Molybdenum (Mo)	Total	8.805	0.005	0.01	µg/L				1 30	PASS
Nickel (Ni)	Dissolved	0.6064	0.0025	0.005	µg/L				6 30	PASS
Nickel (Ni)	Total	0.8047	0.0025	0.005	µg/L				0 30	PASS
Selenium (Se)	Dissolved	0.039	0.005	0.015	µg/L				14 30	PASS
Selenium (Se)	Total	0.025	0.005	0.015	µg/L				18 30	PASS
Silver (Ag)	Dissolved	0.04	0.01	0.02	µg/L				0 30	PASS
Silver (Ag)	Total	0.06	0.01	0.02	µg/L				15 30	PASS
Thallium (Tl)	Dissolved	0.007	0.005	0.01	µg/L				0 30	PASS J
Thallium (Tl)	Total	0.009	0.005	0.01	µg/L				12 30	PASS J
Tin (Sn)	Dissolved	0.028	0.005	0.01	µg/L				19 30	PASS
Tin (Sn)	Total	0.045	0.005	0.01	µg/L				12 30	PASS
Titanium (Ti)	Dissolved	10.828	0.035	0.07	µg/L				25 30	PASS
Titanium (Ti)	Total	29.212	0.035	0.07	µg/L				19 30	PASS
Vanadium (V)	Dissolved	3.09	0.02	0.04	µg/L				0 30	PASS
Vanadium (V)	Total	3.68	0.02	0.04	µg/L				6 30	PASS
Zinc (Zn)	Dissolved	1.7551	0.0025	0.005	µg/L				48 30	FAIL R
Zinc (Zn)	Total	3.5255	0.0025	0.005	µg/L				25 30	PASS

Method: EPA 200.8

Batch ID: E-5135

Prepared: 11-Sep-13

Analyzed: 11-Sep-13

Barium (Ba)	Dissolved	9.7	0.25	0.5	µg/L				10 30	PASS
Barium (Ba)	Total	11.12	0.25	0.5	µg/L				21 30	PASS

Method: EPA 245.7

Batch ID: E-6020

Prepared: 24-Sep-13

Analyzed: 24-Sep-13

Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L				0 30	PASS
Mercury (Hg)	Total	ND	0.01	0.02	µg/L				0 30	PASS

Sample ID: 22074-MS1

B13-8066 Grab

Matrix: Seawater

Sampled: 12-Aug-13 10:20

Received: 12-Aug-13

Method: EPA 200.8

Batch ID: E-5136

Prepared: 11-Sep-13

Analyzed: 11-Sep-13

Barium (Ba)	Dissolved	1058.28	0.25	0.5	µg/L	1000	8.31	105 75 - 125%	PASS	
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Method: EPA 245.7

Batch ID: E-6020

Prepared: 24-Sep-13

Analyzed: 24-Sep-13

Mercury (Hg)	Total	0.11	0.01	0.02	µg/L	0.1	0	110 80 - 120%	PASS	
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PHYSIS Project ID: 1307002-005

Client: AMEC

Project: RHMP B'13



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22074-MS2

B13-8066 Grab

Method: EPA 200.8

Matrix: Seawater

Batch ID: E-5136

Sampled: 12-Aug-13 10:20

Prepared: 11-Sep-13

Received: 12-Aug-13

Analyzed: 12-Sep-13

Barium (Ba)	Dissolved	1072.01	0.25	0.5	µg/L	1000	8.31	106 75 - 125% PASS	1 30 PASS	
		Method: EPA 245.7					Batch ID: E-6020	Prepared: 24-Sep-13	Analyzed: 24-Sep-13	
Mercury (Hg)	Total	0.11	0.01	0.02	µg/L	0.1	0	110 80 - 120% PASS	0 30 PASS	

Sample ID: 22074-R2

B13-8066 Grab

Method: EPA 1640

Matrix: Seawater

Batch ID: E-5136

Sampled: 12-Aug-13 10:20

Prepared: 11-Sep-13

Received: 12-Aug-13

Analyzed: 17-Sep-13

Aluminum (Al)	Dissolved	ND	3	6	µg/L				0 30 PASS	
Aluminum (Al)	Total	51.5	3	6	µg/L				9 30 PASS	
Antimony (Sb)	Dissolved	0.17	0.01	0.015	µg/L				0 30 PASS	
Antimony (Sb)	Total	0.14	0.01	0.015	µg/L				7 30 PASS	
Arsenic (As)	Dissolved	1.278	0.005	0.015	µg/L				2 30 PASS	
Arsenic (As)	Total	1.092	0.005	0.015	µg/L				11 30 PASS	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L				0 30 PASS	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L				0 30 PASS	
Cadmium (Cd)	Dissolved	0.064	0.0025	0.005	µg/L				17 30 PASS	
Cadmium (Cd)	Total	0.0641	0.0025	0.005	µg/L				4 30 PASS	
Chromium (Cr)	Dissolved	0.0967	0.0125	0.025	µg/L				8 30 PASS	
Chromium (Cr)	Total	0.2336	0.0125	0.025	µg/L				3 30 PASS	
Cobalt (Co)	Dissolved	0.058	0.005	0.01	µg/L				3 30 PASS	
Cobalt (Co)	Total	0.069	0.005	0.01	µg/L				9 30 PASS	
Copper (Cu)	Dissolved	3.418	0.005	0.01	µg/L				0 30 PASS	
Copper (Cu)	Total	3.861	0.005	0.01	µg/L				4 30 PASS	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L				0 30 PASS	
Iron (Fe)	Total	25.7	0.5	1	µg/L				5 30 PASS	
Lead (Pb)	Dissolved	0.0422	0.0025	0.005	µg/L				59 30 FAIL	R
Lead (Pb)	Total	0.1574	0.0025	0.005	µg/L				3 30 PASS	
Manganese (Mn)	Dissolved	7.58	0.01	0.02	µg/L				1 30 PASS	
Manganese (Mn)	Total	9.66	0.01	0.02	µg/L				2 30 PASS	
Molybdenum (Mo)	Dissolved	9.885	0.005	0.01	µg/L				1 30 PASS	



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Molybdenum (Mo)	Total	9.384	0.005	0.01	µg/L				4 30 PASS	
Nickel (Ni)	Dissolved	0.6195	0.0025	0.005	µg/L				3 30 PASS	
Nickel (Ni)	Total	0.6609	0.0025	0.005	µg/L				7 30 PASS	
Selenium (Se)	Dissolved	0.018	0.005	0.015	µg/L				0 30 PASS	
Selenium (Se)	Total	0.02	0.005	0.015	µg/L				18 30 PASS	
Silver (Ag)	Dissolved	0.05	0.01	0.02	µg/L				18 30 PASS	
Silver (Ag)	Total	0.06	0.01	0.02	µg/L				0 30 PASS	
Thallium (Tl)	Dissolved	0.006	0.005	0.01	µg/L				15 30 PASS	J
Thallium (Tl)	Total	ND	0.005	0.01	µg/L				0 30 PASS	
Tin (Sn)	Dissolved	0.007	0.005	0.01	µg/L				60 30 FAIL	J,SL
Tin (Sn)	Total	0.02	0.005	0.01	µg/L				42 30 FAIL	SL
Titanium (Ti)	Dissolved	11.027	0.035	0.07	µg/L				10 30 PASS	
Titanium (Ti)	Total	14.595	0.035	0.07	µg/L				4 30 PASS	
Vanadium (V)	Dissolved	2.66	0.02	0.04	µg/L				5 30 PASS	
Vanadium (V)	Total	2.77	0.02	0.04	µg/L				1 30 PASS	
Zinc (Zn)	Dissolved	2.1145	0.0025	0.005	µg/L				26 30 PASS	
Zinc (Zn)	Total	5.2773	0.0025	0.005	µg/L				28 30 PASS	

Method: EPA 200.8

Batch ID: E-5136

Prepared: 11-Sep-13

Analyzed: 11-Sep-13

Barium (Ba)	Dissolved	7.77	0.25	0.5	µg/L				13 30 PASS	
Barium (Ba)	Total	9.39	0.25	0.5	µg/L				4 30 PASS	

Method: EPA 245.7

Batch ID: E-6020

Prepared: 24-Sep-13

Analyzed: 24-Sep-13

Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L				0 30 PASS	
Mercury (Hg)	Total	ND	0.01	0.02	µg/L				0 30 PASS	

Sample ID: 22076-LCM1

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-5135

Prepared: 11-Sep-13

Analyzed: 17-Sep-13

Aluminum (Al)	Total	ND	3	6	µg/L					
Antimony (Sb)	Total	0.1	0.01	0.015	µg/L					
Arsenic (As)	Total	1.716	0.005	0.015	µg/L					
Beryllium (Be)	Total	ND	0.005	0.01	µg/L					
Cadmium (Cd)	Total	0.102	0.0025	0.005	µg/L					
Chromium (Cr)	Total	0.1995	0.0125	0.025	µg/L					

PHYSIS Project ID: 1307002-005

Client: AMEC

Project: RHMP B'13



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Cobalt (Co)	Total	ND	0.005	0.01	µg/L					
Copper (Cu)	Total	0.069	0.005	0.01	µg/L					
Iron (Fe)	Total	ND	0.5	1	µg/L					
Lead (Pb)	Total	0.0184	0.0025	0.005	µg/L					
Manganese (Mn)	Total	0.25	0.01	0.02	µg/L					
Molybdenum (Mo)	Total	9.383	0.005	0.01	µg/L					
Nickel (Ni)	Total	0.4286	0.0025	0.005	µg/L					
Selenium (Se)	Total	0.052	0.005	0.015	µg/L					
Silver (Ag)	Total	0.02	0.01	0.02	µg/L					
Thallium (Tl)	Total	0.006	0.005	0.01	µg/L					
Tin (Sn)	Total	0.008	0.005	0.01	µg/L					
Titanium (Ti)	Total	13.888	0.035	0.07	µg/L					
Vanadium (V)	Total	2.04	0.02	0.04	µg/L					
Zinc (Zn)	Total	ND	0.0025	0.005	µg/L					

Sample ID: 22076-LCS1

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-5135

Prepared: 11-Sep-13

Analyzed: 18-Sep-13

Aluminum (Al)	Total	22.4	3	6	µg/L	20	0	112	0 - 191%	PASS
Antimony (Sb)	Total	2.13	0.01	0.015	µg/L	20	0.1	10	10 - 110%	PASS
Arsenic (As)	Total	21.129	0.005	0.015	µg/L	20	1.716	97	74 - 128%	PASS
Beryllium (Be)	Total	14.762	0.005	0.01	µg/L	20	0	74	60 - 118%	PASS
Cadmium (Cd)	Total	17.4762	0.0025	0.005	µg/L	20	0.102	87	68 - 131%	PASS
Chromium (Cr)	Total	20.4252	0.0125	0.025	µg/L	20	0.1995	101	32 - 173%	PASS
Cobalt (Co)	Total	19.205	0.005	0.01	µg/L	20	0	96	87 - 119%	PASS
Copper (Cu)	Total	16.409	0.005	0.01	µg/L	20	0.069	82	61 - 119%	PASS
Iron (Fe)	Total	10	0.5	1	µg/L	20	0	50	22 - 129%	PASS
Lead (Pb)	Total	17.9926	0.0025	0.005	µg/L	20	0.0184	90	75 - 120%	PASS
Manganese (Mn)	Total	18.46	0.01	0.02	µg/L	20	0.25	91	32 - 131%	PASS
Molybdenum (Mo)	Total	26.644	0.005	0.01	µg/L	20	9.383	86	54 - 131%	PASS
Nickel (Ni)	Total	15.8666	0.0025	0.005	µg/L	20	0.4286	77	60 - 113%	PASS
Selenium (Se)	Total	17.199	0.005	0.015	µg/L	20	0.052	86	0 - 183%	PASS
Silver (Ag)	Total	8.99	0.01	0.02	µg/L	10	0.02	90	64 - 133%	PASS

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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Thallium (Tl)	Total	19.032	0.005	0.01	µg/L	20	0.006	95	70 - 125%	PASS		
Tin (Sn)	Total	20.508	0.005	0.01	µg/L	20	0.008	102	69 - 118%	PASS		
Titanium (Ti)	Total	31.188	0.035	0.07	µg/L	20	13.888	86	72 - 129%	PASS		
Vanadium (V)	Total	22.82	0.02	0.04	µg/L	20	2.04	104	72 - 137%	PASS		
Zinc (Zn)	Total	17.5708	0.0025	0.005	µg/L	20	0	88	61 - 128%	PASS		

Sample ID: 22076-LCS2

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-5135

Prepared: 11-Sep-13

Analyzed: 18-Sep-13

Aluminum (Al)	Total	22.8	3	6	µg/L	20	0	114	0 - 191%	PASS	0	30	PASS
Antimony (Sb)	Total	2.01	0.01	0.015	µg/L	20	0.1	10	10 - 110%	PASS	0	30	PASS
Arsenic (As)	Total	21.398	0.005	0.015	µg/L	20	1.716	98	74 - 128%	PASS	1	30	PASS
Beryllium (Be)	Total	14.395	0.005	0.01	µg/L	20	0	72	60 - 118%	PASS	0	30	PASS
Cadmium (Cd)	Total	17.4005	0.0025	0.005	µg/L	20	0.102	86	68 - 131%	PASS	1	30	PASS
Chromium (Cr)	Total	20.767	0.0125	0.025	µg/L	20	0.1995	103	32 - 173%	PASS	2	30	PASS
Cobalt (Co)	Total	19.49	0.005	0.01	µg/L	20	0	97	87 - 119%	PASS	0	30	PASS
Copper (Cu)	Total	17.087	0.005	0.01	µg/L	20	0.069	85	61 - 119%	PASS	4	30	PASS
Iron (Fe)	Total	10.2	0.5	1	µg/L	20	0	51	22 - 129%	PASS	0	30	PASS
Lead (Pb)	Total	18.4245	0.0025	0.005	µg/L	20	0.0184	92	75 - 120%	PASS	2	30	PASS
Manganese (Mn)	Total	18.3	0.01	0.02	µg/L	20	0.25	90	32 - 131%	PASS	1	30	PASS
Molybdenum (Mo)	Total	27.768	0.005	0.01	µg/L	20	9.383	92	54 - 131%	PASS	7	30	PASS
Nickel (Ni)	Total	16.506	0.0025	0.005	µg/L	20	0.4286	80	60 - 113%	PASS	4	30	PASS
Selenium (Se)	Total	18.067	0.005	0.015	µg/L	20	0.052	90	0 - 183%	PASS	5	30	PASS
Silver (Ag)	Total	9.15	0.01	0.02	µg/L	10	0.02	91	64 - 133%	PASS	1	30	PASS
Thallium (Tl)	Total	18.682	0.005	0.01	µg/L	20	0.006	93	70 - 125%	PASS	2	30	PASS
Tin (Sn)	Total	20.979	0.005	0.01	µg/L	20	0.008	105	69 - 118%	PASS	3	30	PASS
Titanium (Ti)	Total	34.281	0.035	0.07	µg/L	20	13.888	102	72 - 129%	PASS	17	30	PASS
Vanadium (V)	Total	23.07	0.02	0.04	µg/L	20	2.04	105	72 - 137%	PASS	1	30	PASS
Zinc (Zn)	Total	20.6591	0.0025	0.005	µg/L	20	0	103	61 - 128%	PASS	0	30	PASS

Sample ID: 22091-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 200.8

Batch ID: E-5135

Prepared: 11-Sep-13

Analyzed: 11-Sep-13

Barium (Ba)	Total	ND	0.25	0.5	µg/L								
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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Method: EPA 1640			Batch ID: E-5136			Prepared: 11-Sep-13			Analyzed: 17-Sep-13	
Aluminum (Al)	Dissolved	ND	3	6	µg/L					
Aluminum (Al)	Total	ND	3	6	µg/L					
Antimony (Sb)	Dissolved	ND	0.01	0.015	µg/L					
Antimony (Sb)	Total	ND	0.01	0.015	µg/L					
Arsenic (As)	Dissolved	ND	0.005	0.015	µg/L					
Arsenic (As)	Total	ND	0.005	0.015	µg/L					
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L					
Beryllium (Be)	Total	ND	0.005	0.01	µg/L					
Cadmium (Cd)	Dissolved	ND	0.0025	0.005	µg/L					
Cadmium (Cd)	Total	ND	0.0025	0.005	µg/L					
Chromium (Cr)	Dissolved	ND	0.0125	0.025	µg/L					
Chromium (Cr)	Total	ND	0.0125	0.025	µg/L					
Cobalt (Co)	Dissolved	ND	0.005	0.01	µg/L					
Cobalt (Co)	Total	ND	0.005	0.01	µg/L					
Copper (Cu)	Dissolved	ND	0.005	0.01	µg/L					
Copper (Cu)	Total	ND	0.005	0.01	µg/L					
Iron (Fe)	Dissolved	ND	0.5	1	µg/L					
Iron (Fe)	Total	ND	0.5	1	µg/L					
Lead (Pb)	Dissolved	ND	0.0025	0.005	µg/L					
Lead (Pb)	Total	ND	0.0025	0.005	µg/L					
Manganese (Mn)	Dissolved	ND	0.01	0.02	µg/L					
Manganese (Mn)	Total	ND	0.01	0.02	µg/L					
Molybdenum (Mo)	Dissolved	ND	0.005	0.01	µg/L					
Molybdenum (Mo)	Total	ND	0.005	0.01	µg/L					
Nickel (Ni)	Dissolved	ND	0.0025	0.005	µg/L					
Nickel (Ni)	Total	ND	0.0025	0.005	µg/L					
Selenium (Se)	Dissolved	ND	0.005	0.015	µg/L					
Selenium (Se)	Total	ND	0.005	0.015	µg/L					
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L					
Silver (Ag)	Total	ND	0.01	0.02	µg/L					



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L					
Thallium (Tl)	Total	ND	0.005	0.01	µg/L					
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L					
Tin (Sn)	Total	ND	0.005	0.01	µg/L					
Titanium (Ti)	Dissolved	ND	0.035	0.07	µg/L					
Titanium (Ti)	Total	ND	0.035	0.07	µg/L					
Vanadium (V)	Dissolved	ND	0.02	0.04	µg/L					
Vanadium (V)	Total	ND	0.02	0.04	µg/L					
Zinc (Zn)	Dissolved	ND	0.0025	0.005	µg/L					
Zinc (Zn)	Total	ND	0.0025	0.005	µg/L					
Method: EPA 200.8						Batch ID: E-5136		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
Barium (Ba)	Dissolved	ND	0.25	0.5	µg/L					
Method: EPA 245.7						Batch ID: E-6020		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L					
Mercury (Hg)	Total	ND	0.01	0.02	µg/L					
Sample ID: 22091-BS1		QAQC Procedural Blank		Matrix: DI Water		Sampled:			Received:	
		Method: EPA 200.8				Batch ID: E-5136			Prepared: 11-Sep-13	
									Analyzed: 11-Sep-13	
Barium (Ba)	Total	988.7	0.25	0.5	µg/L	1000	0	99 75 - 125% PASS		
		Method: EPA 245.7				Batch ID: E-6020			Prepared: 24-Sep-13	
									Analyzed: 24-Sep-13	
Mercury (Hg)	Total	0.11	0.01	0.02	µg/L	0.1	0	110 80 - 120% PASS		
Sample ID: 22091-BS2		QAQC Procedural Blank		Matrix: DI Water		Sampled:			Received:	
		Method: EPA 200.8				Batch ID: E-5136			Prepared: 11-Sep-13	
									Analyzed: 11-Sep-13	
Barium (Ba)	Total	985.81	0.25	0.5	µg/L	1000	0	99 75 - 125% PASS	0 30 PASS	
		Method: EPA 245.7				Batch ID: E-6020			Prepared: 24-Sep-13	
									Analyzed: 24-Sep-13	
Mercury (Hg)	Total	0.11	0.01	0.02	µg/L	0.1	0	110 80 - 120% PASS	0 30 PASS	
Sample ID: 22092-LCM1		QAQC LCM - Physis Seawater		Matrix: Seawater		Sampled:			Received:	
		Method: EPA 1640				Batch ID: E-5136			Prepared: 11-Sep-13	
									Analyzed: 17-Sep-13	
Aluminum (Al)	Total	ND	3	6	µg/L					
Antimony (Sb)	Total	0.1	0.01	0.015	µg/L					



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Arsenic (As)	Total	1.721	0.005	0.015	µg/L					
Beryllium (Be)	Total	ND	0.005	0.01	µg/L					
Cadmium (Cd)	Total	0.0968	0.0025	0.005	µg/L					
Chromium (Cr)	Total	0.1992	0.0125	0.025	µg/L					
Cobalt (Co)	Total	ND	0.005	0.01	µg/L					
Copper (Cu)	Total	0.096	0.005	0.01	µg/L					
Iron (Fe)	Total	ND	0.5	1	µg/L					
Lead (Pb)	Total	0.0186	0.0025	0.005	µg/L					
Manganese (Mn)	Total	0.29	0.01	0.02	µg/L					
Molybdenum (Mo)	Total	9.482	0.005	0.01	µg/L					
Nickel (Ni)	Total	0.423	0.0025	0.005	µg/L					
Selenium (Se)	Total	0.043	0.005	0.015	µg/L					
Silver (Ag)	Total	0.03	0.01	0.02	µg/L					
Thallium (Tl)	Total	0.006	0.005	0.01	µg/L					
Tin (Sn)	Total	ND	0.005	0.01	µg/L					
Titanium (Ti)	Total	13.809	0.035	0.07	µg/L					
Vanadium (V)	Total	2.1	0.02	0.04	µg/L					
Zinc (Zn)	Total	ND	0.0025	0.005	µg/L					

Sample ID: 22092-LCS1

QAQC LCM - Pysis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-5136

Prepared: 11-Sep-13

Analyzed: 18-Sep-13

Aluminum (Al)	Total	22.3	3	6	µg/L	20	0	112	0 - 191%	PASS
Antimony (Sb)	Total	2.18	0.01	0.015	µg/L	20	0.1	10	10 - 110%	PASS
Arsenic (As)	Total	21.462	0.005	0.015	µg/L	20	1.721	99	74 - 128%	PASS
Beryllium (Be)	Total	14.125	0.005	0.01	µg/L	20	0	71	60 - 118%	PASS
Cadmium (Cd)	Total	17.062	0.0025	0.005	µg/L	20	0.0968	85	68 - 131%	PASS
Chromium (Cr)	Total	20.4844	0.0125	0.025	µg/L	20	0.1992	101	32 - 173%	PASS
Cobalt (Co)	Total	19.281	0.005	0.01	µg/L	20	0	96	87 - 119%	PASS
Copper (Cu)	Total	16.446	0.005	0.01	µg/L	20	0.096	82	61 - 119%	PASS
Iron (Fe)	Total	10.2	0.5	1	µg/L	20	0	51	22 - 129%	PASS
Lead (Pb)	Total	17.939	0.0025	0.005	µg/L	20	0.0186	90	75 - 120%	PASS
Manganese (Mn)	Total	18.44	0.01	0.02	µg/L	20	0.29	91	32 - 131%	PASS

PHYSIS Project ID: 1307002-005

Client: AMEC

Project: RHMP B'13



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Molybdenum (Mo)	Total	27.067	0.005	0.01	µg/L	20	9.482	88	54 - 131%	PASS		
Nickel (Ni)	Total	15.9402	0.0025	0.005	µg/L	20	0.423	78	60 - 113%	PASS		
Selenium (Se)	Total	17.648	0.005	0.015	µg/L	20	0.043	88	0 - 183%	PASS		
Silver (Ag)	Total	9.21	0.01	0.02	µg/L	10	0.03	92	64 - 133%	PASS		
Thallium (Tl)	Total	18.739	0.005	0.01	µg/L	20	0.006	94	70 - 125%	PASS		
Tin (Sn)	Total	20.9	0.005	0.01	µg/L	20	0	104	69 - 118%	PASS		
Titanium (Ti)	Total	31.737	0.035	0.07	µg/L	20	13.809	90	72 - 129%	PASS		
Vanadium (V)	Total	22.75	0.02	0.04	µg/L	20	2.1	103	72 - 137%	PASS		
Zinc (Zn)	Total	17.3127	0.0025	0.005	µg/L	20	0	87	61 - 128%	PASS		

Sample ID: 22092-LCS2

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-5136

Prepared: 11-Sep-13

Analyzed: 18-Sep-13

Aluminum (Al)	Total	21.8	3	6	µg/L	20	0	109	0 - 191%	PASS	0	30	PASS
Antimony (Sb)	Total	2.01	0.01	0.015	µg/L	20	0.1	10	10 - 110%	PASS	0	30	PASS
Arsenic (As)	Total	20.997	0.005	0.015	µg/L	20	1.721	96	74 - 128%	PASS	3	30	PASS
Beryllium (Be)	Total	14.115	0.005	0.01	µg/L	20	0	71	60 - 118%	PASS	0	30	PASS
Cadmium (Cd)	Total	17.4423	0.0025	0.005	µg/L	20	0.0968	87	68 - 131%	PASS	2	30	PASS
Chromium (Cr)	Total	20.4924	0.0125	0.025	µg/L	20	0.1992	101	32 - 173%	PASS	0	30	PASS
Cobalt (Co)	Total	19.171	0.005	0.01	µg/L	20	0	96	87 - 119%	PASS	0	30	PASS
Copper (Cu)	Total	17.079	0.005	0.01	µg/L	20	0.096	85	61 - 119%	PASS	4	30	PASS
Iron (Fe)	Total	10.1	0.5	1	µg/L	20	0	50	22 - 129%	PASS	0	30	PASS
Lead (Pb)	Total	18.383	0.0025	0.005	µg/L	20	0.0186	92	75 - 120%	PASS	2	30	PASS
Manganese (Mn)	Total	17.83	0.01	0.02	µg/L	20	0.29	88	32 - 131%	PASS	3	30	PASS
Molybdenum (Mo)	Total	27.832	0.005	0.01	µg/L	20	9.482	92	54 - 131%	PASS	4	30	PASS
Nickel (Ni)	Total	16.6747	0.0025	0.005	µg/L	20	0.423	81	60 - 113%	PASS	4	30	PASS
Selenium (Se)	Total	17.917	0.005	0.015	µg/L	20	0.043	89	0 - 183%	PASS	1	30	PASS
Silver (Ag)	Total	9.11	0.01	0.02	µg/L	10	0.03	91	64 - 133%	PASS	1	30	PASS
Thallium (Tl)	Total	18.543	0.005	0.01	µg/L	20	0.006	93	70 - 125%	PASS	1	30	PASS
Tin (Sn)	Total	20.982	0.005	0.01	µg/L	20	0	105	69 - 118%	PASS	0	30	PASS
Titanium (Ti)	Total	33.734	0.035	0.07	µg/L	20	13.809	100	72 - 129%	PASS	11	30	PASS
Vanadium (V)	Total	22.99	0.02	0.04	µg/L	20	2.1	104	72 - 137%	PASS	1	30	PASS
Zinc (Zn)	Total	20.494	0.0025	0.005	µg/L	20	0	102	61 - 128%	PASS	0	30	PASS

PHYSIS Project ID: 1307002-005

Client: AMEC

Project: RHMP B'13



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22063-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 625

Batch ID: O-4144

Prepared: 16-Aug-13

Analyzed: 06-Sep-13

(d10-Acenaphthene)	Total	96			% Recovery	100		96 50 - 150% PASS		
(d10-Phenanthrene)	Total	96			% Recovery	100		96 50 - 150% PASS		
(d12-Chrysene)	Total	100			% Recovery	100		100 50 - 150% PASS		
(d8-Naphthalene)	Total	93			% Recovery	100		93 25 - 125% PASS		
1-Methylnaphthalene	Total	ND	1	5	ng/L					
1-Methylphenanthrene	Total	ND	1	5	ng/L					
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L					
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L					
2-Methylnaphthalene	Total	ND	1	5	ng/L					
Acenaphthene	Total	ND	1	5	ng/L					
Acenaphthylene	Total	ND	1	5	ng/L					
Anthracene	Total	ND	1	5	ng/L					
Benz[a]anthracene	Total	ND	1	5	ng/L					
Benzo[a]pyrene	Total	ND	1	5	ng/L					
Benzo[b]fluoranthene	Total	ND	1	5	ng/L					
Benzo[e]pyrene	Total	ND	1	5	ng/L					
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L					
Benzo[k]fluoranthene	Total	ND	1	5	ng/L					
Biphenyl	Total	ND	1	5	ng/L					
Chrysene	Total	ND	1	5	ng/L					
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L					
Dibenzothiophene	Total	ND	1	5	ng/L					
Fluoranthene	Total	ND	1	5	ng/L					
Fluorene	Total	ND	1	5	ng/L					
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L					
Naphthalene	Total	ND	1	5	ng/L					
Perylene	Total	ND	1	5	ng/L					
Phenanthrene	Total	ND	1	5	ng/L					
Pyrene	Total	ND	1	5	ng/L					

PHYSIS Project ID: 1307002-005

Client: AMEC

Project: RHMP B'13



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22063-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 625

Batch ID: O-4144

Prepared: 16-Aug-13

Analyzed: 06-Sep-13

(d10-Acenaphthene)	Total	78			% Recovery	100	0	78	50 - 150%	PASS
(d10-Phenanthrene)	Total	97			% Recovery	100	0	97	50 - 150%	PASS
(d12-Chrysene)	Total	101			% Recovery	100	0	101	50 - 150%	PASS
(d8-Naphthalene)	Total	67			% Recovery	100	0	67	25 - 125%	PASS
1-Methylnaphthalene	Total	683.1	1	5	ng/L	1000	0	68	50 - 150%	PASS
1-Methylphenanthrene	Total	1096.1	1	5	ng/L	1000	0	110	50 - 150%	PASS
2,3,5-Trimethylnaphthalene	Total	848.1	1	5	ng/L	1000	0	85	50 - 150%	PASS
2,6-Dimethylnaphthalene	Total	743.4	1	5	ng/L	1000	0	74	50 - 150%	PASS
2-Methylnaphthalene	Total	657.8	1	5	ng/L	1000	0	66	50 - 150%	PASS
Acenaphthene	Total	781.1	1	5	ng/L	1000	0	78	50 - 150%	PASS
Acenaphthylene	Total	755.7	1	5	ng/L	1000	0	76	50 - 150%	PASS
Anthracene	Total	1010.2	1	5	ng/L	1000	0	101	50 - 150%	PASS
Benz[a]anthracene	Total	1012.8	1	5	ng/L	1000	0	101	50 - 150%	PASS
Benzo[a]pyrene	Total	1093.3	1	5	ng/L	1000	0	109	50 - 150%	PASS
Benzo[b]fluoranthene	Total	1262.4	1	5	ng/L	1000	0	126	50 - 150%	PASS
Benzo[e]pyrene	Total	1058.6	1	5	ng/L	1000	0	106	50 - 150%	PASS
Benzo[g,h,i]perylene	Total	1033.1	1	5	ng/L	1000	0	103	50 - 150%	PASS
Benzo[k]fluoranthene	Total	1054.7	1	5	ng/L	1000	0	105	50 - 150%	PASS
Biphenyl	Total	731.9	1	5	ng/L	1000	0	73	50 - 150%	PASS
Chrysene	Total	995	1	5	ng/L	1000	0	100	50 - 150%	PASS
Dibenz[a,h]anthracene	Total	1154.3	1	5	ng/L	1000	0	115	50 - 150%	PASS
Dibenzothiophene	Total	955.6	1	5	ng/L	1000	0	96	50 - 150%	PASS
Fluoranthene	Total	1210.4	1	5	ng/L	1000	0	121	50 - 150%	PASS
Fluorene	Total	863.8	1	5	ng/L	1000	0	86	50 - 150%	PASS
Indeno[1,2,3-c,d]pyrene	Total	1034.3	1	5	ng/L	1000	0	103	50 - 150%	PASS
Naphthalene	Total	630.8	1	5	ng/L	1000	0	63	25 - 125%	PASS
Perylene	Total	1053.5	1	5	ng/L	1000	0	105	50 - 150%	PASS
Phenanthrene	Total	977.6	1	5	ng/L	1000	0	98	50 - 150%	PASS
Pyrene	Total	1118.2	1	5	ng/L	1000	0	112	50 - 150%	PASS

PHYSIS Project ID: 1307002-005

Client: AMEC

Project: RHMP B'13



1904 E. Wright Circle, Anaheim CA 92806

main: (714) 602-5320

fax: (714) 602-5321

www.physislabs.com

info@physislabs.com

CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22063-BS2		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 625			Batch ID: O-4144		Prepared: 16-Aug-13		Analyzed: 06-Sep-13	
(d10-Acenaphthene)	Total	75			% Recovery	100	0	75 50 - 150% PASS	4 30 PASS	
(d10-Phenanthrene)	Total	96			% Recovery	100	0	96 50 - 150% PASS	1 30 PASS	
(d12-Chrysene)	Total	101			% Recovery	100	0	101 50 - 150% PASS	0 30 PASS	
(d8-Naphthalene)	Total	65			% Recovery	100	0	65 25 - 125% PASS	3 30 PASS	
1-Methylnaphthalene	Total	677.3	1	5	ng/L	1000	0	68 50 - 150% PASS	0 30 PASS	
1-Methylphenanthrene	Total	1134	1	5	ng/L	1000	0	113 50 - 150% PASS	3 30 PASS	
2,3,5-Trimethylnaphthalene	Total	818.3	1	5	ng/L	1000	0	82 50 - 150% PASS	4 30 PASS	
2,6-Dimethylnaphthalene	Total	733.3	1	5	ng/L	1000	0	73 50 - 150% PASS	1 30 PASS	
2-Methylnaphthalene	Total	667.1	1	5	ng/L	1000	0	67 50 - 150% PASS	2 30 PASS	
Acenaphthene	Total	770.9	1	5	ng/L	1000	0	77 50 - 150% PASS	1 30 PASS	
Acenaphthylene	Total	743.3	1	5	ng/L	1000	0	74 50 - 150% PASS	3 30 PASS	
Anthracene	Total	1017.8	1	5	ng/L	1000	0	102 50 - 150% PASS	1 30 PASS	
Benz[a]anthracene	Total	1023.7	1	5	ng/L	1000	0	102 50 - 150% PASS	1 30 PASS	
Benzo[a]pyrene	Total	1000.2	1	5	ng/L	1000	0	100 50 - 150% PASS	9 30 PASS	
Benzo[b]fluoranthene	Total	1191	1	5	ng/L	1000	0	119 50 - 150% PASS	6 30 PASS	
Benzo[e]pyrene	Total	1016.8	1	5	ng/L	1000	0	102 50 - 150% PASS	4 30 PASS	
Benzo[g,h,i]perylene	Total	1062.8	1	5	ng/L	1000	0	106 50 - 150% PASS	3 30 PASS	
Benzo[k]fluoranthene	Total	1014.1	1	5	ng/L	1000	0	101 50 - 150% PASS	4 30 PASS	
Biphenyl	Total	717.6	1	5	ng/L	1000	0	72 50 - 150% PASS	1 30 PASS	
Chrysene	Total	1045.8	1	5	ng/L	1000	0	105 50 - 150% PASS	5 30 PASS	
Dibenz[a,h]anthracene	Total	1134.6	1	5	ng/L	1000	0	113 50 - 150% PASS	2 30 PASS	
Dibenzothiophene	Total	958.2	1	5	ng/L	1000	0	96 50 - 150% PASS	0 30 PASS	
Fluoranthene	Total	1218.3	1	5	ng/L	1000	0	122 50 - 150% PASS	1 30 PASS	
Fluorene	Total	855.8	1	5	ng/L	1000	0	86 50 - 150% PASS	0 30 PASS	
Indeno[1,2,3-c,d]pyrene	Total	1028.8	1	5	ng/L	1000	0	103 50 - 150% PASS	0 30 PASS	
Naphthalene	Total	617.5	1	5	ng/L	1000	0	62 25 - 125% PASS	2 30 PASS	
Perylene	Total	1084.2	1	5	ng/L	1000	0	108 50 - 150% PASS	3 30 PASS	
Phenanthrene	Total	979.6	1	5	ng/L	1000	0	98 50 - 150% PASS	0 30 PASS	
Pyrene	Total	1109	1	5	ng/L	1000	0	111 50 - 150% PASS	1 30 PASS	

SUBCONTRACT

REPORT

TERRA CONSULTING, INC. AURORA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS

CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

1307002-005

16/10/13

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8020	8/11/13	1105	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8020			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8020			DOC	Grab	40 mL VOA	None	2
B13-8020			MTBE	Grab	40 mL VOA	HCl	3
B13-8020			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8020			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8020			PAHs	Grab	1 L Glass	None	2
B13-8020			TDS	Grab	1 L HDPE	None	1
B13-8020			TOC	Grab	40 mL VOA	H2SO4	2
B13-8020			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JR

Relinquished By: (Burns)

Date/Time:

8/12/13 1845

Received By:

(Signature)

Date/Time:

8/12/13 1845

Relinquished By:

Date/Time:

Received By:

Date/Time:

8

1307002-005

06/20/13

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8017	8/11/13	1430	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8017			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8017			DOC	Grab	40 mL VOA	None	2
B13-8017			MTBE	Grab	40 mL VOA	HCl	3
B13-8017			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8017			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8017			PAHs	Grab	1 L Glass	None	2
B13-8017			TDS	Grab	1 L HDPE	None	1
B13-8017			TOC	Grab	40 mL VOA	H2SO4	2
B13-8017			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JR

Relinquished By: (Signature)

Date/Time: 8/12/13 1845

Received By: (Signature)

Date/Time: 8/12/13 1845

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

1307002-005

ph 3-13

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-FB	8/11/13	1700	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-FB			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-FB			DOC	Grab	40 mL VOA	None	2
B13-FB			MTBE	Grab	40 mL VOA	HCl	3
B13-FB			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-FB			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-FB			PAHs	Grab	1 L Glass	None	2
B13-FB			TDS	Grab	1 L HDPE	None	1
B13-FB			TOC	Grab	40 mL VOA	H2SO4	2
B13-FB			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JS

Relinquished By: L (Burt)

Date/Time: 8/12/13 1245

Received By: Adam P. Deell

Date/Time: 8/12/13 1845

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

1307002-005

06/04/13

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-NBEB	8/11/13	1700	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-NBEB			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-NBEB			DOC	Grab	40 mL VOA	None	2
B13-NBEB			MTBE	Grab	40 mL VOA	HCl	3
B13-NBEB			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-NBEB			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-NBEB			PAHs	Grab	1 L Glass	None	2
B13-NBEB			TDS	Grab	1 L HDPE	None	1
B13-NBEB			TOC	Grab	40 mL VOA	H2SO4	2
B13-NBEB			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JR

Relinquished By: L (Bauer)

Date/Time: 8/12/13 1845

Received By: Adam F. Jell

Date/Time: 8/12/13 1845

Relinquished By:

Date/Time:

Received By:

Date/Time:

1307002-005

P6 50013

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8064	8/12/13	0900	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8064			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8064			DOC	Grab	40 mL VOA	None	2
B13-8064			MTBE	Grab	40 mL VOA	HCl	3
B13-8064			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8064			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8064			PAHs	Grab	1 L Glass	None	2
B13-8064			TDS	Grab	1 L HDPE	None	1
B13-8064			TOC	Grab	40 mL VOA	H2SO4	2
B13-8064			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.Sampler's Initials: THRelinquished By: L (Barros)Date/Time: 8/12/13 1845Received By: Adam P. [Signature]Date/Time: 8/12/13 18:45

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP
Bight '13

1307002-005

06/06/13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8050	8/12/13	1450	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8050			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8050			DOC	Grab	40 mL VOA	None	2
B13-8050			MTBE	Grab	40 mL VOA	HCl	3
B13-8050			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8050			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8050			PAHs	Grab	1 L Glass	None	2
B13-8050			TDS	Grab	1 L HDPE	None	1
B13-8050			TOC	Grab	40 mL VOA	H2SO4	2
B13-8050			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TH

Relinquished By: LE (Burns)

Date/Time: 8/12/13 1845

Received By: David F. Loebe

Date/Time: 8/12/13 1845

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

1307002-005

8/6/13

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8029	8/11/13	0805	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8029			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8029			DOC	Grab	40 mL VOA	None	2
B13-8029			MTBE	Grab	40 mL VOA	HCl	3
B13-8029			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8029			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8029			PAHs	Grab	1 L Glass	None	2
B13-8029			TDS	Grab	1 L HDPE	None	1
B13-8029			TOC	Grab	40 mL VOA	H2SO4	2
B13-8029			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JR

Relinquished By: (Bu...)

Date/Time: 8/12/13 1845

Received By:

Date/Time:

8/12/13 1845

Relinquished By:

Date/Time:

Received By:

Date/Time:

1307002-005 PL 80013

Analysis Request and Chain of Custody

RHMP

Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8069	8/12/13	1245	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8069			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8069			DOC	Grab	40 mL VOA	None	2
B13-8069			MTBE	Grab	40 mL VOA	HCl	3
B13-8069			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8069			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8069			PAHs	Grab	1 L Glass	None	2
B13-8069			TDS	Grab	1 L HDPE	None	1
B13-8069			TOC	Grab	40 mL VOA	H2SO4	2
B13-8069			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TH

Relinquished By: [Signature] Date/Time: 8/12/13 1845

Received By: [Signature]

Date/Time: 8/12/13 1845

Relinquished By: Date/Time:

Received By:

Date/Time:

1307002-005 p. 9 of 13

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8056	8/12/13	1350	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8056			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8056			DOC	Grab	40 mL VOA	None	2
B13-8056			MTBE	Grab	40 mL VOA	HCl	3
B13-8056			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8056			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8056			PAHs	Grab	1 L Glass	None	2
B13-8056			TDS	Grab	1 L HDPE	None	1
B13-8056			TOC	Grab	40 mL VOA	H2SO4	2
B13-8056			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TH

Relinquished By: L (Burns)

Date/Time: 8/12/13 1845

Received By: [Signature]

Date/Time: 8/12/13 18:45

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP
Bight '13

1307002-005

Pg 10 of 13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8049	8/12/13	1555	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8049			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8049			DOC	Grab	40 mL VOA	None	2
B13-8049			MTBE	Grab	40 mL VOA	HCl	3
B13-8049			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8049			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8049			PAHs	Grab	1 L Glass	None	2
B13-8049			TDS	Grab	1 L HDPE	None	1
B13-8049			TOC	Grab	40 mL VOA	H2SO4	2
B13-8049			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TH

Relinquished By: L (Bullis) Date/Time: 8/12/13 1845

Received By: [Signature] Date/Time: 8/12/13 1845

Relinquished By: Date/Time: Received By: Date/Time:

10

1307002-005 pg 11 of 13

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8066	8/12/13	1020	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8066			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8066			DOC	Grab	40 mL VOA	None	2
B13-8066			MTBE	Grab	40 mL VOA	HCl	3
B13-8066			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8066			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8066			PAHs	Grab	1 L Glass	None	2
B13-8066			TDS	Grab	1 L HDPE	None	1
B13-8066			TOC	Grab	40 mL VOA	H2SO4	2
B13-8066			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TH

Relinquished By: (Bures) Date/Time: 8/12/13 1845 Received By: [Signature] Date/Time: 8/12/13 1845

Relinquished By: _____ Date/Time: _____ Received By: _____ Date/Time: _____

03

1307002-005 p4 12/06/13

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8065	8/12/13	0720	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8065			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8065			DOC	Grab	40 mL VOA	None	2
B13-8065			MTBE	Grab	40 mL VOA	HCl	3
B13-8065			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8065			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8065			PAHs	Grab	1 L Glass	None	2
B13-8065			TDS	Grab	1 L HDPE	None	1
B13-8065			TOC	Grab	40 mL VOA	H2SO4	2
B13-8065			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TH

Relinquished By: L. (BURNS) Date/Time: 8/12/13 1845 Received By: Alan C. Bell Date/Time: 8/12/13 1845

Relinquished By: Date/Time: Received By: Date/Time:

to physis

Table 4-1.
Chemical Analyses of Water Samples

Analyte	Analysis Method	Water Target Reporting Limits ^a	Units
pH	Field Measures	--	--
Specific Conductance	Field Measures	--	µS/cm
Dissolved Oxygen	Field Measures	--	mg/L
Temperature	Field Measures	--	°C
Salinity	Field Measures	--	ppt
Transmissivity	Field Measures	--	%
Ammonia-N	SM 4500-NH3 D	0.05	mg/L
Methylene Blue-Activated Substances (MBAS)	SM 5540 C	0.025	mg/L
Nitrate-N	EPA 300.0/SM 4500-NO3 E	0.05	mg/L
Oil & Grease	EPA 1664A	1.0	mg/L
Dissolved Organic Carbon (DOC)	EPA 415.3	0.5	mg/L
Total Organic Carbon (TOC)	EPA 415.3	0.5	mg/L
Total Orthophosphate as P	SM 4500 P E	0.05	mg/L
Aluminum (Al)	EPA 1640	1.0	µg/L
Antimony (Sb)	EPA 1640	0.015	µg/L
Arsenic (As)	EPA 1640	0.015	µg/L
Barium (Ba)	EPA 200.8	0.5	µg/L
Beryllium (Be)	EPA 1640	0.01	µg/L
Cadmium (Cd)	EPA 1640	0.005	µg/L
Chromium (Cr)	EPA 1640	0.025	µg/L
Cobalt (Co)	EPA 1640	0.01	µg/L
Copper (Cu)	EPA 1640	0.01	µg/L
Iron (Fe)	EPA 1640	1.0	µg/L
Lead (Pb)	EPA 1640	0.005	µg/L
Manganese (Mn)	EPA 1640	0.02	µg/L
Mercury (Hg)	EPA 245.7	0.02	µg/L
Molybdenum (Mo)	EPA 1640	0.01	µg/L
Nickel (Ni)	EPA 1640	0.005	µg/L
Selenium (Se)	EPA 1640	0.015	µg/L
Silver (Ag)	EPA 1640	0.02	µg/L
Thallium (Tl)	EPA 1640	0.01	µg/L
Tin (Sn)	EPA 1640	0.01	µg/L
Titanium (Ti)	EPA 1640	0.07	µg/L
Vanadium (V)	EPA 1640	0.04	µg/L
Zinc (Zn)	EPA 1640	0.005	µg/L
Polycyclic Aromatic Hydrocarbons (PAHs) ^b	EPA 625	5.0	ng/L
Methyl-t-butyl Ether (MTBE)	EPA 8260B	1.0	µg/L

Notes: Metals analysis will consist of both total and dissolved fractions. Filtering for the dissolved fraction will occur in the field immediately after collection.

^a Reporting limits provided by Physis Environmental Laboratories.

^b Includes acenaphthene, acenaphthylene, anthracene, benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[e]pyrene, benzo[g,h,i]perylene, benzo[k]fluoranthene, biphenyl, chrysene, dibenz[a,h]anthracene, di benzo[thiophene, fluoranthene, fluorene, indeno[1,2,3-c,d]pyrene, naphthalene, perylene, phenanthrene, pyrene, 2,6-dimethylnaphthalene, 1-methylnaphthalene, 2-methylnaphthalene, 1-methylphenanthrene, 2,3,5-trimethylnaphthalene, and 1,6,7-trimethylnaphthalene.

µg/L - micrograms per liter (parts per billion) mg/L - milligrams per liter

µS/cm - microSiemens per centimeter ppt - parts per thousand °C - degrees Celsius

SAMPLE RECEIPT SUMMARY

CLIENT: AMEC Date Received: 8/12/13 Received By: AI Inspected By: AI

COURIER

☒ PHYSIS ☐ CLIENT ☐ FEDEX ☐ UPS
start 15:30 end 20:15 ☐ OTHER: see notes

COOLER

☒ COOLER ☐ BOX total #
☐ OTHER: 6

TEMPERATURE

4.0 °C ☒ WET ICE ☐ BLUE ICE
☐ DRY ICE ☐ NONE

SAMPLE INTEGRITY UPON RECEIPT

1. COC(s) included and completely filled out..... YES
2. All sample containers arrived intact..... YES
3. All samples listed on COC(s) are present..... YES
4. Information on containers consistent with information on COC(s)..... YES
5. Correct containers and volume for all analyses indicated..... YES
6. All samples received within method holding time..... YES
7. Correct preservation used for all analyses indicated..... YES

NOTES

SID B13-FB had one bottle (Filtered Metals) that was labeled B13-FTEB. That sample was logged in to match the COC.



November 22, 2013

Chris Stransky
AMEC
9210 Sky Park Court
Suite 200
San Diego, CA 92123-

Project Name: RHMP Bight '13
Physis Project ID: 1307002-007

Dear Chris,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 8/13/2013. A total of 4 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventionals
Total Orthophosphate as P by SM 4500-P E
Oil & Grease by EPA 1664A
Nitrate as N by SM 4500-NO ₃ E
MBAS by SM 5540-C
Ammonia as N by SM 4500-NH ₃ D
Elements
Total and Dissolved Barium by EPA 200.8
Total & Dissolved Trace Metals by EPA 1640
Total & Dissolved Mercury by EPA 245.7
Organics
Polynuclear Aromatic Hydrocarbons by EPA 625
Subcontract
Total Organic Carbon by SM 5310 B
Methyl Tertiary Butyl Ether (MTBE) by EPA 624
Dissolved Organic Carbon by SM 5310 B

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,



Misty Mercier
Extension 202
714-335-5918 cell
mistymercier@physislabs.com

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and are used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use was assessed through the analysis of procedural blanks at a minimum frequency of one per batch. Physis' QM requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the procedural blanks be flagged in the project sample results with a B qualifier.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS₁/MS₂, BS₁/BS₂, LCS₁/LCS₂, LCM₁/LCM₂, CRM₁/CRM₂, surrogate spikes and/or replicate project sample analysis (R₁/R₂) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

MATRIX SPIKES: MS samples were employed to assess the effect a particular project sample matrix has on the accuracy of a measurement. It is prepared by adding a known amount of the target analyte(s) to an aliquot of the project sample. Matrix spikes indicate the bias of analytical measurements due to chemical interferences inherent in the sample matrix. If the matrix spike recovery does not fall within the specified acceptance limits, it may be an indication of sample matrix interference in the specific project sample used for the MS. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

BLANK SPIKES: BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

CERTIFIED REFERENCE MATERIALS: CRMs are pre-homogenized materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of a preparation and analytical method. CRMs are analyzed to provide evidence that the laboratory method produces results that are comparable to those obtained by an independent organization.

SURROGATES: Where CRMs are unavailable, target analyte recovery can be assessed by monitoring added surrogate compounds/elements. A surrogate is a pure analyte unlikely to be found in any project sample and most often used with organic analytical procedures. Percent recovery is calculated for each surrogate and is used to monitor method performance within each discrete sample and is indicative of the procedure's ability to recover the actual analytes of interest.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored

under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes. Physis' QM requires that all samples analyzed beyond the method recommended holding time be flagged in the sample results with an H qualifier.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
*	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified recovery and/or RPD acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore MS recovery and/or RPD acceptance limits do not apply
SL	analyte results for R1 and/or R2 were lower than 10 times the MDL, therefore RPD acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore MS recovery and/or RPD were outside the specified acceptance limits
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

ANALYTICAL

REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC.

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CA ELAP #2769

Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22094-R1 B13-8075 Grab Matrix: Seawater Sampled: 13-Aug-13 7:45 Received: 13-Aug-13 Method: SM 4500-P E Batch ID: C-13089 Prepared: 14-Aug-13 Analyzed: 14-Aug-13						
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
Method: SM 5540-C Batch ID: C-13094 Prepared: 15-Aug-13 Analyzed: 15-Aug-13						
MBAS	NA	ND	0.005	0.025	mg/L	
Method: EPA 1664A Batch ID: C-14046 Prepared: 10-Sep-13 Analyzed: 10-Sep-13						
Oil & Grease	NA	ND	1	1	mg/L	
Method: SM 4500-NO ₃ E Batch ID: C-14047 Prepared: 13-Aug-13 Analyzed: 05-Sep-13						
Nitrate as N	NA	0.01	0.01	0.05	mg/L	J
Method: SM 4500-NH ₃ D Batch ID: C-14050 Prepared: 06-Sep-13 Analyzed: 06-Sep-13						
Ammonia as N	NA	0.02	0.02	0.05	mg/L	J
Sample ID: 22095-R1 B13-8074 Grab Matrix: Seawater Sampled: 13-Aug-13 9:00 Received: 13-Aug-13 Method: SM 4500-P E Batch ID: C-13089 Prepared: 14-Aug-13 Analyzed: 14-Aug-13						
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
Method: SM 5540-C Batch ID: C-13094 Prepared: 15-Aug-13 Analyzed: 15-Aug-13						
MBAS	NA	0.029	0.005	0.025	mg/L	
Method: EPA 1664A Batch ID: C-14046 Prepared: 10-Sep-13 Analyzed: 10-Sep-13						
Oil & Grease	NA	ND	1	1	mg/L	
Method: SM 4500-NO ₃ E Batch ID: C-14047 Prepared: 13-Aug-13 Analyzed: 05-Sep-13						
Nitrate as N	NA	0.02	0.01	0.05	mg/L	J
Method: SM 4500-NH ₃ D Batch ID: C-14050 Prepared: 06-Sep-13 Analyzed: 06-Sep-13						
Ammonia as N	NA	ND	0.02	0.05	mg/L	
Sample ID: 22096-R1 B13-8076 Grab Matrix: Seawater Sampled: 13-Aug-13 10:25 Received: 13-Aug-13 Method: SM 4500-P E Batch ID: C-13089 Prepared: 14-Aug-13 Analyzed: 14-Aug-13						
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
Method: SM 5540-C Batch ID: C-13094 Prepared: 15-Aug-13 Analyzed: 15-Aug-13						
MBAS	NA	0.04	0.005	0.025	mg/L	
Method: EPA 1664A Batch ID: C-14046 Prepared: 10-Sep-13 Analyzed: 10-Sep-13						
Oil & Grease	NA	ND	1	1	mg/L	
Method: SM 4500-NO ₃ E Batch ID: C-14047 Prepared: 13-Aug-13 Analyzed: 05-Sep-13						



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Conventionals

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Nitrate as N	NA	0.02	0.01	0.05	mg/L	J
	Method: SM 4500-NH ₃ D	Batch ID: C-14050		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
Sample ID: 22097-R1	B13-8077 Grab	Matrix: Seawater		Sampled: 13-Aug-13 11:35		Received: 13-Aug-13
	Method: SM 4500-P E	Batch ID: C-13089		Prepared: 14-Aug-13		Analyzed: 14-Aug-13
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13094		Prepared: 15-Aug-13		Analyzed: 15-Aug-13
MBAS	NA	0.062	0.005	0.025	mg/L	
	Method: EPA 1664A	Batch ID: C-14046		Prepared: 10-Sep-13		Analyzed: 10-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14047		Prepared: 13-Aug-13		Analyzed: 05-Sep-13
Nitrate as N	NA	0.02	0.01	0.05	mg/L	J
	Method: SM 4500-NH ₃ D	Batch ID: C-14050		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22094-R1</div> <div>B13-8075 Grab</div> <div>Method: EPA 1640</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: E-5130</div> </div> <div> <div>Sampled: 13-Aug-13 7:45</div> <div>Prepared: 21-Aug-13</div> </div> <div> <div>Received: 13-Aug-13</div> <div>Analyzed: 27-Aug-13</div> </div>						
Aluminum (Al)	Total	48.3	3	6	µg/L	
Aluminum (Al)	Dissolved	4.2	3	6	µg/L	J
Antimony (Sb)	Total	0.14	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.16	0.01	0.015	µg/L	
Arsenic (As)	Total	1.234	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.238	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0587	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.052	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2726	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.2125	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.122	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.106	0.005	0.01	µg/L	
Copper (Cu)	Total	3.542	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	3.22	0.005	0.01	µg/L	
Iron (Fe)	Total	18.2	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1713	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0477	0.0025	0.005	µg/L	
Manganese (Mn)	Total	6.51	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	5.92	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	8.762	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.041	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.6367	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.5882	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.019	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.017	0.005	0.015	µg/L	
Silver (Ag)	Total	0.08	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.08	0.01	0.02	µg/L	

PHYSIS Project ID: 1307002-007

Client: AMEC

Project: RHMP Bight '13



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.014	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	10.95	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	12.646	0.035	0.07	µg/L	
Vanadium (V)	Total	2.63	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.63	0.02	0.04	µg/L	
Zinc (Zn)	Total	9.7953	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	9.0642	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-5130

Prepared: 06-Sep-13

Analyzed: 06-Sep-13

Barium (Ba)	Total	8.6	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	8.07	0.25	0.5	µg/L	

Method: EPA 245.7

Batch ID: E-6017

Prepared: 30-Aug-13

Analyzed: 30-Aug-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Sample ID: 22095-R1

B13-8074 Grab

Matrix: Seawater

Sampled: 13-Aug-13

9:00

Received: 13-Aug-13

Method: EPA 1640

Batch ID: E-5130

Prepared: 21-Aug-13

Analyzed: 27-Aug-13

Aluminum (Al)	Total	36.1	3	6	µg/L	
Aluminum (Al)	Dissolved	4.1	3	6	µg/L	J
Antimony (Sb)	Total	0.16	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.15	0.01	0.015	µg/L	
Arsenic (As)	Total	1.134	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.203	0.005	0.015	µg/L	
Beryllium (Be)	Total	0.005	0.005	0.01	µg/L	J
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0591	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0625	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2673	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.161	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.118	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.104	0.005	0.01	µg/L	

PHYSIS Project ID: 1307002-007

Client: AMEC

Project: RHMP Bight '13



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Copper (Cu)	Total	4.102	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	3.691	0.005	0.01	µg/L	
Iron (Fe)	Total	17.3	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.16	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0523	0.0025	0.005	µg/L	
Manganese (Mn)	Total	8.21	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	6.33	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	8.743	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.192	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.6647	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.6208	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.027	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.015	0.005	0.015	µg/L	
Silver (Ag)	Total	0.08	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.08	0.01	0.02	µg/L	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.017	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	14.446	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	11.351	0.035	0.07	µg/L	
Vanadium (V)	Total	2.66	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.58	0.02	0.04	µg/L	
Zinc (Zn)	Total	10.2044	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	7.7352	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-5130		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Barium (Ba)	Total	8.62	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	9.16	0.25	0.5	µg/L	
Method: EPA 245.7		Batch ID: E-6017		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22096-R1 B13-8076 Grab Method: EPA 1640		Matrix: Seawater Batch ID: E-5130		Sampled: 13-Aug-13 10:25 Prepared: 21-Aug-13		Received: 13-Aug-13 Analyzed: 27-Aug-13
Aluminum (Al)	Total	38.7	3	6	µg/L	
Aluminum (Al)	Dissolved	5	3	6	µg/L	J
Antimony (Sb)	Total	0.14	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.15	0.01	0.015	µg/L	
Arsenic (As)	Total	1.187	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.239	0.005	0.015	µg/L	
Beryllium (Be)	Total	0.005	0.005	0.01	µg/L	J
Beryllium (Be)	Dissolved	0.005	0.005	0.01	µg/L	J
Cadmium (Cd)	Total	0.0564	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0549	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.278	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.172	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.12	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.104	0.005	0.01	µg/L	
Copper (Cu)	Total	3.378	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	3.086	0.005	0.01	µg/L	
Iron (Fe)	Total	20.8	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1793	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0536	0.0025	0.005	µg/L	
Manganese (Mn)	Total	8	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	6.21	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	8.781	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.054	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.5758	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.5459	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.026	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.034	0.005	0.015	µg/L	
Silver (Ag)	Total	0.08	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.08	0.01	0.02	µg/L	

PHYSIS Project ID: 1307002-007

Client: AMEC

Project: RHMP Bight '13



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.019	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	14.364	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	8.901	0.035	0.07	µg/L	
Vanadium (V)	Total	2.63	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.54	0.02	0.04	µg/L	
Zinc (Zn)	Total	9.7452	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	8.9126	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-5130

Prepared: 06-Sep-13

Analyzed: 06-Sep-13

Barium (Ba)	Total	8.5	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	9.45	0.25	0.5	µg/L	

Method: EPA 245.7

Batch ID: E-6017

Prepared: 30-Aug-13

Analyzed: 30-Aug-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Sample ID: 22097-R1

B13-8077 Grab

Matrix: Seawater

Sampled: 13-Aug-13 11:35

Received: 13-Aug-13

Method: EPA 1640

Batch ID: E-5130

Prepared: 21-Aug-13

Analyzed: 27-Aug-13

Aluminum (Al)	Total	29.9	3	6	µg/L	
Aluminum (Al)	Dissolved	4.1	3	6	µg/L	J
Antimony (Sb)	Total	0.14	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.15	0.01	0.015	µg/L	
Arsenic (As)	Total	1.151	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.208	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	0.006	0.005	0.01	µg/L	J
Cadmium (Cd)	Total	0.0579	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0558	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.4521	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1903	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.108	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.096	0.005	0.01	µg/L	

PHYSIS Project ID: 1307002-007

Client: AMEC

Project: RHMP Bight '13



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Copper (Cu)	Total	3.713	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	3.408	0.005	0.01	µg/L	
Iron (Fe)	Total	15.4	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1488	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0462	0.0025	0.005	µg/L	
Manganese (Mn)	Total	7.95	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	5.43	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	8.735	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.06	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.6466	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.5632	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.017	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.018	0.005	0.015	µg/L	
Silver (Ag)	Total	0.08	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.08	0.01	0.02	µg/L	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.023	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.01	0.005	0.01	µg/L	
Titanium (Ti)	Total	11.738	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	12.414	0.035	0.07	µg/L	
Vanadium (V)	Total	2.54	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.5	0.02	0.04	µg/L	
Zinc (Zn)	Total	8.5515	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	9.4404	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-5130		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Barium (Ba)	Total	8.89	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	8.48	0.25	0.5	µg/L	
Method: EPA 245.7		Batch ID: E-6017		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22094-R1</div> <div>B13-8075 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: O-4144</div> </div> <div> <div>Sampled: 13-Aug-13 7:45</div> <div>Prepared: 16-Aug-13</div> </div> <div> <div>Received: 13-Aug-13</div> <div>Analyzed: 07-Sep-13</div> </div>						
(d10-Acenaphthene)	Total	71			% Recovery	
(d10-Phenanthrene)	Total	93			% Recovery	
(d12-Chrysene)	Total	104			% Recovery	
(d8-Naphthalene)	Total	56			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	2.3	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	2.8	1	5	ng/L	J
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	5.8	1	5	ng/L	
Fluorene	Total	1.5	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.2	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	2.4	1	5	ng/L	J
Pyrene	Total	2.5	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22095-R1 B13-8074 Grab Method: EPA 625		Matrix: Seawater Batch ID: O-4144		Sampled: 13-Aug-13 9:00 Prepared: 16-Aug-13		Received: 13-Aug-13 Analyzed: 08-Sep-13
(d10-Acenaphthene)	Total	75			% Recovery	
(d10-Phenanthrene)	Total	98			% Recovery	
(d12-Chrysene)	Total	101			% Recovery	
(d8-Naphthalene)	Total	61			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	2.3	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	2.4	1	5	ng/L	J
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	5.4	1	5	ng/L	
Fluorene	Total	1.6	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	2.3	1	5	ng/L	J
Pyrene	Total	2.9	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22096-R1</div> <div>B13-8076 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: O-4144</div> </div> <div> <div>Sampled: 13-Aug-13 10:25</div> <div>Prepared: 16-Aug-13</div> </div> <div> <div>Received: 13-Aug-13</div> <div>Analyzed: 08-Sep-13</div> </div>						
(d10-Acenaphthene)	Total	73			% Recovery	
(d10-Phenanthrene)	Total	96			% Recovery	
(d12-Chrysene)	Total	109			% Recovery	
(d8-Naphthalene)	Total	58			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	2.3	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	2.1	1	5	ng/L	J
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	6.4	1	5	ng/L	
Fluorene	Total	1.5	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	2.3	1	5	ng/L	J
Pyrene	Total	3.1	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22097-R1</div> <div>B13-8077 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: O-4144</div> </div> <div> <div>Sampled: 13-Aug-13 11:35</div> <div>Prepared: 16-Aug-13</div> </div> <div> <div>Received: 13-Aug-13</div> <div>Analyzed: 08-Sep-13</div> </div>						
(d10-Acenaphthene)	Total	77			% Recovery	
(d10-Phenanthrene)	Total	98			% Recovery	
(d12-Chrysene)	Total	110			% Recovery	
(d8-Naphthalene)	Total	64			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	2.2	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	1.6	1	5	ng/L	J
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	5.5	1	5	ng/L	
Fluorene	Total	2.5	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	2.1	1	5	ng/L	J
Pyrene	Total	1.9	1	5	ng/L	J

QUALITY CONTROL REPORT

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CA ELAP #2769

Conventionals

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Ammonia as N		Method: SM 4500-NH₃ D		Fraction: NA		Prepared: 06-Sep-13		Analyzed: 06-Sep-13				
22093-B1	QAQC Procedural Blank	C-14050	ND	0.02	0.05	mg/L						
22093-BS1	QAQC Procedural Blank	C-14050	0.24	0.02	0.05	mg/L	0.25	0	96	70 - 130%	PASS	
22093-BS2	QAQC Procedural Blank	C-14050	0.24	0.02	0.05	mg/L	0.25	0	96	70 - 130%	PASS	0 30 PASS
22097-MS1	B13-8077	C-14050	0.25	0.02	0.05	mg/L	0.25	0	100	70 - 130%	PASS	
22097-MS2	B13-8077	C-14050	0.23	0.02	0.05	mg/L	0.25	0	92	70 - 130%	PASS	8 30 PASS
22097-R2	B13-8077	C-14050	ND	0.02	0.05	mg/L						0 30 PASS
MBAS		Method: SM 5540-C		Fraction: NA		Prepared: 15-Aug-13		Analyzed: 15-Aug-13				
22093-B1	QAQC Procedural Blank	C-13094	ND	0.005	0.025	mg/L						
22093-BS1	QAQC Procedural Blank	C-13094	0.092	0.005	0.025	mg/L	0.1	0	92	70 - 130%	PASS	
22093-BS2	QAQC Procedural Blank	C-13094	0.085	0.005	0.025	mg/L	0.1	0	85	70 - 130%	PASS	8 30 PASS
22094-MS1	B13-8075	C-13094	0.078	0.005	0.025	mg/L	0.1	0.007	71	70 - 130%	PASS	
22094-MS2	B13-8075	C-13094	0.089	0.005	0.025	mg/L	0.1	0.007	82	70 - 130%	PASS	14 30 PASS
22094-R2	B13-8075	C-13094	0.014	0.005	0.025	mg/L						95 30 FAIL J,SL
Nitrate as N		Method: SM 4500-NO₃ E		Fraction: NA		Prepared: 13-Aug-13		Analyzed: 05-Sep-13				
22093-B1	QAQC Procedural Blank	C-14047	ND	0.01	0.05	mg/L						
22093-BS1	QAQC Procedural Blank	C-14047	0.11	0.01	0.05	mg/L	0.11	0	100	70 - 130%	PASS	
22093-BS2	QAQC Procedural Blank	C-14047	0.11	0.01	0.05	mg/L	0.11	0	100	70 - 130%	PASS	0 30 PASS
22094-MS1	B13-8075	C-14047	0.3	0.01	0.05	mg/L	0.23	0.01	126	70 - 130%	PASS	
22094-MS2	B13-8075	C-14047	0.31	0.01	0.05	mg/L	0.23	0.01	130	70 - 130%	PASS	3 30 PASS
22094-R2	B13-8075	C-14047	0.01	0.01	0.05	mg/L						0 30 PASS J
Oil & Grease		Method: EPA 1664A		Fraction: NA		Prepared: 10-Sep-13		Analyzed: 10-Sep-13				
22093-B1	QAQC Procedural Blank	C-14046	ND	1	1	mg/L						
22093-BS1	QAQC Procedural Blank	C-14046	17.5	1	1	mg/L	21	0	83	70 - 130%	PASS	
22093-BS2	QAQC Procedural Blank	C-14046	17	1	1	mg/L	21	0	81	70 - 130%	PASS	2 30 PASS
Total Orthophosphate as P		Method: SM 4500-P E		Fraction: NA		Prepared: 14-Aug-13		Analyzed: 14-Aug-13				
22093-B1	QAQC Procedural Blank	C-13089	ND	0.01	0.02	mg/L						
22093-BS1	QAQC Procedural Blank	C-13089	0.19	0.01	0.02	mg/L	0.2	0	95	70 - 130%	PASS	



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CA ELAP #2769

Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
22093-BS2	QAQC Procedural Blank	C-13089	0.18	0.01	0.02	mg/L	0.2	0	90 70 - 130% PASS	5 30 PASS
22094-MS1	B13-8075	C-13089	0.21	0.01	0.02	mg/L	0.2	0.02	95 70 - 130% PASS	
22094-MS2	B13-8075	C-13089	0.21	0.01	0.02	mg/L	0.2	0.02	95 70 - 130% PASS	0 30 PASS
22094-R2	B13-8075	C-13089	0.02	0.01	0.02	mg/L				0 30 PASS



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22093-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 1640		Batch ID: E-5130		Prepared: 21-Aug-13		Analyzed: 27-Aug-13		
Aluminum (Al)	Dissolved	ND	3	6	µg/L					
Aluminum (Al)	Total	ND	3	6	µg/L					
Antimony (Sb)	Dissolved	ND	0.01	0.015	µg/L					
Antimony (Sb)	Total	ND	0.01	0.015	µg/L					
Arsenic (As)	Dissolved	ND	0.005	0.015	µg/L					
Arsenic (As)	Total	ND	0.005	0.015	µg/L					
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L					
Beryllium (Be)	Total	ND	0.005	0.01	µg/L					
Cadmium (Cd)	Dissolved	ND	0.0025	0.005	µg/L					
Cadmium (Cd)	Total	ND	0.0025	0.005	µg/L					
Chromium (Cr)	Dissolved	ND	0.0125	0.025	µg/L					
Chromium (Cr)	Total	ND	0.0125	0.025	µg/L					
Cobalt (Co)	Dissolved	ND	0.005	0.01	µg/L					
Cobalt (Co)	Total	ND	0.005	0.01	µg/L					
Copper (Cu)	Dissolved	ND	0.005	0.01	µg/L					
Copper (Cu)	Total	ND	0.005	0.01	µg/L					
Iron (Fe)	Dissolved	ND	0.5	1	µg/L					
Iron (Fe)	Total	ND	0.5	1	µg/L					
Lead (Pb)	Dissolved	ND	0.0025	0.005	µg/L					
Lead (Pb)	Total	ND	0.0025	0.005	µg/L					
Manganese (Mn)	Dissolved	ND	0.01	0.02	µg/L					
Manganese (Mn)	Total	ND	0.01	0.02	µg/L					
Molybdenum (Mo)	Dissolved	ND	0.005	0.01	µg/L					
Molybdenum (Mo)	Total	ND	0.005	0.01	µg/L					
Nickel (Ni)	Dissolved	ND	0.0025	0.005	µg/L					
Nickel (Ni)	Total	ND	0.0025	0.005	µg/L					
Selenium (Se)	Dissolved	ND	0.005	0.015	µg/L					
Selenium (Se)	Total	ND	0.005	0.015	µg/L					
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L					

PHYSIS Project ID: 1307002-007

Client: AMEC

Project: RHMP B'13



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Silver (Ag)	Total	ND	0.01	0.02	µg/L					
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L					
Thallium (Tl)	Total	ND	0.005	0.01	µg/L					
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L					
Tin (Sn)	Total	ND	0.005	0.01	µg/L					
Titanium (Ti)	Dissolved	ND	0.035	0.07	µg/L					
Titanium (Ti)	Total	ND	0.035	0.07	µg/L					
Vanadium (V)	Dissolved	ND	0.02	0.04	µg/L					
Vanadium (V)	Total	ND	0.02	0.04	µg/L					
Zinc (Zn)	Dissolved	ND	0.0025	0.005	µg/L					
Zinc (Zn)	Total	ND	0.0025	0.005	µg/L					
Method: EPA 200.8						Batch ID: E-5130		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Barium (Ba)	Dissolved	ND	0.25	0.5	µg/L					
Barium (Ba)	Total	ND	0.25	0.5	µg/L					
Method: EPA 245.7						Batch ID: E-6015		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L					
Method: EPA 245.7						Batch ID: E-6016		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L					
Sample ID: 22093-BS1		QAQC Procedural Blank		Matrix: DI Water		Sampled:			Received:	
		Method: EPA 200.8		Batch ID: E-5130		Prepared: 06-Sep-13			Analyzed: 06-Sep-13	
Barium (Ba)	Total	1037.56	0.25	0.5	µg/L	1000	0	104 75 - 125% PASS		
		Method: EPA 245.7		Batch ID: E-6017		Prepared: 30-Aug-13			Analyzed: 30-Aug-13	
Mercury (Hg)	Total	0.08	0.01	0.02	µg/L	0.1	0	80 80 - 120% PASS		
Sample ID: 22093-BS2		QAQC Procedural Blank		Matrix: DI Water		Sampled:			Received:	
		Method: EPA 200.8		Batch ID: E-5130		Prepared: 06-Sep-13			Analyzed: 06-Sep-13	
Barium (Ba)	Total	1033.8	0.25	0.5	µg/L	1000	0	103 75 - 125% PASS	1 30 PASS	
		Method: EPA 245.7		Batch ID: E-6017		Prepared: 30-Aug-13			Analyzed: 30-Aug-13	
Mercury (Hg)	Total	0.09	0.01	0.02	µg/L	0.1	0	90 80 - 120% PASS	12 30 PASS	
Sample ID: 22094-MS1		B13-8075 Grab		Matrix: Seawater		Sampled: 13-Aug-13 7:45			Received: 13-Aug-13	



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Method: EPA 200.8		Batch ID: E-5130		Prepared: 06-Sep-13		Analyzed: 06-Sep-13				
Barium (Ba)	Dissolved	1065.69	0.25	0.5	µg/L	1000	8.26	106 75 - 125% PASS		
Method: EPA 245.7		Batch ID: E-6017		Prepared: 30-Aug-13		Analyzed: 30-Aug-13				
Mercury (Hg)	Total	0.11	0.01	0.02	µg/L	0.1	0	110 80 - 120% PASS		

Sample ID: 22094-MS2		B13-8075 Grab			Matrix: Seawater			Sampled: 13-Aug-13 7:45		Received: 13-Aug-13			
		Method: EPA 200.8			Batch ID: E-5130			Prepared: 06-Sep-13		Analyzed: 06-Sep-13			
Barium (Ba)	Dissolved	1080.57	0.25	0.5	µg/L	1000	8.26	107	75 - 125%	PASS	1	30	PASS
		Method: EPA 245.7			Batch ID: E-6017			Prepared: 30-Aug-13		Analyzed: 30-Aug-13			
Mercury (Hg)	Total	0.11	0.01	0.02	µg/L	0.1	0	110	80 - 120%	PASS	0	30	PASS

Sample ID: 22094-R2		B13-8075 Grab		Matrix: Seawater		Sampled: 13-Aug-13 7:45		Received: 13-Aug-13			
		Method: EPA 1640		Batch ID: E-5130		Prepared: 21-Aug-13		Analyzed: 27-Aug-13			
Aluminum (Al)	Dissolved	4.1	3	6	µg/L			2	30	PASS	J
Aluminum (Al)	Total	37.1	3	6	µg/L			26	30	PASS	
Antimony (Sb)	Dissolved	0.17	0.01	0.015	µg/L			6	30	PASS	
Antimony (Sb)	Total	0.15	0.01	0.015	µg/L			7	30	PASS	
Arsenic (As)	Dissolved	1.348	0.005	0.015	µg/L			9	30	PASS	
Arsenic (As)	Total	1.244	0.005	0.015	µg/L			1	30	PASS	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L			0	30	PASS	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L			0	30	PASS	
Cadmium (Cd)	Dissolved	0.0505	0.0025	0.005	µg/L			3	30	PASS	
Cadmium (Cd)	Total	0.0577	0.0025	0.005	µg/L			2	30	PASS	
Chromium (Cr)	Dissolved	0.2079	0.0125	0.025	µg/L			2	30	PASS	
Chromium (Cr)	Total	0.2954	0.0125	0.025	µg/L			8	30	PASS	
Cobalt (Co)	Dissolved	0.105	0.005	0.01	µg/L			1	30	PASS	
Cobalt (Co)	Total	0.112	0.005	0.01	µg/L			9	30	PASS	
Copper (Cu)	Dissolved	3.032	0.005	0.01	µg/L			6	30	PASS	
Copper (Cu)	Total	3.596	0.005	0.01	µg/L			2	30	PASS	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L			0	30	PASS	
Iron (Fe)	Total	16.8	0.5	1	µg/L			8	30	PASS	
Lead (Pb)	Dissolved	0.0447	0.0025	0.005	µg/L			6	30	PASS	



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QUALITY CONTROL REPORT

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Lead (Pb)	Total	0.1715	0.0025	0.005	µg/L				0 30 PASS	
Manganese (Mn)	Dissolved	5.73	0.01	0.02	µg/L				3 30 PASS	
Manganese (Mn)	Total	7.62	0.01	0.02	µg/L				16 30 PASS	
Molybdenum (Mo)	Dissolved	8.609	0.005	0.01	µg/L				5 30 PASS	
Molybdenum (Mo)	Total	8.875	0.005	0.01	µg/L				1 30 PASS	
Nickel (Ni)	Dissolved	0.5425	0.0025	0.005	µg/L				8 30 PASS	
Nickel (Ni)	Total	0.6154	0.0025	0.005	µg/L				3 30 PASS	
Selenium (Se)	Dissolved	0.015	0.005	0.015	µg/L				13 30 PASS	
Selenium (Se)	Total	0.024	0.005	0.015	µg/L				23 30 PASS	
Silver (Ag)	Dissolved	0.08	0.01	0.02	µg/L				0 30 PASS	
Silver (Ag)	Total	0.08	0.01	0.02	µg/L				0 30 PASS	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L				0 30 PASS	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L				0 30 PASS	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L				0 30 PASS	
Tin (Sn)	Total	0.021	0.005	0.01	µg/L				40 30 FAIL	SL
Titanium (Ti)	Dissolved	12.01	0.035	0.07	µg/L				5 30 PASS	
Titanium (Ti)	Total	12.278	0.035	0.07	µg/L				11 30 PASS	
Vanadium (V)	Dissolved	2.57	0.02	0.04	µg/L				2 30 PASS	
Vanadium (V)	Total	2.66	0.02	0.04	µg/L				1 30 PASS	
Zinc (Zn)	Dissolved	10.0874	0.0025	0.005	µg/L				11 30 PASS	
Zinc (Zn)	Total	12.4021	0.0025	0.005	µg/L				23 30 PASS	
Method: EPA 200.8						Batch ID: E-5130		Prepared: 06-Sep-13		Analyzed: 06-Sep-13
Barium (Ba)	Dissolved	8.46	0.25	0.5	µg/L				5 30 PASS	
Barium (Ba)	Total	8.12	0.25	0.5	µg/L				6 30 PASS	
Method: EPA 245.7						Batch ID: E-6017		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L				0 30 PASS	
Mercury (Hg)	Total	ND	0.01	0.02	µg/L				0 30 PASS	
Sample ID: 22098-LCM1 QAQC LCM - Physis Seawater						Matrix: Seawater		Sampled:		Received:
Method: EPA 1640						Batch ID: E-5130		Prepared: 21-Aug-13		Analyzed: 27-Aug-13
Aluminum (Al)	Total	ND	3	6	µg/L					
Antimony (Sb)	Total	0.09	0.01	0.015	µg/L					

PHYSIS Project ID: 1307002-007

Client: AMEC

Project: RHMP B'13



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Arsenic (As)	Total	1.708	0.005	0.015	µg/L					
Beryllium (Be)	Total	0.005	0.005	0.01	µg/L					
Cadmium (Cd)	Total	0.0985	0.0025	0.005	µg/L					
Chromium (Cr)	Total	0.2359	0.0125	0.025	µg/L					
Cobalt (Co)	Total	ND	0.005	0.01	µg/L					
Copper (Cu)	Total	0.117	0.005	0.01	µg/L					
Iron (Fe)	Total	ND	0.5	1	µg/L					
Lead (Pb)	Total	0.0217	0.0025	0.005	µg/L					
Manganese (Mn)	Total	0.26	0.01	0.02	µg/L					
Molybdenum (Mo)	Total	8.761	0.005	0.01	µg/L					
Nickel (Ni)	Total	0.3734	0.0025	0.005	µg/L					
Selenium (Se)	Total	0.039	0.005	0.015	µg/L					
Silver (Ag)	Total	ND	0.01	0.02	µg/L					
Thallium (Tl)	Total	ND	0.005	0.01	µg/L					
Tin (Sn)	Total	0.006	0.005	0.01	µg/L					
Titanium (Ti)	Total	18.44	0.035	0.07	µg/L					
Vanadium (V)	Total	1.97	0.02	0.04	µg/L					
Zinc (Zn)	Total	ND	0.0025	0.005	µg/L					

Sample ID: 22098-LCS1

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-5130

Prepared: 21-Aug-13

Analyzed: 27-Aug-13

Aluminum (Al)	Total	22.8	3	6	µg/L	20	0	114	0 - 191%	PASS
Antimony (Sb)	Total	2.02	0.01	0.015	µg/L	20	0.09	10	10 - 110%	PASS
Arsenic (As)	Total	21.382	0.005	0.015	µg/L	20	1.708	98	74 - 128%	PASS
Beryllium (Be)	Total	16.583	0.005	0.01	µg/L	20	0.005	83	60 - 118%	PASS
Cadmium (Cd)	Total	18.1292	0.0025	0.005	µg/L	20	0.0985	90	68 - 131%	PASS
Chromium (Cr)	Total	21.463	0.0125	0.025	µg/L	20	0.2359	106	32 - 173%	PASS
Cobalt (Co)	Total	19.136	0.005	0.01	µg/L	20	0	96	87 - 119%	PASS
Copper (Cu)	Total	18.397	0.005	0.01	µg/L	20	0.117	91	61 - 119%	PASS
Iron (Fe)	Total	10.1	0.5	1	µg/L	20	0	50	22 - 129%	PASS
Lead (Pb)	Total	18.4452	0.0025	0.005	µg/L	20	0.0217	92	75 - 120%	PASS
Manganese (Mn)	Total	13.74	0.01	0.02	µg/L	20	0.26	67	32 - 131%	PASS

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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Molybdenum (Mo)	Total	27.999	0.005	0.01	µg/L	20	8.761	96	54 - 131% PASS	
Nickel (Ni)	Total	17.7067	0.0025	0.005	µg/L	20	0.3734	87	60 - 113% PASS	
Selenium (Se)	Total	18.538	0.005	0.015	µg/L	20	0.039	92	0 - 183% PASS	
Silver (Ag)	Total	5.05	0.01	0.02	µg/L	5	0	101	64 - 133% PASS	
Thallium (Tl)	Total	18.066	0.005	0.01	µg/L	20	0	90	70 - 125% PASS	
Tin (Sn)	Total	20.197	0.005	0.01	µg/L	20	0.006	101	69 - 118% PASS	
Titanium (Ti)	Total	31.338	0.035	0.07	µg/L	20	18.44	64	72 - 129% FAIL	R
Vanadium (V)	Total	23.69	0.02	0.04	µg/L	20	1.97	109	72 - 137% PASS	
Zinc (Zn)	Total	19.8436	0.0025	0.005	µg/L	20	0	99	61 - 128% PASS	

Sample ID: 22098-LCS2

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-5130

Prepared: 21-Aug-13

Analyzed: 27-Aug-13

Aluminum (Al)	Total	23.1	3	6	µg/L	20	0	115	0 - 191% PASS	0	30	PASS	
Antimony (Sb)	Total	2	0.01	0.015	µg/L	20	0.09	10	10 - 110% PASS	0	30	PASS	
Arsenic (As)	Total	21.673	0.005	0.015	µg/L	20	1.708	100	74 - 128% PASS	2	30	PASS	
Beryllium (Be)	Total	16.515	0.005	0.01	µg/L	20	0.005	83	60 - 118% PASS	0	30	PASS	
Cadmium (Cd)	Total	17.988	0.0025	0.005	µg/L	20	0.0985	89	68 - 131% PASS	1	30	PASS	
Chromium (Cr)	Total	21.8002	0.0125	0.025	µg/L	20	0.2359	108	32 - 173% PASS	2	30	PASS	
Cobalt (Co)	Total	19.508	0.005	0.01	µg/L	20	0	98	87 - 119% PASS	0	30	PASS	
Copper (Cu)	Total	18.12	0.005	0.01	µg/L	20	0.117	90	61 - 119% PASS	1	30	PASS	
Iron (Fe)	Total	9.5	0.5	1	µg/L	20	0	47	22 - 129% PASS	0	30	PASS	
Lead (Pb)	Total	18.3623	0.0025	0.005	µg/L	20	0.0217	92	75 - 120% PASS	0	30	PASS	
Manganese (Mn)	Total	13.53	0.01	0.02	µg/L	20	0.26	66	32 - 131% PASS	2	30	PASS	
Molybdenum (Mo)	Total	27.983	0.005	0.01	µg/L	20	8.761	96	54 - 131% PASS	0	30	PASS	
Nickel (Ni)	Total	17.5443	0.0025	0.005	µg/L	20	0.3734	86	60 - 113% PASS	1	30	PASS	
Selenium (Se)	Total	18.529	0.005	0.015	µg/L	20	0.039	92	0 - 183% PASS	0	30	PASS	
Silver (Ag)	Total	8.12	0.01	0.02	µg/L	5	0	162	64 - 133% FAIL	0	30	PASS	R
Thallium (Tl)	Total	18.44	0.005	0.01	µg/L	20	0	92	70 - 125% PASS	0	30	PASS	
Tin (Sn)	Total	21.331	0.005	0.01	µg/L	20	0.006	107	69 - 118% PASS	6	30	PASS	
Titanium (Ti)	Total	34.483	0.035	0.07	µg/L	20	18.44	80	72 - 129% PASS	22	30	PASS	
Vanadium (V)	Total	24.26	0.02	0.04	µg/L	20	1.97	111	72 - 137% PASS	2	30	PASS	
Zinc (Zn)	Total	20.294	0.0025	0.005	µg/L	20	0	101	61 - 128% PASS	0	30	PASS	

PHYSIS Project ID: 1307002-007

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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22093-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 625

Batch ID: O-4144

Prepared: 16-Aug-13

Analyzed: 06-Sep-13

(d10-Acenaphthene)	Total	96			% Recovery	100		96	50 - 150%	PASS
(d10-Phenanthrene)	Total	96			% Recovery	100		96	50 - 150%	PASS
(d12-Chrysene)	Total	100			% Recovery	100		100	50 - 150%	PASS
(d8-Naphthalene)	Total	93			% Recovery	100		93	25 - 125%	PASS
1-Methylnaphthalene	Total	ND	1	5	ng/L					
1-Methylphenanthrene	Total	ND	1	5	ng/L					
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L					
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L					
2-Methylnaphthalene	Total	ND	1	5	ng/L					
Acenaphthene	Total	ND	1	5	ng/L					
Acenaphthylene	Total	ND	1	5	ng/L					
Anthracene	Total	ND	1	5	ng/L					
Benz[a]anthracene	Total	ND	1	5	ng/L					
Benzo[a]pyrene	Total	ND	1	5	ng/L					
Benzo[b]fluoranthene	Total	ND	1	5	ng/L					
Benzo[e]pyrene	Total	ND	1	5	ng/L					
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L					
Benzo[k]fluoranthene	Total	ND	1	5	ng/L					
Biphenyl	Total	ND	1	5	ng/L					
Chrysene	Total	ND	1	5	ng/L					
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L					
Dibenzothiophene	Total	ND	1	5	ng/L					
Fluoranthene	Total	ND	1	5	ng/L					
Fluorene	Total	ND	1	5	ng/L					
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L					
Naphthalene	Total	ND	1	5	ng/L					
Perylene	Total	ND	1	5	ng/L					
Phenanthrene	Total	ND	1	5	ng/L					
Pyrene	Total	ND	1	5	ng/L					



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22093-BS1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 625			Batch ID: O-4144		Prepared: 16-Aug-13		Analyzed: 06-Sep-13	
(d10-Acenaphthene)	Total	78			% Recovery	100	0	78	50 - 150% PASS	
(d10-Phenanthrene)	Total	97			% Recovery	100	0	97	50 - 150% PASS	
(d12-Chrysene)	Total	101			% Recovery	100	0	101	50 - 150% PASS	
(d8-Naphthalene)	Total	67			% Recovery	100	0	67	25 - 125% PASS	
1-Methylnaphthalene	Total	683.1	1	5	ng/L	1000	0	68	50 - 150% PASS	
1-Methylphenanthrene	Total	1096.1	1	5	ng/L	1000	0	110	50 - 150% PASS	
2,3,5-Trimethylnaphthalene	Total	848.1	1	5	ng/L	1000	0	85	50 - 150% PASS	
2,6-Dimethylnaphthalene	Total	743.4	1	5	ng/L	1000	0	74	50 - 150% PASS	
2-Methylnaphthalene	Total	657.8	1	5	ng/L	1000	0	66	50 - 150% PASS	
Acenaphthene	Total	781.1	1	5	ng/L	1000	0	78	50 - 150% PASS	
Acenaphthylene	Total	755.7	1	5	ng/L	1000	0	76	50 - 150% PASS	
Anthracene	Total	1010.2	1	5	ng/L	1000	0	101	50 - 150% PASS	
Benz[a]anthracene	Total	1012.8	1	5	ng/L	1000	0	101	50 - 150% PASS	
Benzo[a]pyrene	Total	1093.3	1	5	ng/L	1000	0	109	50 - 150% PASS	
Benzo[b]fluoranthene	Total	1262.4	1	5	ng/L	1000	0	126	50 - 150% PASS	
Benzo[e]pyrene	Total	1058.6	1	5	ng/L	1000	0	106	50 - 150% PASS	
Benzo[g,h,i]perylene	Total	1033.1	1	5	ng/L	1000	0	103	50 - 150% PASS	
Benzo[k]fluoranthene	Total	1054.7	1	5	ng/L	1000	0	105	50 - 150% PASS	
Biphenyl	Total	731.9	1	5	ng/L	1000	0	73	50 - 150% PASS	
Chrysene	Total	995	1	5	ng/L	1000	0	100	50 - 150% PASS	
Dibenz[a,h]anthracene	Total	1154.3	1	5	ng/L	1000	0	115	50 - 150% PASS	
Dibenzothiophene	Total	955.6	1	5	ng/L	1000	0	96	50 - 150% PASS	
Fluoranthene	Total	1210.4	1	5	ng/L	1000	0	121	50 - 150% PASS	
Fluorene	Total	863.8	1	5	ng/L	1000	0	86	50 - 150% PASS	
Indeno[1,2,3-c,d]pyrene	Total	1034.3	1	5	ng/L	1000	0	103	50 - 150% PASS	
Naphthalene	Total	630.8	1	5	ng/L	1000	0	63	25 - 125% PASS	
Perylene	Total	1053.5	1	5	ng/L	1000	0	105	50 - 150% PASS	
Phenanthrene	Total	977.6	1	5	ng/L	1000	0	98	50 - 150% PASS	
Pyrene	Total	1118.2	1	5	ng/L	1000	0	112	50 - 150% PASS	



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22093-BS2		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 625			Batch ID: O-4144		Prepared: 16-Aug-13		Analyzed: 06-Sep-13	
(d10-Acenaphthene)	Total	75			% Recovery	100	0	75 50 - 150% PASS	4 30 PASS	
(d10-Phenanthrene)	Total	96			% Recovery	100	0	96 50 - 150% PASS	1 30 PASS	
(d12-Chrysene)	Total	101			% Recovery	100	0	101 50 - 150% PASS	0 30 PASS	
(d8-Naphthalene)	Total	65			% Recovery	100	0	65 25 - 125% PASS	3 30 PASS	
1-Methylnaphthalene	Total	677.3	1	5	ng/L	1000	0	68 50 - 150% PASS	0 30 PASS	
1-Methylphenanthrene	Total	1134	1	5	ng/L	1000	0	113 50 - 150% PASS	3 30 PASS	
2,3,5-Trimethylnaphthalene	Total	818.3	1	5	ng/L	1000	0	82 50 - 150% PASS	4 30 PASS	
2,6-Dimethylnaphthalene	Total	733.3	1	5	ng/L	1000	0	73 50 - 150% PASS	1 30 PASS	
2-Methylnaphthalene	Total	667.1	1	5	ng/L	1000	0	67 50 - 150% PASS	2 30 PASS	
Acenaphthene	Total	770.9	1	5	ng/L	1000	0	77 50 - 150% PASS	1 30 PASS	
Acenaphthylene	Total	743.3	1	5	ng/L	1000	0	74 50 - 150% PASS	3 30 PASS	
Anthracene	Total	1017.8	1	5	ng/L	1000	0	102 50 - 150% PASS	1 30 PASS	
Benz[a]anthracene	Total	1023.7	1	5	ng/L	1000	0	102 50 - 150% PASS	1 30 PASS	
Benzo[a]pyrene	Total	1000.2	1	5	ng/L	1000	0	100 50 - 150% PASS	9 30 PASS	
Benzo[b]fluoranthene	Total	1191	1	5	ng/L	1000	0	119 50 - 150% PASS	6 30 PASS	
Benzo[e]pyrene	Total	1016.8	1	5	ng/L	1000	0	102 50 - 150% PASS	4 30 PASS	
Benzo[g,h,i]perylene	Total	1062.8	1	5	ng/L	1000	0	106 50 - 150% PASS	3 30 PASS	
Benzo[k]fluoranthene	Total	1014.1	1	5	ng/L	1000	0	101 50 - 150% PASS	4 30 PASS	
Biphenyl	Total	717.6	1	5	ng/L	1000	0	72 50 - 150% PASS	1 30 PASS	
Chrysene	Total	1045.8	1	5	ng/L	1000	0	105 50 - 150% PASS	5 30 PASS	
Dibenz[a,h]anthracene	Total	1134.6	1	5	ng/L	1000	0	113 50 - 150% PASS	2 30 PASS	
Dibenzothiophene	Total	958.2	1	5	ng/L	1000	0	96 50 - 150% PASS	0 30 PASS	
Fluoranthene	Total	1218.3	1	5	ng/L	1000	0	122 50 - 150% PASS	1 30 PASS	
Fluorene	Total	855.8	1	5	ng/L	1000	0	86 50 - 150% PASS	0 30 PASS	
Indeno[1,2,3-c,d]pyrene	Total	1028.8	1	5	ng/L	1000	0	103 50 - 150% PASS	0 30 PASS	
Naphthalene	Total	617.5	1	5	ng/L	1000	0	62 25 - 125% PASS	2 30 PASS	
Perylene	Total	1084.2	1	5	ng/L	1000	0	108 50 - 150% PASS	3 30 PASS	
Phenanthrene	Total	979.6	1	5	ng/L	1000	0	98 50 - 150% PASS	0 30 PASS	
Pyrene	Total	1109	1	5	ng/L	1000	0	111 50 - 150% PASS	1 30 PASS	

PHYSIS Project ID: 1307002-007

Client: AMEC

Project: RHMP Bight '13

SUBCONTRACT

REPORT

TERRA CONSULTING, INC. AURORA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS

CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

1307002-007

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8075	08/13/13	0745	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8075			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8075			DOC	Grab	40 mL VOA	None	2
B13-8075			MTBE	Grab	40 mL VOA	HCl	3
B13-8075			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8075			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8075			PAHs	Grab	1 L Glass	None	2
B13-8075			TDS	Grab	1 L HDPE	None	1
B13-8075			TOC	Grab	40 mL VOA	H2SO4	2
B13-8075			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: T.H.

Relinquished By: (Buens) Date/Time: 8/13/13 1515 Received By: Date/Time: 8/13/13 1515

Relinquished By: Date/Time: Received By: Date/Time:

1307002-007

Analysis Request and Chain of CustodyRHMP
Bight '13**From:**AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301**To:**Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8074	8/13/13	0900	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8074			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8074			DOC	Grab	40 mL VOA	None	2
B13-8074			MTBE	Grab	40 mL VOA	HCl	3
B13-8074			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8074			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8074			PAHs	Grab	1 L Glass	None	2
B13-8074			TDS	Grab	1 L HDPE	None	1
B13-8074			TOC	Grab	40 mL VOA	H2SO4	2
B13-8074			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: T.H.

Relinquished By: L. Burns

Date/Time: 8/13/13 1515

Received By: M. G. H.

Date/Time: 8/13/13 15:15

Relinquished By:

Date/Time:

Received By:

Date/Time:

1307002-007

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8076	8/13/13	1025	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8076			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8076			DOC	Grab	40 mL VOA	None	2
B13-8076			MTBE	Grab	40 mL VOA	HCl	3
B13-8076			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8076			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8076			PAHs	Grab	1 L Glass	None	2
B13-8076			TDS	Grab	1 L HDPE	None	1
B13-8076			TOC	Grab	40 mL VOA	H2SO4	2
B13-8076			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: J.H.

Relinquished By: (Barns) Date/Time: 8/13/13 1515 Received By: M. L. M. Date/Time: 8/13/13 1515

Relinquished By: Date/Time: Received By: Date/Time:

1307002-007

Analysis Request and Chain of CustodyRHMP
Bight '13**From:**

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8077	8/13/13	11:35	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8077			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8077			DOC	Grab	40 mL VOA	None	2
B13-8077			MTBE	Grab	40 mL VOA	HCl	3
B13-8077			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8077			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8077			PAHs	Grab	1 L Glass	None	2
B13-8077			TDS	Grab	1 L HDPE	None	1
B13-8077			TOC	Grab	40 mL VOA	H2SO4	2
B13-8077			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: T.H.

Relinquished By: (Signature)

Date/Time: 8/13/13 1515

Received By: (Signature)

Date/Time: 8/13/13 1515

Relinquished By:

Date/Time:

Received By:

Date/Time:

to physis

Table 4-1.
Chemical Analyses of Water Samples

Analyte	Analysis Method	Water Target Reporting Limits ^a	Units
pH	Field Measures	--	--
Specific Conductance	Field Measures	--	µS/cm
Dissolved Oxygen	Field Measures	--	mg/L
Temperature	Field Measures	--	°C
Salinity	Field Measures	--	ppt
Transmissivity	Field Measures	--	%
Ammonia-N	SM 4500-NH3 D	0.05	mg/L
Methylene Blue-Activated Substances (MBAS)	SM 5540 C	0.025	mg/L
Nitrate-N	EPA 300.0/SM 4500-NO3 E	0.05	mg/L
Oil & Grease	EPA 1664A	1.0	mg/L
Dissolved Organic Carbon (DOC)	EPA 415.3	0.5	mg/L
Total Organic Carbon (TOC)	EPA 415.3	0.5	mg/L
Total Orthophosphate as P	SM 4500 P E	0.05	mg/L
Aluminum (Al)	EPA 1640	1.0	µg/L
Antimony (Sb)	EPA 1640	0.015	µg/L
Arsenic (As)	EPA 1640	0.015	µg/L
Barium (Ba)	EPA 200.8	0.5	µg/L
Beryllium (Be)	EPA 1640	0.01	µg/L
Cadmium (Cd)	EPA 1640	0.005	µg/L
Chromium (Cr)	EPA 1640	0.025	µg/L
Cobalt (Co)	EPA 1640	0.01	µg/L
Copper (Cu)	EPA 1640	0.01	µg/L
Iron (Fe)	EPA 1640	1.0	µg/L
Lead (Pb)	EPA 1640	0.005	µg/L
Manganese (Mn)	EPA 1640	0.02	µg/L
Mercury (Hg)	EPA 245.7	0.02	µg/L
Molybdenum (Mo)	EPA 1640	0.01	µg/L
Nickel (Ni)	EPA 1640	0.005	µg/L
Selenium (Se)	EPA 1640	0.015	µg/L
Silver (Ag)	EPA 1640	0.02	µg/L
Thallium (Tl)	EPA 1640	0.01	µg/L
Tin (Sn)	EPA 1640	0.01	µg/L
Titanium (Ti)	EPA 1640	0.07	µg/L
Vanadium (V)	EPA 1640	0.04	µg/L
Zinc (Zn)	EPA 1640	0.005	µg/L
Polycyclic Aromatic Hydrocarbons (PAHs) ^b	EPA 625	5.0	ng/L
Methyl-t-butyl Ether (MTBE)	EPA 8260B	1.0	µg/L

Notes: Metals analysis will consist of both total and dissolved fractions. Filtering for the dissolved fraction will occur in the field immediately after collection.

^a Reporting limits provided by Physis Environmental Laboratories.

^b Includes acenaphthene, acenaphthylene, anthracene, benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[e]pyrene, benzo[g,h,i]perylene, benzo[k]fluoranthene, biphenyl, chrysene, dibenz[a,h]anthracene, di benzo[ghi]perylene, fluoranthene, fluorene, indeno[1,2,3-c,d]pyrene, naphthalene, perylene, phenanthrene, pyrene, 2,6-dimethylnaphthalene, 1-methylnaphthalene, 2-methylnaphthalene, 1-methylphenanthrene, 2,3,5-trimethylnaphthalene, and 1,6,7-trimethylnaphthalene.

µg/L - micrograms per liter (parts per billion) mg/L - milligrams per liter

µS/cm - microSiemens per centimeter ppt - parts per thousand °C - degrees Celsius

SAMPLE RECEIPT SUMMARY

CLIENT: AMEC Date Received: 8/13/13 Received By: MB Inspected By: RGH

COURIER

☒ PHYSIS ☐ CLIENT ☐ FEDEX ☐ UPS
start end ☐ OTHER:

COOLER

☒ COOLER ☐ BOX total #
☐ OTHER:

TEMPERATURE

5.5 °C ☒ WET ICE ☐ BLUE ICE
☐ DRY ICE ☐ NONE

SAMPLE INTEGRITY UPON RECEIPT

1. COC(s) included and completely filled out..... YES
2. All sample containers arrived intact..... YES
3. All samples listed on COC(s) are present..... YES
4. Information on containers consistent with information on COC(s)..... YES
5. Correct containers and volume for all analyses indicated..... YES
6. All samples received within method holding time..... YES
7. Correct preservation used for all analyses indicated..... YES

NOTES



November 15, 2013

Chris Stransky
AMEC
9210 Sky Park Court
Suite 200
San Diego, CA 92123-

Project Name: RHMP Bight '13
Physis Project ID: 1307002-009

Dear Chris,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 8/28/2013. A total of 10 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventionals
Total Orthophosphate as P by SM 4500-P E
Oil & Grease by EPA 1664A
Nitrate as N by SM 4500-NO ₃ E
MBAS by SM 5540-C
Ammonia as N by SM 4500-NH ₃ D
Elements
Total and Dissolved Barium by EPA 200.8
Total & Dissolved Trace Metals by EPA 1640
Total & Dissolved Mercury by EPA 245.7
Organics
Polynuclear Aromatic Hydrocarbons by EPA 625
Subcontract
Total Organic Carbon by SM 5310 B
Methyl Tertiary Butyl Ether (MTBE) by EPA 624
Dissolved Organic Carbon by SM 5310 B

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,



Misty Mercier
Extension 202
714-335-5918 cell
mistymercier@physislabs.com

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and are used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use was assessed through the analysis of procedural blanks at a minimum frequency of one per batch. Physis' QM requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the procedural blanks be flagged in the project sample results with a B qualifier.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS₁/MS₂, BS₁/BS₂, LCS₁/LCS₂, LCM₁/LCM₂, CRM₁/CRM₂, surrogate spikes and/or replicate project sample analysis (R₁/R₂) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

MATRIX SPIKES: MS samples were employed to assess the effect a particular project sample matrix has on the accuracy of a measurement. It is prepared by adding a known amount of the target analyte(s) to an aliquot of the project sample. Matrix spikes indicate the bias of analytical measurements due to chemical interferences inherent in the sample matrix. If the matrix spike recovery does not fall within the specified acceptance limits, it may be an indication of sample matrix interference in the specific project sample used for the MS. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

BLANK SPIKES: BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

CERTIFIED REFERENCE MATERIALS: CRMs are pre-homogenized materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of a preparation and analytical method. CRMs are analyzed to provide evidence that the laboratory method produces results that are comparable to those obtained by an independent organization.

SURROGATES: Where CRMs are unavailable, target analyte recovery can be assessed by monitoring added surrogate compounds/elements. A surrogate is a pure analyte unlikely to be found in any project sample and most often used with organic analytical procedures. Percent recovery is calculated for each surrogate and is used to monitor method performance within each discrete sample and is indicative of the procedure's ability to recover the actual analytes of interest.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored

under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes. Physis' QM requires that all samples analyzed beyond the method recommended holding time be flagged in the sample results with an H qualifier.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
*	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified recovery and/or RPD acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore MS recovery and/or RPD acceptance limits do not apply
SL	analyte results for R1 and/or R2 were lower than 10 times the MDL, therefore RPD acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore MS recovery and/or RPD were outside the specified acceptance limits
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

PHYSICS

ANALYTICAL

REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC. AURORA

Innovative Solutions for Nature



1904 E. Wright Circle, Anaheim CA 92806

main: (714) 602-5320

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www.physislabs.com

info@physislabs.com

CA ELAP #2769

Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22470-R1	B13-8013	Matrix: Liquid				
	Method: SM 4500-P E	Batch ID: C-13121				
Total Orthophosphate as P	NA	0.06	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13123				
MBAS	NA	0.042	0.005	0.025	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14024				
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14048				
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14060				
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22471-R1	B13-8014	Matrix: Liquid				
	Method: SM 4500-P E	Batch ID: C-13121				
Total Orthophosphate as P	NA	0.04	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13123				
MBAS	NA	0.036	0.005	0.025	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14024				
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14048				
Nitrate as N	NA	0.01	0.01	0.05	mg/L	J
	Method: EPA 1664A	Batch ID: C-14060				
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22472-R1	B13-8028	Matrix: Liquid				
	Method: SM 4500-P E	Batch ID: C-13121				
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13123				
MBAS	NA	0.046	0.005	0.025	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14024				
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14048				



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14060		Prepared: 19-Sep-13		Analyzed: 19-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22473-R1	B13-8030	Matrix: Liquid		Sampled: 26-Aug-13 13:10		Received: 27-Aug-13
	Method: SM 4500-P E	Batch ID: C-13121		Prepared: 28-Aug-13		Analyzed: 28-Aug-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13123		Prepared: 28-Aug-13		Analyzed: 28-Aug-13
MBAS	NA	0.045	0.005	0.025	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14024		Prepared: 20-Sep-13		Analyzed: 20-Sep-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14048		Prepared: 28-Aug-13		Analyzed: 20-Sep-13
Nitrate as N	NA	0.01	0.01	0.05	mg/L	J
	Method: EPA 1664A	Batch ID: C-14060		Prepared: 19-Sep-13		Analyzed: 19-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22474-R1	B13-8036	Matrix: Liquid		Sampled: 26-Aug-13 14:15		Received: 27-Aug-13
	Method: SM 4500-P E	Batch ID: C-13121		Prepared: 28-Aug-13		Analyzed: 28-Aug-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13123		Prepared: 28-Aug-13		Analyzed: 28-Aug-13
MBAS	NA	0.045	0.005	0.025	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14024		Prepared: 20-Sep-13		Analyzed: 20-Sep-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14048		Prepared: 28-Aug-13		Analyzed: 20-Sep-13
Nitrate as N	NA	0.02	0.01	0.05	mg/L	J
	Method: EPA 1664A	Batch ID: C-14060		Prepared: 19-Sep-13		Analyzed: 19-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22475-R1	B13-8038	Matrix: Liquid		Sampled: 26-Aug-13 15:20		Received: 27-Aug-13
	Method: SM 4500-P E	Batch ID: C-13121		Prepared: 28-Aug-13		Analyzed: 28-Aug-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13123		Prepared: 28-Aug-13		Analyzed: 28-Aug-13
MBAS	NA	0.045	0.005	0.025	mg/L	



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14024		Prepared: 20-Sep-13		Analyzed: 20-Sep-13
	NA	ND	0.02	0.05	mg/L	
Nitrate as N	Method: SM 4500-NO ₃ E	Batch ID: C-14048		Prepared: 28-Aug-13		Analyzed: 20-Sep-13
	NA	0.01	0.01	0.05	mg/L	J
Oil & Grease	Method: EPA 1664A	Batch ID: C-14060		Prepared: 19-Sep-13		Analyzed: 19-Sep-13
	NA	ND	1	1	mg/L	
Sample ID: 22476-R1						
B13-8040		Matrix: Liquid		Sampled: 26-Aug-13 16:30		Received: 27-Aug-13
Method: SM 4500-P E		Batch ID: C-13121		Prepared: 28-Aug-13		Analyzed: 28-Aug-13
Total Orthophosphate as P	NA	0.04	0.01	0.02	mg/L	
MBAS	Method: SM 5540-C	Batch ID: C-13123		Prepared: 28-Aug-13		Analyzed: 28-Aug-13
	NA	0.04	0.005	0.025	mg/L	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14024		Prepared: 20-Sep-13		Analyzed: 20-Sep-13
	NA	ND	0.02	0.05	mg/L	
Nitrate as N	Method: SM 4500-NO ₃ E	Batch ID: C-14048		Prepared: 28-Aug-13		Analyzed: 20-Sep-13
	NA	0.02	0.01	0.05	mg/L	J
Oil & Grease	Method: EPA 1664A	Batch ID: C-14060		Prepared: 19-Sep-13		Analyzed: 19-Sep-13
	NA	ND	1	1	mg/L	
Sample ID: 22477-R1						
B13-8052		Matrix: Liquid		Sampled: 27-Aug-13 7:34		Received: 27-Aug-13
Method: SM 4500-P E		Batch ID: C-13121		Prepared: 28-Aug-13		Analyzed: 28-Aug-13
Total Orthophosphate as P	NA	0.04	0.01	0.02	mg/L	
MBAS	Method: SM 5540-C	Batch ID: C-13123		Prepared: 28-Aug-13		Analyzed: 28-Aug-13
	NA	0.041	0.005	0.025	mg/L	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14024		Prepared: 20-Sep-13		Analyzed: 20-Sep-13
	NA	ND	0.02	0.05	mg/L	
Nitrate as N	Method: SM 4500-NO ₃ E	Batch ID: C-14048		Prepared: 28-Aug-13		Analyzed: 20-Sep-13
	NA	0.02	0.01	0.05	mg/L	J
Oil & Grease	Method: EPA 1664A	Batch ID: C-14060		Prepared: 19-Sep-13		Analyzed: 19-Sep-13
	NA	ND	1	1	mg/L	
Sample ID: 22478-R1						
B13-8060		Matrix: Liquid		Sampled: 27-Aug-13 11:00		Received: 27-Aug-13
Method: SM 4500-P E		Batch ID: C-13121		Prepared: 28-Aug-13		Analyzed: 28-Aug-13



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13123		Prepared: 28-Aug-13		Analyzed: 28-Aug-13
MBAS	NA	0.049	0.005	0.025	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14024		Prepared: 20-Sep-13		Analyzed: 20-Sep-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14048		Prepared: 28-Aug-13		Analyzed: 20-Sep-13
Nitrate as N	NA	0.02	0.01	0.05	mg/L	J
	Method: EPA 1664A	Batch ID: C-14060		Prepared: 19-Sep-13		Analyzed: 19-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22479-R1 B13-8078 Matrix: Liquid Sampled: 27-Aug-13 14:50 Received: 27-Aug-13						
	Method: SM 4500-P E	Batch ID: C-13121		Prepared: 28-Aug-13		Analyzed: 28-Aug-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13123		Prepared: 28-Aug-13		Analyzed: 28-Aug-13
MBAS	NA	0.038	0.005	0.025	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14024		Prepared: 20-Sep-13		Analyzed: 20-Sep-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14048		Prepared: 28-Aug-13		Analyzed: 20-Sep-13
Nitrate as N	NA	0.02	0.01	0.05	mg/L	J
	Method: EPA 1664A	Batch ID: C-14060		Prepared: 19-Sep-13		Analyzed: 19-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22470-R1		B13-8013	Matrix: Liquid	Sampled: 26-Aug-13 8:00	Received: 27-Aug-13	
Method: EPA 245.7		Batch ID: E-6024	Prepared: 25-Sep-13		Analyzed: 25-Sep-13	
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 1640		Batch ID: E-7015	Prepared: 29-Oct-13		Analyzed: 07-Nov-13	
Aluminum (Al)	Total	751.7	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.11	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.22	0.01	0.015	µg/L	
Arsenic (As)	Total	1.395	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.27	0.005	0.015	µg/L	
Beryllium (Be)	Total	0.016	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0802	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0768	0.0025	0.005	µg/L	
Chromium (Cr)	Total	1.091	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.0678	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.286	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.116	0.005	0.01	µg/L	
Copper (Cu)	Total	8.601	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	5.211	0.005	0.01	µg/L	
Iron (Fe)	Total	504.4	0.5	1	µg/L	
Iron (Fe)	Dissolved	0.8	0.5	1	µg/L	J
Lead (Pb)	Total	0.504	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.035	0.0025	0.005	µg/L	
Manganese (Mn)	Total	26.15	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	16.48	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.641	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	10.127	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.8959	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.6962	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.028	0.005	0.015	µg/L	



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	Dissolved	0.02	0.005	0.015	µg/L	
Silver (Ag)	Total	0.05	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.04	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.016	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	0.008	0.005	0.01	µg/L	J
Tin (Sn)	Total	0.083	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.015	0.005	0.01	µg/L	
Titanium (Ti)	Total	45.808	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	7.376	0.035	0.07	µg/L	
Vanadium (V)	Total	4.91	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	3.29	0.02	0.04	µg/L	
Zinc (Zn)	Total	20.1248	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	17.5182	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7015

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	13.82	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	13.67	0.25	0.5	µg/L	

Sample ID: 22471-R1

B13-8014

Matrix: Liquid

Sampled: 26-Aug-13 9:30

Received: 27-Aug-13

Method: EPA 245.7

Batch ID: E-6024

Prepared: 25-Sep-13

Analyzed: 25-Sep-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Method: EPA 1640

Batch ID: E-7015

Prepared: 29-Oct-13

Analyzed: 07-Nov-13

Aluminum (Al)	Total	178.9	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.12	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.22	0.01	0.015	µg/L	
Arsenic (As)	Total	1.347	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.149	0.005	0.015	µg/L	
Beryllium (Be)	Total	0.006	0.005	0.01	µg/L	J
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0638	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0541	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.3736	0.0125	0.025	µg/L	

PHYSIS Project ID: 1307002-009

Client: AMEC

Project: RHMP Bight '13



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	Dissolved	0.1209	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.128	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.085	0.005	0.01	µg/L	
Copper (Cu)	Total	4.598	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	3.366	0.005	0.01	µg/L	
Iron (Fe)	Total	106.9	0.5	1	µg/L	
Iron (Fe)	Dissolved	0.7	0.5	1	µg/L	J
Lead (Pb)	Total	0.1425	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.013	0.0025	0.005	µg/L	
Manganese (Mn)	Total	18.81	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	15.8	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	10.416	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	10.105	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.7166	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.6368	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.026	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.028	0.005	0.015	µg/L	
Silver (Ag)	Total	0.05	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.05	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.011	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	0.007	0.005	0.01	µg/L	J
Tin (Sn)	Total	0.009	0.005	0.01	µg/L	J
Tin (Sn)	Dissolved	0.013	0.005	0.01	µg/L	
Titanium (Ti)	Total	15.451	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	8.251	0.035	0.07	µg/L	
Vanadium (V)	Total	3.47	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	3.05	0.02	0.04	µg/L	
Zinc (Zn)	Total	10.4585	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	9.2379	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7015

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	10.95	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	13.64	0.25	0.5	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22472-R1 B13-8028 Matrix: Liquid Sampled: 26-Aug-13 11:20 Received: 27-Aug-13 Method: EPA 245.7 Batch ID: E-6024 Prepared: 25-Sep-13 Analyzed: 25-Sep-13						
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 1640 Batch ID: E-7015 Prepared: 29-Oct-13 Analyzed: 07-Nov-13						
Aluminum (Al)	Total	77.9	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.09	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.24	0.01	0.015	µg/L	
Arsenic (As)	Total	1.138	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.046	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0824	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0702	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2349	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.0789	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.108	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.094	0.005	0.01	µg/L	
Copper (Cu)	Total	3.438	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.886	0.005	0.01	µg/L	
Iron (Fe)	Total	44.7	0.5	1	µg/L	
Iron (Fe)	Dissolved	0.6	0.5	1	µg/L	J
Lead (Pb)	Total	0.1075	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0145	0.0025	0.005	µg/L	
Manganese (Mn)	Total	13.42	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	11.45	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	10.685	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	10.266	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.7038	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.6482	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.025	0.005	0.015	µg/L	



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	Dissolved	0.021	0.005	0.015	µg/L	
Silver (Ag)	Total	0.06	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.05	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.012	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	0.008	0.005	0.01	µg/L	J
Tin (Sn)	Total	0.01	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.02	0.005	0.01	µg/L	
Titanium (Ti)	Total	10.515	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	9.161	0.035	0.07	µg/L	
Vanadium (V)	Total	2.98	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.9	0.02	0.04	µg/L	
Zinc (Zn)	Total	7.3981	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	7.1473	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7015

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	13.05	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	10.77	0.25	0.5	µg/L	

Sample ID: 22473-R1

B13-8030

Matrix: Liquid

Sampled: 26-Aug-13 13:10

Received: 27-Aug-13

Method: EPA 245.7

Batch ID: E-6024

Prepared: 25-Sep-13

Analyzed: 25-Sep-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Method: EPA 1640

Batch ID: E-7015

Prepared: 29-Oct-13

Analyzed: 07-Nov-13

Aluminum (Al)	Total	68.2	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.12	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.19	0.01	0.015	µg/L	
Arsenic (As)	Total	1.19	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.197	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0809	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0714	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.225	0.0125	0.025	µg/L	

PHYSIS Project ID: 1307002-009

Client: AMEC

Project: RHMP Bight '13



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	Dissolved	0.0785	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.112	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.097	0.005	0.01	µg/L	
Copper (Cu)	Total	3.239	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.797	0.005	0.01	µg/L	
Iron (Fe)	Total	41.4	0.5	1	µg/L	
Iron (Fe)	Dissolved	0.6	0.5	1	µg/L	J
Lead (Pb)	Total	0.0997	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0174	0.0025	0.005	µg/L	
Manganese (Mn)	Total	13.79	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	11.69	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	10.495	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	10.071	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.7006	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.6222	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.025	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.023	0.005	0.015	µg/L	
Silver (Ag)	Total	0.04	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.05	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.01	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	0.008	0.005	0.01	µg/L	J
Tin (Sn)	Total	ND	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.018	0.005	0.01	µg/L	
Titanium (Ti)	Total	10.246	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	9.491	0.035	0.07	µg/L	
Vanadium (V)	Total	2.94	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.85	0.02	0.04	µg/L	
Zinc (Zn)	Total	7.9199	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	6.6744	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7015

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	11.85	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	11.2	0.25	0.5	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22474-R1 B13-8036 Matrix: Liquid Sampled: 26-Aug-13 14:15 Received: 27-Aug-13 Method: EPA 245.7 Batch ID: E-6024 Prepared: 25-Sep-13 Analyzed: 25-Sep-13						
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 1640 Batch ID: E-7015 Prepared: 29-Oct-13 Analyzed: 07-Nov-13						
Aluminum (Al)	Total	72.3	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.12	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.19	0.01	0.015	µg/L	
Arsenic (As)	Total	1.033	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.169	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0779	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.071	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2321	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.0511	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.103	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.089	0.005	0.01	µg/L	
Copper (Cu)	Total	3.145	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.888	0.005	0.01	µg/L	
Iron (Fe)	Total	40.1	0.5	1	µg/L	
Iron (Fe)	Dissolved	0.5	0.5	1	µg/L	J
Lead (Pb)	Total	0.0981	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0155	0.0025	0.005	µg/L	
Manganese (Mn)	Total	12.66	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	10.54	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	10.375	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	10.39	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.6747	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.6338	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.029	0.005	0.015	µg/L	

PHYSIS Project ID: 1307002-009

Client: AMEC

Project: RHMP Bight '13



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	Dissolved	0.021	0.005	0.015	µg/L	
Silver (Ag)	Total	0.05	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.06	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.009	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	0.009	0.005	0.01	µg/L	J
Tin (Sn)	Total	0.006	0.005	0.01	µg/L	J
Tin (Sn)	Dissolved	0.012	0.005	0.01	µg/L	
Titanium (Ti)	Total	11.073	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	6.908	0.035	0.07	µg/L	
Vanadium (V)	Total	2.92	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.78	0.02	0.04	µg/L	
Zinc (Zn)	Total	6.6113	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	6.7504	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7015

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	10.29	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	10.48	0.25	0.5	µg/L	

Sample ID: 22475-R1

B13-8038

Matrix: Liquid

Sampled: 26-Aug-13 15:20

Received: 27-Aug-13

Method: EPA 245.7

Batch ID: E-6024

Prepared: 25-Sep-13

Analyzed: 25-Sep-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Method: EPA 1640

Batch ID: E-7015

Prepared: 29-Oct-13

Analyzed: 07-Nov-13

Aluminum (Al)	Total	75.9	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.12	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.19	0.01	0.015	µg/L	
Arsenic (As)	Total	1.236	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.081	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0763	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0722	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2228	0.0125	0.025	µg/L	

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Client: AMEC

Project: RHMP Bight '13



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	Dissolved	0.0763	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.103	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.087	0.005	0.01	µg/L	
Copper (Cu)	Total	3.268	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.78	0.005	0.01	µg/L	
Iron (Fe)	Total	44	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1004	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0132	0.0025	0.005	µg/L	
Manganese (Mn)	Total	12.97	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	10.75	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	10.158	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	10.126	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.6673	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.6098	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.024	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.02	0.005	0.015	µg/L	
Silver (Ag)	Total	0.05	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.06	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.011	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	0.009	0.005	0.01	µg/L	J
Tin (Sn)	Total	ND	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.006	0.005	0.01	µg/L	J
Titanium (Ti)	Total	10.224	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	7.698	0.035	0.07	µg/L	
Vanadium (V)	Total	3	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.82	0.02	0.04	µg/L	
Zinc (Zn)	Total	5.7867	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	5.277	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7015

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	11.57	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	10.98	0.25	0.5	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22476-R1</div> <div>B13-8040</div> <div>Method: EPA 245.7</div> <div>Matrix: Liquid</div> <div>Batch ID: E-6024</div> <div>Sampled: 26-Aug-13 16:30</div> <div>Prepared: 25-Sep-13</div> <div>Received: 27-Aug-13</div> <div>Analyzed: 25-Sep-13</div> </div>						
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
<div> <div>Method: EPA 1640</div> <div>Batch ID: E-7015</div> <div>Prepared: 29-Oct-13</div> <div>Analyzed: 07-Nov-13</div> </div>						
Aluminum (Al)	Total	91.5	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.12	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.22	0.01	0.015	µg/L	
Arsenic (As)	Total	1.281	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.362	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0834	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0774	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.193	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.0381	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.123	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.108	0.005	0.01	µg/L	
Copper (Cu)	Total	3.279	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.908	0.005	0.01	µg/L	
Iron (Fe)	Total	57	0.5	1	µg/L	
Iron (Fe)	Dissolved	1.4	0.5	1	µg/L	
Lead (Pb)	Total	0.1566	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0307	0.0025	0.005	µg/L	
Manganese (Mn)	Total	17.95	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	15.89	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	10.567	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	10.633	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.6963	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.6495	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.021	0.005	0.015	µg/L	



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	Dissolved	0.035	0.005	0.015	µg/L	
Silver (Ag)	Total	0.05	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.06	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.01	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	0.01	0.005	0.01	µg/L	
Tin (Sn)	Total	ND	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.007	0.005	0.01	µg/L	J
Titanium (Ti)	Total	10.634	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	7.178	0.035	0.07	µg/L	
Vanadium (V)	Total	3.02	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.92	0.02	0.04	µg/L	
Zinc (Zn)	Total	6.0928	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	5.7964	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7015

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	13.24	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	14.45	0.25	0.5	µg/L	

Sample ID: 22477-R1

B13-8052

Matrix: Liquid

Sampled: 27-Aug-13 7:34

Received: 27-Aug-13

Method: EPA 245.7

Batch ID: E-6024

Prepared: 25-Sep-13

Analyzed: 25-Sep-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Method: EPA 1640

Batch ID: E-7015

Prepared: 29-Oct-13

Analyzed: 07-Nov-13

Aluminum (Al)	Total	271.8	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.1	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.17	0.01	0.015	µg/L	
Arsenic (As)	Total	1.185	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.312	0.005	0.015	µg/L	
Beryllium (Be)	Total	0.005	0.005	0.01	µg/L	J
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0651	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0625	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.6354	0.0125	0.025	µg/L	

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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	Dissolved	0.0411	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.139	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.074	0.005	0.01	µg/L	
Copper (Cu)	Total	2.879	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.227	0.005	0.01	µg/L	
Iron (Fe)	Total	165.1	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.3688	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0398	0.0025	0.005	µg/L	
Manganese (Mn)	Total	11.24	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	7.39	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.546	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	10.253	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.6425	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.5492	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.022	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.015	0.005	0.015	µg/L	
Silver (Ag)	Total	0.06	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.07	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.012	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	0.009	0.005	0.01	µg/L	J
Tin (Sn)	Total	0.033	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.008	0.005	0.01	µg/L	J
Titanium (Ti)	Total	21.633	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	7.907	0.035	0.07	µg/L	
Vanadium (V)	Total	3.25	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.75	0.02	0.04	µg/L	
Zinc (Zn)	Total	6.0579	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	4.3493	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7015

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	8.95	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	9.48	0.25	0.5	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22478-R1 B13-8060 Matrix: Liquid Sampled: 27-Aug-13 11:00 Received: 27-Aug-13 Method: EPA 245.7 Batch ID: E-6024 Prepared: 25-Sep-13 Analyzed: 25-Sep-13						
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 1640 Batch ID: E-7015 Prepared: 29-Oct-13 Analyzed: 07-Nov-13						
Aluminum (Al)	Total	205.6	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.1	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.21	0.01	0.015	µg/L	
Arsenic (As)	Total	1.271	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.17	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0656	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0641	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.5264	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.0499	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.119	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.068	0.005	0.01	µg/L	
Copper (Cu)	Total	2.647	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.095	0.005	0.01	µg/L	
Iron (Fe)	Total	129.1	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.3351	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0446	0.0025	0.005	µg/L	
Manganese (Mn)	Total	10.58	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	7.55	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.617	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.978	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.622	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.5363	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.019	0.005	0.015	µg/L	

PHYSIS Project ID: 1307002-009

Client: AMEC

Project: RHMP Bight '13



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	Dissolved	0.023	0.005	0.015	µg/L	
Silver (Ag)	Total	0.05	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.06	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.01	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	0.007	0.005	0.01	µg/L	J
Tin (Sn)	Total	0.025	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.009	0.005	0.01	µg/L	J
Titanium (Ti)	Total	17.08	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	7.744	0.035	0.07	µg/L	
Vanadium (V)	Total	3.04	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.61	0.02	0.04	µg/L	
Zinc (Zn)	Total	5.5905	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	4.2776	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7015

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	10.55	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	10.6	0.25	0.5	µg/L	

Sample ID: 22479-R1

B13-8078

Matrix: Liquid

Sampled: 27-Aug-13 14:50

Received: 27-Aug-13

Method: EPA 245.7

Batch ID: E-6024

Prepared: 25-Sep-13

Analyzed: 25-Sep-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Method: EPA 1640

Batch ID: E-7015

Prepared: 29-Oct-13

Analyzed: 07-Nov-13

Aluminum (Al)	Total	27.9	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.09	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.18	0.01	0.015	µg/L	
Arsenic (As)	Total	1.253	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.349	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0536	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0577	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.1743	0.0125	0.025	µg/L	

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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	Dissolved	0.0617	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.04	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.042	0.005	0.01	µg/L	
Copper (Cu)	Total	2.713	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.378	0.005	0.01	µg/L	
Iron (Fe)	Total	16.5	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1389	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.033	0.0025	0.005	µg/L	
Manganese (Mn)	Total	5.56	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	2.83	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	10.107	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	10.006	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.4926	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.4765	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.019	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.015	0.005	0.015	µg/L	
Silver (Ag)	Total	0.06	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.06	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.009	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	0.005	0.005	0.01	µg/L	J
Tin (Sn)	Total	ND	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.005	0.005	0.01	µg/L	J
Titanium (Ti)	Total	7.522	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	9.34	0.035	0.07	µg/L	
Vanadium (V)	Total	2.37	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.31	0.02	0.04	µg/L	
Zinc (Zn)	Total	5.9535	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	5.2951	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7015

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	8.39	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	8.46	0.25	0.5	µg/L	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22470-R1</div> <div>B13-8013 Method: EPA 625</div> <div>Matrix: Liquid Batch ID: O-4153</div> <div>Sampled: 26-Aug-13 8:00 Prepared: 30-Aug-13</div> <div>Received: 27-Aug-13 Analyzed: 06-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	80			% Recovery	
(d10-Phenanthrene)	Total	95			% Recovery	
(d12-Chrysene)	Total	108			% Recovery	
(d8-Naphthalene)	Total	70			% Recovery	
1-Methylnaphthalene	Total	1	1	5	ng/L	J
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	1.2	1	5	ng/L	J
2-Methylnaphthalene	Total	1.3	1	5	ng/L	J
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	4.7	1	5	ng/L	J
Anthracene	Total	1.3	1	5	ng/L	J
Benz[a]anthracene	Total	3	1	5	ng/L	J
Benzo[a]pyrene	Total	1.6	1	5	ng/L	J
Benzo[b]fluoranthene	Total	1.6	1	5	ng/L	J
Benzo[e]pyrene	Total	1.3	1	5	ng/L	J
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	1.1	1	5	ng/L	J
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	1.4	1	5	ng/L	J
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	3.1	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.7	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.5	1	5	ng/L	J
Pyrene	Total	2.3	1	5	ng/L	J



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22471-R1</div> <div>B13-8014 Method: EPA 625</div> <div>Matrix: Liquid Batch ID: O-4153</div> <div>Sampled: 26-Aug-13 9:30 Prepared: 30-Aug-13</div> <div>Received: 27-Aug-13 Analyzed: 06-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	70			% Recovery	
(d10-Phenanthrene)	Total	91			% Recovery	
(d12-Chrysene)	Total	108			% Recovery	
(d8-Naphthalene)	Total	48			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	2	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	1	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.3	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	ND	1	5	ng/L	
Pyrene	Total	1	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22472-R1</div> <div>B13-8028 Method: EPA 625</div> <div>Matrix: Liquid Batch ID: O-4153</div> <div>Sampled: 26-Aug-13 11:20 Prepared: 30-Aug-13</div> <div>Received: 27-Aug-13 Analyzed: 06-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	66			% Recovery	
(d10-Phenanthrene)	Total	92			% Recovery	
(d12-Chrysene)	Total	114			% Recovery	
(d8-Naphthalene)	Total	48			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	1.3	1	5	ng/L	J
Acenaphthene	Total	1.1	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	2	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	2.2	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.5	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.5	1	5	ng/L	J
Pyrene	Total	1.1	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22473-R1</div> <div>B13-8030 Method: EPA 625</div> <div>Matrix: Liquid Batch ID: O-4153</div> <div>Sampled: 26-Aug-13 13:10 Prepared: 30-Aug-13</div> <div>Received: 27-Aug-13 Analyzed: 06-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	71			% Recovery	
(d10-Phenanthrene)	Total	102			% Recovery	
(d12-Chrysene)	Total	113			% Recovery	
(d8-Naphthalene)	Total	51			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	1.2	1	5	ng/L	J
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	2.3	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	2.5	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.8	1	5	ng/L	J
Pyrene	Total	1.3	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22474-R1</div> <div>B13-8036 Method: EPA 625</div> <div>Matrix: Liquid Batch ID: O-4153</div> <div>Sampled: 26-Aug-13 14:15 Prepared: 30-Aug-13</div> <div>Received: 27-Aug-13 Analyzed: 06-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	70			% Recovery	
(d10-Phenanthrene)	Total	95			% Recovery	
(d12-Chrysene)	Total	115			% Recovery	
(d8-Naphthalene)	Total	49			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	1.4	1	5	ng/L	J
Acenaphthene	Total	1.2	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	1.3	1	5	ng/L	J
Benz[a]anthracene	Total	2.4	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	2.5	1	5	ng/L	J
Fluorene	Total	1	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.2	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.7	1	5	ng/L	J
Pyrene	Total	1	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22475-R1</div> <div>B13-8038 Method: EPA 625</div> <div>Matrix: Liquid Batch ID: O-4153</div> <div>Sampled: 26-Aug-13 15:20 Prepared: 30-Aug-13</div> <div>Received: 27-Aug-13 Analyzed: 06-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	76			% Recovery	
(d10-Phenanthrene)	Total	95			% Recovery	
(d12-Chrysene)	Total	110			% Recovery	
(d8-Naphthalene)	Total	60			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	1.2	1	5	ng/L	J
2-Methylnaphthalene	Total	1.2	1	5	ng/L	J
Acenaphthene	Total	1.3	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	1.5	1	5	ng/L	J
Benz[a]anthracene	Total	2.3	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	2.3	1	5	ng/L	J
Fluorene	Total	1.3	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.3	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.8	1	5	ng/L	J
Pyrene	Total	1.3	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22476-R1</div> <div>B13-8040 Method: EPA 625</div> <div>Matrix: Liquid Batch ID: O-4153</div> <div>Sampled: 26-Aug-13 16:30 Prepared: 30-Aug-13</div> <div>Received: 27-Aug-13 Analyzed: 06-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	67			% Recovery	
(d10-Phenanthrene)	Total	93			% Recovery	
(d12-Chrysene)	Total	107			% Recovery	
(d8-Naphthalene)	Total	48			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	1.1	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	2	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	2.5	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.7	1	5	ng/L	J
Pyrene	Total	1	1	5	ng/L	J



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22477-R1</div> <div>B13-8052 Method: EPA 625</div> <div>Matrix: Liquid Batch ID: O-4153</div> <div>Sampled: 27-Aug-13 7:34 Prepared: 30-Aug-13</div> <div>Received: 27-Aug-13 Analyzed: 06-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	74			% Recovery	
(d10-Phenanthrene)	Total	94			% Recovery	
(d12-Chrysene)	Total	108			% Recovery	
(d8-Naphthalene)	Total	56			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	1.5	1	5	ng/L	J
Acenaphthene	Total	1.2	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	3	1	5	ng/L	J
Benz[a]anthracene	Total	3.6	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	1.1	1	5	ng/L	J
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	2.4	1	5	ng/L	J
Fluorene	Total	1.1	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.7	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	2.2	1	5	ng/L	J
Pyrene	Total	1.9	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22478-R1</div> <div>B13-8060 Method: EPA 625</div> <div>Matrix: Liquid Batch ID: O-4153</div> <div>Sampled: 27-Aug-13 11:00 Prepared: 30-Aug-13</div> <div>Received: 27-Aug-13 Analyzed: 06-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	70			% Recovery	
(d10-Phenanthrene)	Total	95			% Recovery	
(d12-Chrysene)	Total	112			% Recovery	
(d8-Naphthalene)	Total	49			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	1.5	1	5	ng/L	J
Benz[a]anthracene	Total	2.1	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	1.3	1	5	ng/L	J
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	1.2	1	5	ng/L	J
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	2.4	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	ND	1	5	ng/L	
Pyrene	Total	1	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22479-R1</div> <div>B13-8078 Method: EPA 625</div> <div>Matrix: Liquid Batch ID: O-4153</div> <div>Sampled: 27-Aug-13 14:50 Prepared: 30-Aug-13</div> <div>Received: 27-Aug-13 Analyzed: 06-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	71			% Recovery	
(d10-Phenanthrene)	Total	93			% Recovery	
(d12-Chrysene)	Total	116			% Recovery	
(d8-Naphthalene)	Total	50			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	1.5	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	1.2	1	5	ng/L	J
Benz[a]anthracene	Total	2.3	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	4.1	1	5	ng/L	J
Fluorene	Total	1	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.5	1	5	ng/L	J
Pyrene	Total	1.2	1	5	ng/L	J

QUALITY CONTROL REPORT

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CA ELAP #2769

Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Ammonia as N		Method: SM 4500-NH₃ D		Fraction: NA		Prepared: 20-Sep-13			Analyzed: 20-Sep-13			
22469-B1	QAQC Procedural Blank	C-14024	ND	0.02	0.05	mg/L						
22469-BS1	QAQC Procedural Blank	C-14024	0.3	0.02	0.05	mg/L	0.25	0	120	70 - 130%	PASS	
22469-BS2	QAQC Procedural Blank	C-14024	0.2	0.02	0.05	mg/L	0.25	0	80	70 - 130%	PASS	
22472-R2	B13-8028	C-14024	ND	0.02	0.05	mg/L				40	30	FAIL R
										0	30	PASS
MBAS		Method: SM 5540-C		Fraction: NA		Prepared: 28-Aug-13			Analyzed: 28-Aug-13			
22469-B1	QAQC Procedural Blank	C-13123	ND	0.005	0.025	mg/L						
22469-BS1	QAQC Procedural Blank	C-13123	0.093	0.005	0.025	mg/L	0.1	0	93	70 - 130%	PASS	
22469-BS2	QAQC Procedural Blank	C-13123	0.101	0.005	0.025	mg/L	0.1	0	101	70 - 130%	PASS	
22470-MS1	B13-8013	C-13123	0.117	0.005	0.025	mg/L	0.1	0.043	74	70 - 130%	PASS	
22470-MS2	B13-8013	C-13123	0.119	0.005	0.025	mg/L	0.1	0.043	76	70 - 130%	PASS	
22470-R2	B13-8013	C-13123	0.045	0.005	0.025	mg/L				3	30	PASS
										7	30	PASS
Nitrate as N		Method: SM 4500-NO₃ E		Fraction: NA		Prepared: 28-Aug-13			Analyzed: 20-Sep-13			
22469-B1	QAQC Procedural Blank	C-14048	ND	0.01	0.05	mg/L						
22469-BS1	QAQC Procedural Blank	C-14048	0.13	0.01	0.05	mg/L	0.11	0	118	70 - 130%	PASS	
22469-BS2	QAQC Procedural Blank	C-14048	0.13	0.01	0.05	mg/L	0.11	0	118	70 - 130%	PASS	
22470-MS1	B13-8013	C-14048	0.13	0.01	0.05	mg/L	0.11	0	118	70 - 130%	PASS	
22470-MS2	B13-8013	C-14048	0.14	0.01	0.05	mg/L	0.11	0	127	70 - 130%	PASS	
22470-R2	B13-8013	C-14048	ND	0.01	0.05	mg/L				7	30	PASS
										0	30	PASS
Oil & Grease		Method: EPA 1664A		Fraction: NA		Prepared: 19-Sep-13			Analyzed: 09-Oct-13			
22469-B1	QAQC Procedural Blank	C-14060	ND	1	1	mg/L						
22469-BS1	QAQC Procedural Blank	C-14060	17.2	1	1	mg/L	20.1	0	86	70 - 130%	PASS	
22469-BS2	QAQC Procedural Blank	C-14060	16.5	1	1	mg/L	20.1	0	82	70 - 130%	PASS	
22477-MS1	B13-8052	C-14060	32.8	1	1	mg/L	40.2	0	82	70 - 130%	PASS	
22477-R2	B13-8052	C-14060	ND	1	1	mg/L				5	30	PASS
										0	30	PASS
Total Orthophosphate as P		Method: SM 4500-P E		Fraction: NA		Prepared: 28-Aug-13			Analyzed: 28-Aug-13			
22469-B1	QAQC Procedural Blank	C-13121	ND	0.01	0.02	mg/L						
22469-BS1	QAQC Procedural Blank	C-13121	0.19	0.01	0.02	mg/L	0.2	0	95	70 - 130%	PASS	



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CA ELAP #2769

Conventional

QUALITY CONTROL REPORT

SAMPLE ID		BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS			PRECISION % LIMITS			QA CODE
22469-BS2	QAQC Procedural Blank	C-13121	0.19	0.01	0.02	mg/L	0.2	0	95	70 - 130%	PASS	0	30	PASS	
22470-MS1	B13-8013	C-13121	0.24	0.01	0.02	mg/L	0.2	0.06	90	70 - 130%	PASS				
22470-MS2	B13-8013	C-13121	0.24	0.01	0.02	mg/L	0.2	0.06	90	70 - 130%	PASS	0	30	PASS	
22470-R2	B13-8013	C-13121	0.05	0.01	0.02	mg/L						18	30	PASS	



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CA ELAP #2769

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22469-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 245.7		Batch ID: E-6024		Prepared: 25-Sep-13		Analyzed: 25-Sep-13		
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L					
Mercury (Hg)	Total	ND	0.01	0.02	µg/L					
		Method: EPA 1640		Batch ID: E-7015		Prepared: 29-Oct-13		Analyzed: 07-Nov-13		
Aluminum (Al)	Dissolved	ND	3	6	µg/L					
Aluminum (Al)	Total	ND	3	6	µg/L					
Antimony (Sb)	Dissolved	ND	0.01	0.015	µg/L					
Antimony (Sb)	Total	ND	0.01	0.015	µg/L					
Arsenic (As)	Dissolved	ND	0.005	0.015	µg/L					
Arsenic (As)	Total	ND	0.005	0.015	µg/L					
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L					
Beryllium (Be)	Total	ND	0.005	0.01	µg/L					
Cadmium (Cd)	Dissolved	ND	0.0025	0.005	µg/L					
Cadmium (Cd)	Total	ND	0.0025	0.005	µg/L					
Chromium (Cr)	Dissolved	ND	0.0125	0.025	µg/L					
Chromium (Cr)	Total	ND	0.0125	0.025	µg/L					
Cobalt (Co)	Dissolved	ND	0.005	0.01	µg/L					
Cobalt (Co)	Total	ND	0.005	0.01	µg/L					
Copper (Cu)	Dissolved	ND	0.005	0.01	µg/L					
Copper (Cu)	Total	ND	0.005	0.01	µg/L					
Iron (Fe)	Dissolved	ND	0.5	1	µg/L					
Iron (Fe)	Total	ND	0.5	1	µg/L					
Lead (Pb)	Dissolved	ND	0.0025	0.005	µg/L					
Lead (Pb)	Total	ND	0.0025	0.005	µg/L					
Manganese (Mn)	Dissolved	ND	0.01	0.02	µg/L					
Manganese (Mn)	Total	ND	0.01	0.02	µg/L					
Molybdenum (Mo)	Dissolved	ND	0.005	0.01	µg/L					
Molybdenum (Mo)	Total	ND	0.005	0.01	µg/L					
Nickel (Ni)	Dissolved	ND	0.0025	0.005	µg/L					
Nickel (Ni)	Total	ND	0.0025	0.005	µg/L					

PHYSIS Project ID: 1307002-009

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Selenium (Se)	Dissolved	ND	0.005	0.015	µg/L					
Selenium (Se)	Total	ND	0.005	0.015	µg/L					
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L					
Silver (Ag)	Total	ND	0.01	0.02	µg/L					
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L					
Thallium (Tl)	Total	ND	0.005	0.01	µg/L					
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L					
Tin (Sn)	Total	ND	0.005	0.01	µg/L					
Titanium (Ti)	Dissolved	ND	0.035	0.07	µg/L					
Titanium (Ti)	Total	ND	0.035	0.07	µg/L					
Vanadium (V)	Dissolved	ND	0.02	0.04	µg/L					
Vanadium (V)	Total	ND	0.02	0.04	µg/L					
Zinc (Zn)	Dissolved	ND	0.0025	0.005	µg/L					
Zinc (Zn)	Total	ND	0.0025	0.005	µg/L					

Method: EPA 200.8

Batch ID: E-7015

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Dissolved	ND	0.25	0.5	µg/L					
Barium (Ba)	Total	ND	0.25	0.5	µg/L					

Sample ID: 22469-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6024

Prepared: 25-Sep-13

Analyzed: 25-Sep-13

Mercury (Hg)	Total	0.09	0.01	0.02	µg/L	0.1	0	90	80 - 120%	PASS
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Method: EPA 200.8

Batch ID: E-7015

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	1044.76	0.25	0.5	µg/L	1000	0	104	75 - 125%	PASS
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Sample ID: 22469-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6024

Prepared: 25-Sep-13

Analyzed: 25-Sep-13

Mercury (Hg)	Total	0.1	0.01	0.02	µg/L	0.1	0	100	80 - 120%	PASS
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Method: EPA 200.8

Batch ID: E-7015

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	1028.82	0.25	0.5	µg/L	1000	0	103	75 - 125%	PASS
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Sample ID: 22470-MS1

B13-8013

Matrix: Liquid

Sampled: 26-Aug-13 8:00

Received: 27-Aug-13

Method: EPA 245.7

Batch ID: E-6024

Prepared: 25-Sep-13

Analyzed: 25-Sep-13



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Mercury (Hg)	Total	0.11	0.01	0.02	µg/L	0.1	0	110 80 - 120% PASS		
	Method: EPA 200.8				Batch ID: E-7015		Prepared: 29-Oct-13		Analyzed: 05-Nov-13	
Barium (Ba)	Dissolved	1068.93	0.25	0.5	µg/L	1000	13.34	106 75 - 125% PASS		
Sample ID: 22470-MS2		B13-8013	Matrix: Liquid		Sampled: 26-Aug-13 8:00		Received: 27-Aug-13			
	Method: EPA 245.7				Batch ID: E-6024		Prepared: 25-Sep-13		Analyzed: 25-Sep-13	
Mercury (Hg)	Total	0.11	0.01	0.02	µg/L	0.1	0	110 80 - 120% PASS	0 30 PASS	
	Method: EPA 200.8				Batch ID: E-7015		Prepared: 29-Oct-13		Analyzed: 05-Nov-13	
Barium (Ba)	Dissolved	1084.57	0.25	0.5	µg/L	1000	13.34	107 75 - 125% PASS	1 30 PASS	
Sample ID: 22470-R2		B13-8013	Matrix: Liquid		Sampled: 26-Aug-13 8:00		Received: 27-Aug-13			
	Method: EPA 245.7				Batch ID: E-6024		Prepared: 25-Sep-13		Analyzed: 25-Sep-13	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L				0 30 PASS	
Mercury (Hg)	Total	ND	0.01	0.02	µg/L				0 30 PASS	
	Method: EPA 1640				Batch ID: E-7015		Prepared: 29-Oct-13		Analyzed: 07-Nov-13	
Aluminum (Al)	Dissolved	ND	3	6	µg/L				0 30 PASS	
Aluminum (Al)	Total	775.8	3	6	µg/L				3 30 PASS	
Antimony (Sb)	Dissolved	0.18	0.01	0.015	µg/L				20 30 PASS	
Antimony (Sb)	Total	0.11	0.01	0.015	µg/L				0 30 PASS	
Arsenic (As)	Dissolved	1.344	0.005	0.015	µg/L				6 30 PASS	
Arsenic (As)	Total	1.349	0.005	0.015	µg/L				3 30 PASS	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L				0 30 PASS	SL
Beryllium (Be)	Total	0.015	0.005	0.01	µg/L				6 30 PASS	
Cadmium (Cd)	Dissolved	0.0715	0.0025	0.005	µg/L				7 30 PASS	
Cadmium (Cd)	Total	0.0734	0.0025	0.005	µg/L				9 30 PASS	
Chromium (Cr)	Dissolved	0.0717	0.0125	0.025	µg/L				6 30 PASS	
Chromium (Cr)	Total	1.1439	0.0125	0.025	µg/L				5 30 PASS	
Cobalt (Co)	Dissolved	0.117	0.005	0.01	µg/L				1 30 PASS	
Cobalt (Co)	Total	0.293	0.005	0.01	µg/L				2 30 PASS	
Copper (Cu)	Dissolved	11.62	0.005	0.01	µg/L				76 30 FAIL	R
Copper (Cu)	Total	8.454	0.005	0.01	µg/L				2 30 PASS	
Iron (Fe)	Dissolved	0.5	0.5	1	µg/L				46 30 FAIL	J,SL



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Iron (Fe)	Total	482.9	0.5	1	µg/L				4 30 PASS	
Lead (Pb)	Dissolved	0.0235	0.0025	0.005	µg/L				39 30 FAIL	SL
Lead (Pb)	Total	0.4951	0.0025	0.005	µg/L				2 30 PASS	
Manganese (Mn)	Dissolved	16.69	0.01	0.02	µg/L				1 30 PASS	
Manganese (Mn)	Total	26.27	0.01	0.02	µg/L				0 30 PASS	
Molybdenum (Mo)	Dissolved	9.984	0.005	0.01	µg/L				1 30 PASS	
Molybdenum (Mo)	Total	9.266	0.005	0.01	µg/L				4 30 PASS	
Nickel (Ni)	Dissolved	0.6366	0.0025	0.005	µg/L				9 30 PASS	
Nickel (Ni)	Total	0.8867	0.0025	0.005	µg/L				1 30 PASS	
Selenium (Se)	Dissolved	0.03	0.005	0.015	µg/L				40 30 FAIL	SL
Selenium (Se)	Total	0.02	0.005	0.015	µg/L				33 30 FAIL	SL
Silver (Ag)	Dissolved	0.04	0.01	0.02	µg/L				0 30 PASS	
Silver (Ag)	Total	0.05	0.01	0.02	µg/L				0 30 PASS	
Thallium (Tl)	Dissolved	0.008	0.005	0.01	µg/L				0 30 PASS	J
Thallium (Tl)	Total	0.015	0.005	0.01	µg/L				6 30 PASS	
Tin (Sn)	Dissolved	0.017	0.005	0.01	µg/L				13 30 PASS	
Tin (Sn)	Total	0.073	0.005	0.01	µg/L				13 30 PASS	
Titanium (Ti)	Dissolved	8.01	0.035	0.07	µg/L				8 30 PASS	
Titanium (Ti)	Total	46.773	0.035	0.07	µg/L				2 30 PASS	
Vanadium (V)	Dissolved	3.36	0.02	0.04	µg/L				2 30 PASS	
Vanadium (V)	Total	4.95	0.02	0.04	µg/L				1 30 PASS	
Zinc (Zn)	Dissolved	16.9748	0.0025	0.005	µg/L				3 30 PASS	
Zinc (Zn)	Total	19.7437	0.0025	0.005	µg/L				2 30 PASS	

Method: EPA 200.8

Batch ID: E-7015

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Dissolved	13	0.25	0.5	µg/L				5 30 PASS	
Barium (Ba)	Total	14.01	0.25	0.5	µg/L				1 30 PASS	

Sample ID: 22480-LCM1

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-7015

Prepared: 29-Oct-13

Analyzed: 07-Nov-13

Aluminum (Al)	Total	ND	3	6	µg/L					
Antimony (Sb)	Total	0.03	0.01	0.015	µg/L					
Arsenic (As)	Total	1.591	0.005	0.015	µg/L					

PHYSIS Project ID: 1307002-009

Client: AMEC

Project: RHMP Bight '13



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Beryllium (Be)	Total	ND	0.005	0.01	µg/L					
Cadmium (Cd)	Total	0.1049	0.0025	0.005	µg/L					
Chromium (Cr)	Total	0.2058	0.0125	0.025	µg/L					
Cobalt (Co)	Total	ND	0.005	0.01	µg/L					
Copper (Cu)	Total	0.096	0.005	0.01	µg/L					
Iron (Fe)	Total	2.6	0.5	1	µg/L					
Lead (Pb)	Total	0.0054	0.0025	0.005	µg/L					
Manganese (Mn)	Total	0.42	0.01	0.02	µg/L					
Molybdenum (Mo)	Total	9.911	0.005	0.01	µg/L					
Nickel (Ni)	Total	0.4409	0.0025	0.005	µg/L					
Selenium (Se)	Total	0.042	0.005	0.015	µg/L					
Silver (Ag)	Total	0.02	0.01	0.02	µg/L					
Thallium (Tl)	Total	0.009	0.005	0.01	µg/L					
Tin (Sn)	Total	0.016	0.005	0.01	µg/L					
Titanium (Ti)	Total	10.474	0.035	0.07	µg/L					
Vanadium (V)	Total	1.74	0.02	0.04	µg/L					
Zinc (Zn)	Total	0.6435	0.0025	0.005	µg/L					

Sample ID: 22480-LCS1

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-7015

Prepared: 29-Oct-13

Analyzed: 07-Nov-13

Aluminum (Al)	Total	20	3	6	µg/L	20	0	100	0 - 191%	PASS
Antimony (Sb)	Total	2.18	0.01	0.015	µg/L	20	0.03	11	10 - 110%	PASS
Arsenic (As)	Total	19.924	0.005	0.015	µg/L	20	1.591	92	74 - 128%	PASS
Beryllium (Be)	Total	16.163	0.005	0.01	µg/L	20	0	81	60 - 118%	PASS
Cadmium (Cd)	Total	18.3634	0.0025	0.005	µg/L	20	0.1049	91	68 - 131%	PASS
Chromium (Cr)	Total	19.6756	0.0125	0.025	µg/L	20	0.2058	97	32 - 173%	PASS
Cobalt (Co)	Total	18.294	0.005	0.01	µg/L	20	0	91	87 - 119%	PASS
Copper (Cu)	Total	18.452	0.005	0.01	µg/L	20	0.096	92	61 - 119%	PASS
Iron (Fe)	Total	16.2	0.5	1	µg/L	20	2.6	68	22 - 129%	PASS
Lead (Pb)	Total	18.134	0.0025	0.005	µg/L	20	0.0054	91	75 - 120%	PASS
Manganese (Mn)	Total	19.34	0.01	0.02	µg/L	20	0.42	95	32 - 131%	PASS
Molybdenum (Mo)	Total	28.315	0.005	0.01	µg/L	20	9.911	92	54 - 131%	PASS

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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Nickel (Ni)	Total	18.6392	0.0025	0.005	µg/L	20	0.4409	91 60 - 113%	PASS	
Selenium (Se)	Total	19.809	0.005	0.015	µg/L	20	0.042	99 0 - 183%	PASS	
Silver (Ag)	Total	17.94	0.01	0.02	µg/L	20	0.02	90 64 - 133%	PASS	
Thallium (Tl)	Total	17.931	0.005	0.01	µg/L	20	0.009	90 70 - 125%	PASS	
Tin (Sn)	Total	19.641	0.005	0.01	µg/L	20	0.016	98 69 - 118%	PASS	
Titanium (Ti)	Total	26.616	0.035	0.07	µg/L	20	10.474	81 72 - 129%	PASS	
Vanadium (V)	Total	21.89	0.02	0.04	µg/L	20	1.74	101 72 - 137%	PASS	
Zinc (Zn)	Total	17.472	0.0025	0.005	µg/L	20	0.6435	84 61 - 128%	PASS	

Sample ID: 22480-LCS2

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-7015

Prepared: 29-Oct-13

Analyzed: 07-Nov-13

Aluminum (Al)	Total	25.4	3	6	µg/L	20	0	127 0 - 191%	PASS	0 30 PASS
Antimony (Sb)	Total	2.31	0.01	0.015	µg/L	20	0.03	11 10 - 110%	PASS	0 30 PASS
Arsenic (As)	Total	20.43	0.005	0.015	µg/L	20	1.591	94 74 - 128%	PASS	2 30 PASS
Beryllium (Be)	Total	16.521	0.005	0.01	µg/L	20	0	83 60 - 118%	PASS	0 30 PASS
Cadmium (Cd)	Total	18.081	0.0025	0.005	µg/L	20	0.1049	90 68 - 131%	PASS	1 30 PASS
Chromium (Cr)	Total	19.936	0.0125	0.025	µg/L	20	0.2058	99 32 - 173%	PASS	2 30 PASS
Cobalt (Co)	Total	18.411	0.005	0.01	µg/L	20	0	92 87 - 119%	PASS	0 30 PASS
Copper (Cu)	Total	18.172	0.005	0.01	µg/L	20	0.096	90 61 - 119%	PASS	2 30 PASS
Iron (Fe)	Total	15.4	0.5	1	µg/L	20	2.6	64 22 - 129%	PASS	6 30 PASS
Lead (Pb)	Total	17.9231	0.0025	0.005	µg/L	20	0.0054	90 75 - 120%	PASS	1 30 PASS
Manganese (Mn)	Total	18.99	0.01	0.02	µg/L	20	0.42	93 32 - 131%	PASS	2 30 PASS
Molybdenum (Mo)	Total	28.163	0.005	0.01	µg/L	20	9.911	91 54 - 131%	PASS	1 30 PASS
Nickel (Ni)	Total	18.4532	0.0025	0.005	µg/L	20	0.4409	90 60 - 113%	PASS	1 30 PASS
Selenium (Se)	Total	19.83	0.005	0.015	µg/L	20	0.042	99 0 - 183%	PASS	0 30 PASS
Silver (Ag)	Total	18.76	0.01	0.02	µg/L	20	0.02	94 64 - 133%	PASS	4 30 PASS
Thallium (Tl)	Total	18.371	0.005	0.01	µg/L	20	0.009	92 70 - 125%	PASS	2 30 PASS
Tin (Sn)	Total	19.661	0.005	0.01	µg/L	20	0.016	98 69 - 118%	PASS	0 30 PASS
Titanium (Ti)	Total	26.751	0.035	0.07	µg/L	20	10.474	81 72 - 129%	PASS	0 30 PASS
Vanadium (V)	Total	21.99	0.02	0.04	µg/L	20	1.74	101 72 - 137%	PASS	0 30 PASS
Zinc (Zn)	Total	17.3233	0.0025	0.005	µg/L	20	0.6435	83 61 - 128%	PASS	1 30 PASS



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22469-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 625

Batch ID: O-4153

Prepared: 30-Aug-13

Analyzed: 05-Oct-13

(d10-Acenaphthene)	Total	76			% Recovery	100		76	50 - 150%	PASS
(d10-Phenanthrene)	Total	95			% Recovery	100		95	50 - 150%	PASS
(d12-Chrysene)	Total	102			% Recovery	100		102	50 - 150%	PASS
(d8-Naphthalene)	Total	58			% Recovery	100		58	25 - 125%	PASS
1-Methylnaphthalene	Total	ND	1	5	ng/L					
1-Methylphenanthrene	Total	ND	1	5	ng/L					
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L					
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L					
2-Methylnaphthalene	Total	ND	1	5	ng/L					
Acenaphthene	Total	ND	1	5	ng/L					
Acenaphthylene	Total	ND	1	5	ng/L					
Anthracene	Total	ND	1	5	ng/L					
Benz[a]anthracene	Total	ND	1	5	ng/L					
Benzo[a]pyrene	Total	ND	1	5	ng/L					
Benzo[b]fluoranthene	Total	ND	1	5	ng/L					
Benzo[e]pyrene	Total	ND	1	5	ng/L					
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L					
Benzo[k]fluoranthene	Total	ND	1	5	ng/L					
Biphenyl	Total	ND	1	5	ng/L					
Chrysene	Total	ND	1	5	ng/L					
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L					
Dibenzothiophene	Total	ND	1	5	ng/L					
Fluoranthene	Total	ND	1	5	ng/L					
Fluorene	Total	ND	1	5	ng/L					
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L					
Naphthalene	Total	ND	1	5	ng/L					
Perylene	Total	ND	1	5	ng/L					
Phenanthrene	Total	ND	1	5	ng/L					
Pyrene	Total	ND	1	5	ng/L					

PHYSIS Project ID: 1307002-009

Client: AMEC

Project: RHMP Bight '13



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22469-BS1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 625			Batch ID: O-4153		Prepared: 30-Aug-13		Analyzed: 05-Oct-13	
(d10-Acenaphthene)	Total	88			% Recovery	100	0	88	50 - 150% PASS	
(d10-Phenanthrene)	Total	100			% Recovery	100	0	100	50 - 150% PASS	
(d12-Chrysene)	Total	96			% Recovery	100	0	96	50 - 150% PASS	
(d8-Naphthalene)	Total	75			% Recovery	100	0	75	25 - 125% PASS	
1-Methylnaphthalene	Total	844.6	1	5	ng/L	1000	0	84	50 - 150% PASS	
1-Methylphenanthrene	Total	1081.5	1	5	ng/L	1000	0	108	50 - 150% PASS	
2,3,5-Trimethylnaphthalene	Total	979.2	1	5	ng/L	1000	0	98	50 - 150% PASS	
2,6-Dimethylnaphthalene	Total	920	1	5	ng/L	1000	0	92	50 - 150% PASS	
2-Methylnaphthalene	Total	859.6	1	5	ng/L	1000	0	86	50 - 150% PASS	
Acenaphthene	Total	913.9	1	5	ng/L	1000	0	91	50 - 150% PASS	
Acenaphthylene	Total	905.9	1	5	ng/L	1000	0	91	50 - 150% PASS	
Anthracene	Total	953.7	1	5	ng/L	1000	0	95	50 - 150% PASS	
Benz[a]anthracene	Total	1005.7	1	5	ng/L	1000	0	101	50 - 150% PASS	
Benzo[a]pyrene	Total	787.7	1	5	ng/L	1000	0	79	50 - 150% PASS	
Benzo[b]fluoranthene	Total	827.2	1	5	ng/L	1000	0	83	50 - 150% PASS	
Benzo[e]pyrene	Total	770.7	1	5	ng/L	1000	0	77	50 - 150% PASS	
Benzo[g,h,i]perylene	Total	1071.6	1	5	ng/L	1000	0	107	50 - 150% PASS	
Benzo[k]fluoranthene	Total	812.1	1	5	ng/L	1000	0	81	50 - 150% PASS	
Biphenyl	Total	882.3	1	5	ng/L	1000	0	88	50 - 150% PASS	
Chrysene	Total	854.4	1	5	ng/L	1000	0	85	50 - 150% PASS	
Dibenz[a,h]anthracene	Total	1265.3	1	5	ng/L	1000	0	127	50 - 150% PASS	
Dibenzothiophene	Total	978.5	1	5	ng/L	1000	0	98	50 - 150% PASS	
Fluoranthene	Total	1072	1	5	ng/L	1000	0	107	50 - 150% PASS	
Fluorene	Total	972.7	1	5	ng/L	1000	0	97	50 - 150% PASS	
Indeno[1,2,3-c,d]pyrene	Total	1143.5	1	5	ng/L	1000	0	114	50 - 150% PASS	
Naphthalene	Total	788.5	1	5	ng/L	1000	0	79	25 - 125% PASS	
Perylene	Total	1171.7	1	5	ng/L	1000	0	117	50 - 150% PASS	
Phenanthrene	Total	969	1	5	ng/L	1000	0	97	50 - 150% PASS	
Pyrene	Total	1069.2	1	5	ng/L	1000	0	107	50 - 150% PASS	

PHYSIS Project ID: 1307002-009

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22469-BS2		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 625			Batch ID: O-4153		Prepared: 30-Aug-13		Analyzed: 05-Oct-13	
(d10-Acenaphthene)	Total	85			% Recovery	100	0	85 50 - 150% PASS	3 30 PASS	
(d10-Phenanthrene)	Total	99			% Recovery	100	0	99 50 - 150% PASS	1 30 PASS	
(d12-Chrysene)	Total	104			% Recovery	100	0	104 50 - 150% PASS	8 30 PASS	
(d8-Naphthalene)	Total	71			% Recovery	100	0	71 25 - 125% PASS	5 30 PASS	
1-Methylnaphthalene	Total	812.1	1	5	ng/L	1000	0	81 50 - 150% PASS	4 30 PASS	
1-Methylphenanthrene	Total	1061.6	1	5	ng/L	1000	0	106 50 - 150% PASS	2 30 PASS	
2,3,5-Trimethylnaphthalene	Total	947.2	1	5	ng/L	1000	0	95 50 - 150% PASS	3 30 PASS	
2,6-Dimethylnaphthalene	Total	886.3	1	5	ng/L	1000	0	89 50 - 150% PASS	3 30 PASS	
2-Methylnaphthalene	Total	821.8	1	5	ng/L	1000	0	82 50 - 150% PASS	5 30 PASS	
Acenaphthene	Total	882.5	1	5	ng/L	1000	0	88 50 - 150% PASS	3 30 PASS	
Acenaphthylene	Total	879.5	1	5	ng/L	1000	0	88 50 - 150% PASS	3 30 PASS	
Anthracene	Total	961.4	1	5	ng/L	1000	0	96 50 - 150% PASS	1 30 PASS	
Benz[a]anthracene	Total	1093.2	1	5	ng/L	1000	0	109 50 - 150% PASS	8 30 PASS	
Benzo[a]pyrene	Total	909.4	1	5	ng/L	1000	0	91 50 - 150% PASS	14 30 PASS	
Benzo[b]fluoranthene	Total	925.2	1	5	ng/L	1000	0	93 50 - 150% PASS	11 30 PASS	
Benzo[e]pyrene	Total	854.5	1	5	ng/L	1000	0	85 50 - 150% PASS	10 30 PASS	
Benzo[g,h,i]perylene	Total	1049.9	1	5	ng/L	1000	0	105 50 - 150% PASS	2 30 PASS	
Benzo[k]fluoranthene	Total	905.5	1	5	ng/L	1000	0	91 50 - 150% PASS	12 30 PASS	
Biphenyl	Total	849.4	1	5	ng/L	1000	0	85 50 - 150% PASS	3 30 PASS	
Chrysene	Total	926.8	1	5	ng/L	1000	0	93 50 - 150% PASS	9 30 PASS	
Dibenz[a,h]anthracene	Total	1287.5	1	5	ng/L	1000	0	129 50 - 150% PASS	2 30 PASS	
Dibenzothiophene	Total	970.3	1	5	ng/L	1000	0	97 50 - 150% PASS	1 30 PASS	
Fluoranthene	Total	1072.9	1	5	ng/L	1000	0	107 50 - 150% PASS	0 30 PASS	
Fluorene	Total	950.4	1	5	ng/L	1000	0	95 50 - 150% PASS	2 30 PASS	
Indeno[1,2,3-c,d]pyrene	Total	1144.2	1	5	ng/L	1000	0	114 50 - 150% PASS	0 30 PASS	
Naphthalene	Total	758.9	1	5	ng/L	1000	0	76 25 - 125% PASS	4 30 PASS	
Perylene	Total	1093.6	1	5	ng/L	1000	0	109 50 - 150% PASS	7 30 PASS	
Phenanthrene	Total	965.2	1	5	ng/L	1000	0	97 50 - 150% PASS	0 30 PASS	
Pyrene	Total	1083.9	1	5	ng/L	1000	0	108 50 - 150% PASS	1 30 PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22477-MS1		B13-8052		Matrix: Liquid		Sampled: 27-Aug-13 7:34		Received: 27-Aug-13		
		Method: EPA 625		Batch ID: O-4153		Prepared: 30-Aug-13		Analyzed: 05-Oct-13		
(d10-Acenaphthene)	Total	80			% Recovery	100	0	80	50 - 150%	PASS
(d10-Phenanthrene)	Total	97			% Recovery	100	0	97	50 - 150%	PASS
(d12-Chrysene)	Total	119			% Recovery	100	0	119	50 - 150%	PASS
(d8-Naphthalene)	Total	70			% Recovery	100	0	70	25 - 125%	PASS
1-Methylnaphthalene	Total	784.7	1	5	ng/L	1063.8	0	74	50 - 150%	PASS
1-Methylphenanthrene	Total	1147.5	1	5	ng/L	1063.8	0	108	50 - 150%	PASS
2,3,5-Trimethylnaphthalene	Total	1053.1	1	5	ng/L	1063.8	0	99	50 - 150%	PASS
2,6-Dimethylnaphthalene	Total	960.7	1	5	ng/L	1063.8	0.6	90	50 - 150%	PASS
2-Methylnaphthalene	Total	786.6	1	5	ng/L	1063.8	1.5	74	50 - 150%	PASS
Acenaphthene	Total	865.5	1	5	ng/L	1063.8	1.2	81	50 - 150%	PASS
Acenaphthylene	Total	884.1	1	5	ng/L	1063.8	0	83	50 - 150%	PASS
Anthracene	Total	1014.2	1	5	ng/L	1063.8	2.7	95	50 - 150%	PASS
Benz[a]anthracene	Total	1406.5	1	5	ng/L	1063.8	3.8	132	50 - 150%	PASS
Benzo[a]pyrene	Total	1120.9	1	5	ng/L	1063.8	0	105	50 - 150%	PASS
Benzo[b]fluoranthene	Total	1143.2	1	5	ng/L	1063.8	0	107	50 - 150%	PASS
Benzo[e]pyrene	Total	1026.7	1	5	ng/L	1063.8	0	97	50 - 150%	PASS
Benzo[g,h,i]perylene	Total	1113.5	1	5	ng/L	1063.8	0	105	50 - 150%	PASS
Benzo[k]fluoranthene	Total	1112.8	1	5	ng/L	1063.8	0	105	50 - 150%	PASS
Biphenyl	Total	922.6	1	5	ng/L	1063.8	0.6	87	50 - 150%	PASS
Chrysene	Total	1139.9	1	5	ng/L	1063.8	0.6	107	50 - 150%	PASS
Dibenz[a,h]anthracene	Total	1328.6	1	5	ng/L	1063.8	0	125	50 - 150%	PASS
Dibenzothiophene	Total	1003.7	1	5	ng/L	1063.8	0	94	50 - 150%	PASS
Fluoranthene	Total	1217.1	1	5	ng/L	1063.8	2.6	114	50 - 150%	PASS
Fluorene	Total	1054.1	1	5	ng/L	1063.8	0.5	99	50 - 150%	PASS
Indeno[1,2,3-c,d]pyrene	Total	1192.1	1	5	ng/L	1063.8	0	112	50 - 150%	PASS
Naphthalene	Total	804.3	1	5	ng/L	1063.8	1.8	75	25 - 125%	PASS
Perylene	Total	1378.6	1	5	ng/L	1063.8	0	130	50 - 150%	PASS
Phenanthrene	Total	992.1	1	5	ng/L	1063.8	2	93	50 - 150%	PASS
Pyrene	Total	1240.7	1	5	ng/L	1063.8	1.8	116	50 - 150%	PASS

PHYSIS Project ID: 1307002-009

Client: AMEC

Project: RHMP Bight '13



1904 E. Wright Circle, Anaheim CA 92806

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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22477-MS2		B13-8052		Matrix: Liquid		Sampled: 27-Aug-13 7:34		Received: 27-Aug-13		
		Method: EPA 625		Batch ID: O-4153		Prepared: 30-Aug-13		Analyzed: 05-Oct-13		
(d10-Acenaphthene)	Total	90			% Recovery	100	0	90 50 - 150%	PASS	12 30 PASS
(d10-Phenanthrene)	Total	98			% Recovery	100	0	98 50 - 150%	PASS	1 30 PASS
(d12-Chrysene)	Total	101			% Recovery	100	0	101 50 - 150%	PASS	16 30 PASS
(d8-Naphthalene)	Total	74			% Recovery	100	0	74 25 - 125%	PASS	6 30 PASS
1-Methylnaphthalene	Total	849.7	1	5	ng/L	1052.6	0	81 50 - 150%	PASS	9 30 PASS
1-Methylphenanthrene	Total	1148.2	1	5	ng/L	1052.6	0	109 50 - 150%	PASS	1 30 PASS
2,3,5-Trimethylnaphthalene	Total	1080.2	1	5	ng/L	1052.6	0	103 50 - 150%	PASS	4 30 PASS
2,6-Dimethylnaphthalene	Total	975.3	1	5	ng/L	1052.6	0.6	93 50 - 150%	PASS	3 30 PASS
2-Methylnaphthalene	Total	871.6	1	5	ng/L	1052.6	1.5	83 50 - 150%	PASS	11 30 PASS
Acenaphthene	Total	970.7	1	5	ng/L	1052.6	1.2	92 50 - 150%	PASS	13 30 PASS
Acenaphthylene	Total	991.1	1	5	ng/L	1052.6	0	94 50 - 150%	PASS	12 30 PASS
Anthracene	Total	1013.3	1	5	ng/L	1052.6	2.7	96 50 - 150%	PASS	1 30 PASS
Benz[a]anthracene	Total	1205.5	1	5	ng/L	1052.6	3.8	114 50 - 150%	PASS	15 30 PASS
Benzo[a]pyrene	Total	829.5	1	5	ng/L	1052.6	0	79 50 - 150%	PASS	28 30 PASS
Benzo[b]fluoranthene	Total	897.5	1	5	ng/L	1052.6	0	85 50 - 150%	PASS	23 30 PASS
Benzo[e]pyrene	Total	781.9	1	5	ng/L	1052.6	0	74 50 - 150%	PASS	27 30 PASS
Benzo[g,h,i]perylene	Total	1096.4	1	5	ng/L	1052.6	0	104 50 - 150%	PASS	1 30 PASS
Benzo[k]fluoranthene	Total	855.1	1	5	ng/L	1052.6	0	81 50 - 150%	PASS	26 30 PASS
Biphenyl	Total	919.1	1	5	ng/L	1052.6	0.6	87 50 - 150%	PASS	0 30 PASS
Chrysene	Total	962	1	5	ng/L	1052.6	0.6	91 50 - 150%	PASS	16 30 PASS
Dibenz[a,h]anthracene	Total	1340.2	1	5	ng/L	1052.6	0	127 50 - 150%	PASS	2 30 PASS
Dibenzothiophene	Total	999.9	1	5	ng/L	1052.6	0	95 50 - 150%	PASS	1 30 PASS
Fluoranthene	Total	1185.4	1	5	ng/L	1052.6	2.6	112 50 - 150%	PASS	2 30 PASS
Fluorene	Total	1074.2	1	5	ng/L	1052.6	0.5	102 50 - 150%	PASS	3 30 PASS
Indeno[1,2,3-c,d]pyrene	Total	1138.7	1	5	ng/L	1052.6	0	108 50 - 150%	PASS	4 30 PASS
Naphthalene	Total	836.4	1	5	ng/L	1052.6	1.8	79 25 - 125%	PASS	5 30 PASS
Perylene	Total	1335.3	1	5	ng/L	1052.6	0	127 50 - 150%	PASS	2 30 PASS
Phenanthrene	Total	985.7	1	5	ng/L	1052.6	2	93 50 - 150%	PASS	0 30 PASS
Pyrene	Total	1194.2	1	5	ng/L	1052.6	1.8	113 50 - 150%	PASS	3 30 PASS

PHYSIS Project ID: 1307002-009

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22477-R2		B13-8052		Matrix: Liquid		Sampled: 27-Aug-13 7:34		Received: 27-Aug-13		
		Method: EPA 625		Batch ID: O-4153		Prepared: 30-Aug-13		Analyzed: 06-Oct-13		
(d10-Acenaphthene)	Total	77			% Recovery	100	77	50 - 150% PASS	4 30	PASS
(d10-Phenanthrene)	Total	96			% Recovery	100	96	50 - 150% PASS	2 30	PASS
(d12-Chrysene)	Total	114			% Recovery	100	114	50 - 150% PASS	5 30	PASS
(d8-Naphthalene)	Total	58			% Recovery	100	58	25 - 125% PASS	4 30	PASS
1-Methylnaphthalene	Total	ND	1	5	ng/L				0 30	PASS
1-Methylphenanthrene	Total	ND	1	5	ng/L				0 30	PASS
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L				0 30	PASS
2,6-Dimethylnaphthalene	Total	1.2	1	5	ng/L				18 30	PASS J
2-Methylnaphthalene	Total	1.6	1	5	ng/L				6 30	PASS J
Acenaphthene	Total	1.2	1	5	ng/L				0 30	PASS J
Acenaphthylene	Total	ND	1	5	ng/L				0 30	PASS
Anthracene	Total	2.3	1	5	ng/L				26 30	PASS J
Benz[a]anthracene	Total	4	1	5	ng/L				11 30	PASS J
Benzo[a]pyrene	Total	ND	1	5	ng/L				0 30	PASS
Benzo[b]fluoranthene	Total	ND	1	5	ng/L				0 30	PASS
Benzo[e]pyrene	Total	ND	1	5	ng/L				0 30	PASS
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L				0 30	PASS
Benzo[k]fluoranthene	Total	ND	1	5	ng/L				0 30	PASS
Biphenyl	Total	ND	1	5	ng/L				10 30	PASS
Chrysene	Total	1.2	1	5	ng/L				18 30	PASS J
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L				0 30	PASS
Dibenzothiophene	Total	ND	1	5	ng/L				0 30	PASS
Fluoranthene	Total	2.7	1	5	ng/L				12 30	PASS J
Fluorene	Total	ND	1	5	ng/L				10 30	PASS
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L				0 30	PASS
Naphthalene	Total	1.8	1	5	ng/L				6 30	PASS J
Perylene	Total	ND	1	5	ng/L				0 30	PASS
Phenanthrene	Total	1.9	1	5	ng/L				15 30	PASS J
Pyrene	Total	1.7	1	5	ng/L				11 30	PASS J

SUBCONTRACT

REPORT

TERRA CONSULTING, INC. AURORA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS

CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

Analysis Request and Chain of Custody

RHMP
Bight '13

1307002-009

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

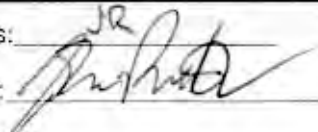
To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

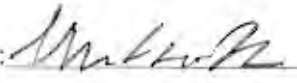
SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8013	8/26/13	0800	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8013			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8013			DOC	Grab	40 mL VOA	None	2
B13-8013			MTBE	Grab	40 mL VOA	HCl	3
B13-8013			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8013			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8013			PAHs	Grab	1 L Glass	None	2
B13-8013			TDS	Grab	1 L HDPE	None	
B13-8013			TOC	Grab	40 mL VOA	H2SO4	2
B13-8013			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JR

Relinquished By: 

Date/Time: 8/27/13 1900

Received By: 

Date/Time: 8/27/13 1900

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Date/Time: _____

Analysis Request and Chain of Custody

RHMP

Bight '13

From:

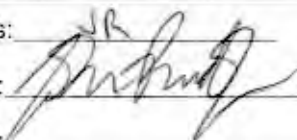
AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

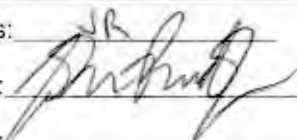
To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8014	8/26/13	0930	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8014			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8014			DOC	Grab	40 mL VOA	None	2
B13-8014			MTBE	Grab	40 mL VOA	HCl	3
B13-8014			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8014			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8014			PAHs	Grab	1 L Glass	None	2
B13-8014			TDS	Grab	1 L HDPE	None	
B13-8014			TOC	Grab	40 mL VOA	H2SO4	2
B13-8014			Total Metals	Grab	1 L HDPE	None	1


Comments: See attachment for detailed analytical list.

Sampler's Initials: 

Relinquished By: 

Date/Time:

8/27/13 1900

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Date/Time:

8/27/13 1900

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Date/Time:

Analysis Request and Chain of Custody

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Anaheim, California 92806
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SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8028	8/26/13	1120	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8028			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8028			DOC	Grab	40 mL VOA	None	2
B13-8028			MTBE	Grab	40 mL VOA	HCl	3
B13-8028			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8028			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8028			PAHs	Grab	1 L Glass	None	2
B13-8028			TDS	Grab	1 L HDPE	None	
B13-8028			TOC	Grab	40 mL VOA	H2SO4	2
B13-8028			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *SR*

Relinquished By: *[Signature]*

Date/Time: 8/27/13 1900

Received By: *[Signature]*

Date/Time: 8/23/13 1900

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP

Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8030	8/26/13	1310	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8030			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8030			DOC	Grab	40 mL VOA	None	2
B13-8030			MTBE	Grab	40 mL VOA	HCl	3
B13-8030			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8030			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8030			PAHs	Grab	1 L Glass	None	2
B13-8030			TDS	Grab	1 L HDPE	None	
B13-8030			TOC	Grab	40 mL VOA	H2SO4	2
B13-8030			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JS

Relinquished By: [Signature]

Date/Time:

8/27/13 1900

Received By: [Signature]

Date/Time:

8/27/13 1900

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Date/Time:

Received By:

Date/Time:

Analysis Request and Chain of Custody

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To:

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Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8036	8/26/13	1415	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8036			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8036			DOC	Grab	40 mL VOA	None	2
B13-8036			MTBE	Grab	40 mL VOA	HCl	3
B13-8036			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8036			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8036			PAHs	Grab	1 L Glass	None	2
B13-8036			TDS	Grab	1 L HDPE	None	
B13-8036			TOC	Grab	40 mL VOA	H2SO4	2
B13-8036			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JR

Relinquished By: [Signature]

Date/Time:

8/27/13 1900

Received By: [Signature]

Date/Time:

8/27/13 1900

Relinquished By:

Date/Time:

Received By:

Date/Time:

Analysis Request and Chain of Custody

RHMP

Bight '13

From:

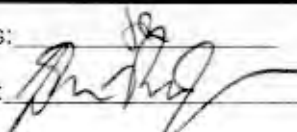
AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

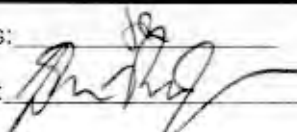
To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

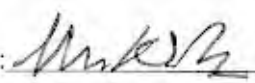
SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8038	8/26/13	1520	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8038			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8038			DOC	Grab	40 mL VOA	None	2
B13-8038			MTBE	Grab	40 mL VOA	HCl	3
B13-8038			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8038			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8038			PAHs	Grab	1 L Glass	None	2
B13-8038			TDS	Grab	1 L HDPE	None	
B13-8038			TOC	Grab	40 mL VOA	H2SO4	2
B13-8038			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: 

Relinquished By: 

Date/Time: 8/27/13 1900

Received By: 

Date/Time: 8/27/13 1900

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP

Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8040	8/26/13	1630	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8040			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8040			DOC	Grab	40 mL VOA	None	2
B13-8040			MTBE	Grab	40 mL VOA	HCl	3
B13-8040			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8040			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8040			PAHs	Grab	1 L Glass	None	2
B13-8040			TDS	Grab	1 L HDPE	None	
B13-8040			TOC	Grab	40 mL VOA	H2SO4	2
B13-8040			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JS*

Relinquished By: *Chris Stransky*

Date/Time: 8/27/13 1900

Received By: *Misty Mercier*

Date/Time: 8/27/13 1900

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP

Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8052	8/27/13	0234	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8052			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8052			DOC	Grab	40 mL VOA	None	2
B13-8052			MTBE	Grab	40 mL VOA	HCl	3
B13-8052			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8052			Oil and Grease *	Grab	1 L Glass	H2SO4	3*
B13-8052			PAHs *	Grab	1 L Glass	None	4*
B13-8052			TOC	Grab	40 mL VOA	H2SO4	2
B13-8052			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

* EXTRA VOLUME PROVIDED FOR MS/MSD

Sampler's Initials: JB

Relinquished By: [Signature]

Date/Time: 8/27/13 1900

Received By: [Signature]

Date/Time: 8/27/13 1900

Relinquished By:

Date/Time:

Received By:

Date/Time:

Analysis Request and Chain of Custody

RHMP

Bight '13

From:

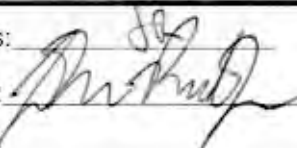
AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

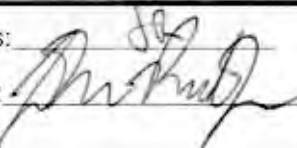
To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8060	8/27/13	1100	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8060			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8060			DOC	Grab	40 mL VOA	None	2
B13-8060			MTBE	Grab	40 mL VOA	HCl	3
B13-8060			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8060			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8060			PAHs	Grab	1 L Glass	None	2
B13-8060			TOC	Grab	40 mL VOA	H2SO4	2
B13-8060			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

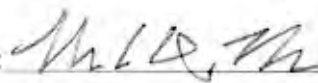
Sampler's Initials: 

Relinquished By: 

Relinquished By: _____

Date/Time: 8/27/13 1900

Date/Time: _____

Received By: 

Received By: _____

Date/Time: 8/27/13 1900

Date/Time: _____

Analysis Request and Chain of Custody

RHMP

Bight '13

From:


AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301


To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8078	8/27/13	1450	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8078			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8078			DOC	Grab	40 mL VOA	None	2
B13-8078			MTBE	Grab	40 mL VOA	HCl	3
B13-8078			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8078			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8078			PAHs	Grab	1 L Glass	None	2
B13-8078			TOC	Grab	40 mL VOA	H2SO4	2
B13-8078			Total Metals	Grab	1 L HDPE	None	1

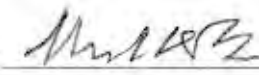
Comments: See attachment for detailed analytical list.

Sampler's Initials: 

Relinquished By: 

Date/Time:

8/27/13 1900

Received By: 

Date/Time:

8/27/13 1900

Relinquished By:

Date/Time:

Received By:

Date/Time:

**Table 4-1.
Chemical Analyses of Water Samples**

Analyte	Analysis Method	Water Target Reporting Limits^a	Units
pH	Field Measures	--	--
Specific Conductance	Field Measures	--	µS/cm
Dissolved Oxygen	Field Measures	--	mg/L
Temperature	Field Measures	--	°C
Salinity	Field Measures	--	ppt
Transmissivity	Field Measures	--	%
Ammonia-N	SM 4500-NH3 D	0.05	mg/L
Methylene Blue-Activated Substances (MBAS)	SM 5540 C	0.025	mg/L
Nitrate-N	EPA 300.0/SM 4500-NO3 E	0.05	mg/L
Oil & Grease	EPA 1664A	1.0	mg/L
Dissolved Organic Carbon (DOC)	EPA 415.3	0.5	mg/L
Total Organic Carbon (TOC)	EPA 415.3	0.5	mg/L
Total Orthophosphate as P	SM 4500 P E	0.05	mg/L
Aluminum (Al)	EPA 1640	1.0	µg/L
Antimony (Sb)	EPA 1640	0.015	µg/L
Arsenic (As)	EPA 1640	0.015	µg/L
Barium (Ba)	EPA 200.8	0.5	µg/L
Beryllium (Be)	EPA 1640	0.01	µg/L
Cadmium (Cd)	EPA 1640	0.005	µg/L
Chromium (Cr)	EPA 1640	0.025	µg/L
Cobalt (Co)	EPA 1640	0.01	µg/L
Copper (Cu)	EPA 1640	0.01	µg/L
Iron (Fe)	EPA 1640	1.0	µg/L
Lead (Pb)	EPA 1640	0.005	µg/L
Manganese (Mn)	EPA 1640	0.02	µg/L
Mercury (Hg)	EPA 245.7	0.02	µg/L
Molybdenum (Mo)	EPA 1640	0.01	µg/L
Nickel (Ni)	EPA 1640	0.005	µg/L
Selenium (Se)	EPA 1640	0.015	µg/L
Silver (Ag)	EPA 1640	0.02	µg/L
Thallium (Tl)	EPA 1640	0.01	µg/L
Tin (Sn)	EPA 1640	0.01	µg/L
Titanium (Ti)	EPA 1640	0.07	µg/L
Vanadium (V)	EPA 1640	0.04	µg/L
Zinc (Zn)	EPA 1640	0.005	µg/L
Polycyclic Aromatic Hydrocarbons (PAHs) ^b	EPA 625	5.0	ng/L
Methyl-t-butyl Ether (MTBE)	EPA 8260B	1.0	µg/L

Notes: Metals analysis will consist of both total and dissolved fractions. Filtering for the dissolved fraction will occur in the field immediately after collection.

^a Reporting limits provided by Physis Environmental Laboratories.

^b Includes acenaphthene, acenaphthylene, anthracene, benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[e]pyrene, benzo[g,h,i]perylene, benzo[k]fluoranthene, biphenyl, chrysene, dibenz[a,h]anthracene, di benzo[thiophene, fluoranthene, fluorene, indeno(1,2,3-c,d)pyrene, naphthalene, perylene, phenanthrene, pyrene, 2,6-dimethylnaphthalene, 1-methylnaphthalene, 2-methylnaphthalene, 1-methylphenanthrene, 2,3,5-trimethylnaphthalene, and 1,6,7-trimethylnaphthalene.

µg/L - micrograms per liter (parts per billion) mg/L - milligrams per liter

µS/cm - microSiemens per centimeter ppt - parts per thousand °C - degrees Celsius

SAMPLE RECEIPT SUMMARY

CLIENT: AMEC Date Received: 8/27/13 Received By: MB Inspected By: AI

COURIER

☒ PHYSIS ☐ CLIENT ☐ FEDEX ☐ UPS
start 15:30 end 21:15 ☐ OTHER: _____

COOLER

☒ COOLER ☐ BOX total #
☐ OTHER: _____ 8

TEMPERATURE

4.9 °C ☒ WET ICE ☐ BLUE ICE
☐ DRY ICE ☐ NONE

SAMPLE INTEGRITY UPON RECEIPT

1. COC(s) included and completely filled out..... YES
2. All sample containers arrived intact..... YES
3. All samples listed on COC(s) are present..... YES
4. Information on containers consistent with information on COC(s)..... YES
5. Correct containers and volume for all analyses indicated..... YES
6. All samples received within method holding time..... YES
7. Correct preservation used for all analyses indicated..... YES

NOTES



November 15, 2013

Chris Stransky
AMEC
9210 Sky Park Court
Suite 200
San Diego, CA 92123-

Project Name: RHMP Bight '13
Physis Project ID: 1307002-011

Dear Chris,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 8/29/2013. A total of 12 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventionals
Total Orthophosphate as P by SM 4500-P E
Oil & Grease by EPA 1664A
Nitrate as N by SM 4500-NO ₃ E
MBAS by SM 5540-C
Ammonia as N by SM 4500-NH ₃ D
Elements
Total and Dissolved Barium by EPA 200.8
Total & Dissolved Trace Metals by EPA 1640
Total & Dissolved Mercury by EPA 245.7
Organics
Polynuclear Aromatic Hydrocarbons by EPA 625
Subcontract
Total Organic Carbon by SM 5310 B
Methyl Tertiary Butyl Ether (MTBE) by EPA 624
Dissolved Organic Carbon by SM 5310 B

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,



Misty Mercier
Extension 202
714-335-5918 cell
mistymercier@physislabs.com

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and are used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use was assessed through the analysis of procedural blanks at a minimum frequency of one per batch. Physis' QM requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the procedural blanks be flagged in the project sample results with a B qualifier.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS₁/MS₂, BS₁/BS₂, LCS₁/LCS₂, LCM₁/LCM₂, CRM₁/CRM₂, surrogate spikes and/or replicate project sample analysis (R₁/R₂) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

MATRIX SPIKES: MS samples were employed to assess the effect a particular project sample matrix has on the accuracy of a measurement. It is prepared by adding a known amount of the target analyte(s) to an aliquot of the project sample. Matrix spikes indicate the bias of analytical measurements due to chemical interferences inherent in the sample matrix. If the matrix spike recovery does not fall within the specified acceptance limits, it may be an indication of sample matrix interference in the specific project sample used for the MS. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

BLANK SPIKES: BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

CERTIFIED REFERENCE MATERIALS: CRMs are pre-homogenized materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of a preparation and analytical method. CRMs are analyzed to provide evidence that the laboratory method produces results that are comparable to those obtained by an independent organization.

SURROGATES: Where CRMs are unavailable, target analyte recovery can be assessed by monitoring added surrogate compounds/elements. A surrogate is a pure analyte unlikely to be found in any project sample and most often used with organic analytical procedures. Percent recovery is calculated for each surrogate and is used to monitor method performance within each discrete sample and is indicative of the procedure's ability to recover the actual analytes of interest.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored

under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes. Physis' QM requires that all samples analyzed beyond the method recommended holding time be flagged in the sample results with an H qualifier.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
*	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified recovery and/or RPD acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore MS recovery and/or RPD acceptance limits do not apply
SL	analyte results for R1 and/or R2 were lower than 10 times the MDL, therefore RPD acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore MS recovery and/or RPD were outside the specified acceptance limits
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

PHYSICS

ANALYTICAL

REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC. AURORA

Innovative Solutions for Nature



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CA ELAP #2769

Conventionals

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22530-R1		B13-8109 Grab		Matrix: Liquid		Sampled: 28-Aug-13 7:15
	Method: SM 4500-P E	Batch ID: C-13127				Received: 29-Aug-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	Analyzed: 30-Aug-13
	Method: SM 5540-C	Batch ID: C-13129				Analyzed: 30-Aug-13
MBAS	NA	0.043	0.005	0.025	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14039				Analyzed: 25-Sep-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14049				Analyzed: 25-Sep-13
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14069				Analyzed: 24-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22531-R1		B13-8118 Grab		Matrix: Liquid		Sampled: 28-Aug-13 10:20
	Method: SM 4500-P E	Batch ID: C-13127				Received: 29-Aug-13
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	Analyzed: 30-Aug-13
	Method: SM 5540-C	Batch ID: C-13129				Analyzed: 30-Aug-13
MBAS	NA	0.042	0.005	0.025	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14039				Analyzed: 25-Sep-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14049				Analyzed: 25-Sep-13
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14069				Analyzed: 24-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22532-R1		B13-8122 Grab		Matrix: Liquid		Sampled: 28-Aug-13 13:25
	Method: SM 4500-P E	Batch ID: C-13127				Received: 29-Aug-13
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	Analyzed: 30-Aug-13
	Method: SM 5540-C	Batch ID: C-13129				Analyzed: 30-Aug-13
MBAS	NA	0.035	0.005	0.025	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14039				Analyzed: 25-Sep-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14049				Analyzed: 25-Sep-13



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CA ELAP #2769

Conventionals

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14069		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22533-R1	B13-8033 Grab	Matrix: Liquid		Sampled: 28-Aug-13 16:25		Received: 29-Aug-13
	Method: SM 4500-P E	Batch ID: C-13127		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13129		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
MBAS	NA	0.037	0.005	0.025	mg/L	
	Method: SM 4500-NH3 D	Batch ID: C-14039		Prepared: 25-Sep-13		Analyzed: 25-Sep-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO3 E	Batch ID: C-14049		Prepared: 30-Aug-13		Analyzed: 25-Sep-13
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14069		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22534-R1	B13-8093 Grab	Matrix: Liquid		Sampled: 29-Aug-13 7:00		Received: 29-Aug-13
	Method: SM 4500-P E	Batch ID: C-13127		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13129		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
MBAS	NA	0.033	0.005	0.025	mg/L	
	Method: SM 4500-NH3 D	Batch ID: C-14039		Prepared: 25-Sep-13		Analyzed: 25-Sep-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO3 E	Batch ID: C-14049		Prepared: 30-Aug-13		Analyzed: 25-Sep-13
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14069		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22535-R1	B13-8100 Grab	Matrix: Liquid		Sampled: 29-Aug-13 8:25		Received: 29-Aug-13
	Method: SM 4500-P E	Batch ID: C-13127		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13129		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
MBAS	NA	0.04	0.005	0.025	mg/L	



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Conventionals

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Method: SM 4500-NH ₃ D Batch ID: C-14039 Prepared: 25-Sep-13 Analyzed: 25-Sep-13						
Ammonia as N	NA	ND	0.02	0.05	mg/L	
Method: SM 4500-NO ₃ E Batch ID: C-14049 Prepared: 30-Aug-13 Analyzed: 25-Sep-13						
Nitrate as N	NA	ND	0.01	0.05	mg/L	
Method: EPA 1664A Batch ID: C-14069 Prepared: 24-Sep-13 Analyzed: 24-Sep-13						
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22536-R1 B13-8099 Grab Matrix: Liquid Sampled: 29-Aug-13 9:30 Received: 29-Aug-13						
Method: SM 4500-P E Batch ID: C-13127 Prepared: 30-Aug-13 Analyzed: 30-Aug-13						
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
Method: SM 5540-C Batch ID: C-13129 Prepared: 30-Aug-13 Analyzed: 30-Aug-13						
MBAS	NA	0.038	0.005	0.025	mg/L	
Method: SM 4500-NH ₃ D Batch ID: C-14039 Prepared: 25-Sep-13 Analyzed: 25-Sep-13						
Ammonia as N	NA	ND	0.02	0.05	mg/L	
Method: SM 4500-NO ₃ E Batch ID: C-14049 Prepared: 30-Aug-13 Analyzed: 25-Sep-13						
Nitrate as N	NA	ND	0.01	0.05	mg/L	
Method: EPA 1664A Batch ID: C-14069 Prepared: 24-Sep-13 Analyzed: 24-Sep-13						
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22537-R1 B13-8098 Grab Matrix: Liquid Sampled: 29-Aug-13 10:45 Received: 29-Aug-13						
Method: SM 4500-P E Batch ID: C-13127 Prepared: 30-Aug-13 Analyzed: 30-Aug-13						
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
Method: SM 5540-C Batch ID: C-13129 Prepared: 30-Aug-13 Analyzed: 30-Aug-13						
MBAS	NA	0.048	0.005	0.025	mg/L	
Method: SM 4500-NH ₃ D Batch ID: C-14039 Prepared: 25-Sep-13 Analyzed: 25-Sep-13						
Ammonia as N	NA	ND	0.02	0.05	mg/L	
Method: SM 4500-NO ₃ E Batch ID: C-14049 Prepared: 30-Aug-13 Analyzed: 25-Sep-13						
Nitrate as N	NA	ND	0.01	0.05	mg/L	
Method: EPA 1664A Batch ID: C-14069 Prepared: 24-Sep-13 Analyzed: 24-Sep-13						
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22538-R1 B13-8096 Grab Matrix: Liquid Sampled: 29-Aug-13 12:15 Received: 29-Aug-13						
Method: SM 4500-P E Batch ID: C-13127 Prepared: 30-Aug-13 Analyzed: 30-Aug-13						



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Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13129		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
MBAS	NA	0.04	0.005	0.025	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14039		Prepared: 25-Sep-13		Analyzed: 25-Sep-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14049		Prepared: 30-Aug-13		Analyzed: 25-Sep-13
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14069		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22539-R1 B13-8095 Grab Matrix: Liquid Sampled: 29-Aug-13 14:05 Received: 29-Aug-13						
	Method: SM 4500-P E	Batch ID: C-13127		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13129		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
MBAS	NA	0.053	0.005	0.025	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14039		Prepared: 25-Sep-13		Analyzed: 25-Sep-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14049		Prepared: 30-Aug-13		Analyzed: 25-Sep-13
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14069		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22540-R1 B13-8087 Grab Matrix: Liquid Sampled: 29-Aug-13 15:05 Received: 29-Aug-13						
	Method: SM 4500-P E	Batch ID: C-13127		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13129		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
MBAS	NA	0.059	0.005	0.025	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14039		Prepared: 25-Sep-13		Analyzed: 25-Sep-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14049		Prepared: 30-Aug-13		Analyzed: 25-Sep-13
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14069		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	



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Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22541-R1	B13-8073 Grab	Matrix: Liquid				
	Method: SM 4500-P E	Batch ID: C-13127				
Total Orthophosphate as P	NA	0.04	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13129				
MBAS	NA	0.058	0.005	0.025	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14039				
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14049				
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14069				
Oil & Grease	NA	ND	1	1	mg/L	



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22530-R1		B13-8109 Grab	Matrix: Liquid	Sampled: 28-Aug-13 7:15	Received: 29-Aug-13	
	Method: EPA 245.7	Batch ID: E-6022		Prepared: 25-Sep-13		Analyzed: 25-Sep-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 1640		Batch ID: E-7016		Prepared: 29-Oct-13		Analyzed: 07-Nov-13
Aluminum (Al)	Total	27.9	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.11	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.17	0.01	0.015	µg/L	
Arsenic (As)	Total	1.215	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.242	0.005	0.015	µg/L	
Beryllium (Be)	Total	0.007	0.005	0.01	µg/L	J
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0586	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0554	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.1987	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.0779	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.064	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.04	0.005	0.01	µg/L	
Copper (Cu)	Total	2.763	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.294	0.005	0.01	µg/L	
Iron (Fe)	Total	18.6	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1278	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0309	0.0025	0.005	µg/L	
Manganese (Mn)	Total	5.58	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	2.14	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.777	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.755	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.4889	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.4949	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.01	0.005	0.015	µg/L	J



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	Dissolved	0.01	0.005	0.015	µg/L	J
Silver (Ag)	Total	0.03	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.04	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.008	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	0.007	0.005	0.01	µg/L	J
Tin (Sn)	Total	0.022	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	9.617	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	6.713	0.035	0.07	µg/L	
Vanadium (V)	Total	2.42	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.15	0.02	0.04	µg/L	
Zinc (Zn)	Total	7.7863	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	5.3571	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7016

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	7.21	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	7.01	0.25	0.5	µg/L	

Sample ID: 22531-R1

B13-8118 Grab

Matrix: Liquid

Sampled: 28-Aug-13 10:20

Received: 29-Aug-13

Method: EPA 245.7

Batch ID: E-6022

Prepared: 25-Sep-13

Analyzed: 25-Sep-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Method: EPA 1640

Batch ID: E-7016

Prepared: 29-Oct-13

Analyzed: 07-Nov-13

Aluminum (Al)	Total	19.1	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.11	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.16	0.01	0.015	µg/L	
Arsenic (As)	Total	1.163	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.217	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0538	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0557	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.1402	0.0125	0.025	µg/L	

PHYSIS Project ID: 1307002-011

Client: AMEC

Project: RHMP Bight '13



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	Dissolved	0.093	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.056	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.04	0.005	0.01	µg/L	
Copper (Cu)	Total	2.577	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.238	0.005	0.01	µg/L	
Iron (Fe)	Total	12.4	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1179	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0243	0.0025	0.005	µg/L	
Manganese (Mn)	Total	5.05	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	1.65	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.961	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.733	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.4672	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.444	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.013	0.005	0.015	µg/L	J
Selenium (Se)	Dissolved	0.015	0.005	0.015	µg/L	
Silver (Ag)	Total	0.03	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.03	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.008	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	0.007	0.005	0.01	µg/L	J
Tin (Sn)	Total	ND	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	7.468	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	6.409	0.035	0.07	µg/L	
Vanadium (V)	Total	2.26	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.17	0.02	0.04	µg/L	
Zinc (Zn)	Total	5.7005	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	5.297	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7016

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	8	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	8.62	0.25	0.5	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22532-R1		B13-8122 Grab	Matrix: Liquid	Sampled: 28-Aug-13 13:25	Received: 29-Aug-13	
Method: EPA 245.7		Batch ID: E-6022	Prepared: 25-Sep-13		Analyzed: 25-Sep-13	
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 1640		Batch ID: E-7016	Prepared: 29-Oct-13		Analyzed: 07-Nov-13	
Aluminum (Al)	Total	24.4	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.1	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.14	0.01	0.015	µg/L	
Arsenic (As)	Total	1.254	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.197	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0579	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0531	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.207	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.087	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.059	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.037	0.005	0.01	µg/L	
Copper (Cu)	Total	2.727	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.433	0.005	0.01	µg/L	
Iron (Fe)	Total	14.9	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1214	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0262	0.0025	0.005	µg/L	
Manganese (Mn)	Total	4.9	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	2.01	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.8	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.944	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.4508	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.4456	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.009	0.005	0.015	µg/L	J



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	Dissolved	0.014	0.005	0.015	µg/L	J
Silver (Ag)	Total	0.03	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.04	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.005	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	0.01	0.005	0.01	µg/L	
Tin (Sn)	Total	0.023	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.014	0.005	0.01	µg/L	
Titanium (Ti)	Total	8.406	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	6.463	0.035	0.07	µg/L	
Vanadium (V)	Total	2.27	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.25	0.02	0.04	µg/L	
Zinc (Zn)	Total	6.1842	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	6.0657	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7016

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	7.78	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	8.25	0.25	0.5	µg/L	

Sample ID: 22533-R1

B13-8033 Grab

Matrix: Liquid

Sampled: 28-Aug-13 16:25

Received: 29-Aug-13

Method: EPA 245.7

Batch ID: E-6022

Prepared: 25-Sep-13

Analyzed: 25-Sep-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Method: EPA 1640

Batch ID: E-7016

Prepared: 29-Oct-13

Analyzed: 07-Nov-13

Aluminum (Al)	Total	87.6	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.11	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.13	0.01	0.015	µg/L	
Arsenic (As)	Total	1.094	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	0.97	0.005	0.015	µg/L	
Beryllium (Be)	Total	0.007	0.005	0.01	µg/L	J
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0719	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.069	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.3091	0.0125	0.025	µg/L	

PHYSIS Project ID: 1307002-011

Client: AMEC

Project: RHMP Bight '13



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	Dissolved	0.0571	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.105	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.09	0.005	0.01	µg/L	
Copper (Cu)	Total	3.025	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.634	0.005	0.01	µg/L	
Iron (Fe)	Total	55.2	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1769	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0334	0.0025	0.005	µg/L	
Manganese (Mn)	Total	10.45	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	7.22	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	10.291	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	10.283	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.6439	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.5967	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.02	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.019	0.005	0.015	µg/L	
Silver (Ag)	Total	0.04	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.04	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.006	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	0.009	0.005	0.01	µg/L	J
Tin (Sn)	Total	0.015	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	11.841	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	6.791	0.035	0.07	µg/L	
Vanadium (V)	Total	2.86	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.63	0.02	0.04	µg/L	
Zinc (Zn)	Total	6.0977	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	5.7735	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7016

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	9.29	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	10.01	0.25	0.5	µg/L	



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22534-R1		B13-8093 Grab	Matrix: Liquid	Sampled: 29-Aug-13 7:00	Received: 29-Aug-13	
Method: EPA 245.7		Batch ID: E-6022	Prepared: 25-Sep-13		Analyzed: 25-Sep-13	
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 1640		Batch ID: E-7016	Prepared: 29-Oct-13		Analyzed: 07-Nov-13	
Aluminum (Al)	Total	50	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.12	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.13	0.01	0.015	µg/L	
Arsenic (As)	Total	1.413	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.203	0.005	0.015	µg/L	
Beryllium (Be)	Total	0.005	0.005	0.01	µg/L	J
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0593	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0581	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2408	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.0699	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.06	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.042	0.005	0.01	µg/L	
Copper (Cu)	Total	2.837	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.556	0.005	0.01	µg/L	
Iron (Fe)	Total	28.4	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1685	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0422	0.0025	0.005	µg/L	
Manganese (Mn)	Total	6.37	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	3.04	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.68	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	10.389	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.4992	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.5048	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.018	0.005	0.015	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	Dissolved	0.018	0.005	0.015	µg/L	
Silver (Ag)	Total	0.03	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.03	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.008	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	0.006	0.005	0.01	µg/L	J
Tin (Sn)	Total	0.015	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	9.149	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	6.793	0.035	0.07	µg/L	
Vanadium (V)	Total	2.41	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.3	0.02	0.04	µg/L	
Zinc (Zn)	Total	6.1704	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	5.7916	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7016

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	8.82	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	7.82	0.25	0.5	µg/L	

Sample ID: 22535-R1

B13-8100 Grab

Matrix: Liquid

Sampled: 29-Aug-13 8:25

Received: 29-Aug-13

Method: EPA 245.7

Batch ID: E-6022

Prepared: 25-Sep-13

Analyzed: 25-Sep-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Method: EPA 1640

Batch ID: E-7016

Prepared: 29-Oct-13

Analyzed: 07-Nov-13

Aluminum (Al)	Total	27.5	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.09	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.15	0.01	0.015	µg/L	
Arsenic (As)	Total	1.191	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.305	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0577	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0531	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2004	0.0125	0.025	µg/L	

PHYSIS Project ID: 1307002-011

Client: AMEC

Project: RHMP Bight '13



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	Dissolved	0.0844	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.064	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.039	0.005	0.01	µg/L	
Copper (Cu)	Total	3.053	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.73	0.005	0.01	µg/L	
Iron (Fe)	Total	15.6	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1304	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0305	0.0025	0.005	µg/L	
Manganese (Mn)	Total	5.83	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	3	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.845	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	10.054	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.5084	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.4877	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.019	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.016	0.005	0.015	µg/L	
Silver (Ag)	Total	0.02	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.03	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.006	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	0.006	0.005	0.01	µg/L	J
Tin (Sn)	Total	0.017	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	8.257	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	7.338	0.035	0.07	µg/L	
Vanadium (V)	Total	2.29	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.35	0.02	0.04	µg/L	
Zinc (Zn)	Total	6.3362	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	5.423	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7016

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	10.44	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	6.96	0.25	0.5	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22536-R1		B13-8099 Grab	Matrix: Liquid	Sampled: 29-Aug-13 9:30	Received: 29-Aug-13	
Method: EPA 245.7		Batch ID: E-6022		Prepared: 25-Sep-13	Analyzed: 25-Sep-13	
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 1640		Batch ID: E-7016		Prepared: 29-Oct-13	Analyzed: 07-Nov-13	
Aluminum (Al)	Total	38.5	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.09	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.17	0.01	0.015	µg/L	
Arsenic (As)	Total	1.155	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.217	0.005	0.015	µg/L	
Beryllium (Be)	Total	0.006	0.005	0.01	µg/L	J
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0554	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0572	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.4478	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.0663	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.07	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.054	0.005	0.01	µg/L	
Copper (Cu)	Total	3.785	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	3.176	0.005	0.01	µg/L	
Iron (Fe)	Total	23.4	0.5	1	µg/L	
Iron (Fe)	Dissolved	0.5	0.5	1	µg/L	J
Lead (Pb)	Total	0.1322	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0336	0.0025	0.005	µg/L	
Manganese (Mn)	Total	6.94	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	4.99	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.852	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.995	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.5709	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.5158	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.015	0.005	0.015	µg/L	

PHYSIS Project ID: 1307002-011

Client: AMEC

Project: RHMP Bight '13



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	Dissolved	0.024	0.005	0.015	µg/L	
Silver (Ag)	Total	0.03	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.03	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.008	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	0.006	0.005	0.01	µg/L	J
Tin (Sn)	Total	0.023	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	9.635	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	7.805	0.035	0.07	µg/L	
Vanadium (V)	Total	2.4	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.25	0.02	0.04	µg/L	
Zinc (Zn)	Total	7.3106	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	6.9433	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7016

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	9.99	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	8.14	0.25	0.5	µg/L	

Sample ID: 22537-R1

B13-8098 Grab

Matrix: Liquid

Sampled: 29-Aug-13 10:45

Received: 29-Aug-13

Method: EPA 245.7

Batch ID: E-6022

Prepared: 25-Sep-13

Analyzed: 25-Sep-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Method: EPA 1640

Batch ID: E-7016

Prepared: 29-Oct-13

Analyzed: 07-Nov-13

Aluminum (Al)	Total	23.1	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.12	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.17	0.01	0.015	µg/L	
Arsenic (As)	Total	1.229	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.074	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0611	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.061	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.16	0.0125	0.025	µg/L	

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Project: RHMP Bight '13



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	Dissolved	0.0575	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.073	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.052	0.005	0.01	µg/L	
Copper (Cu)	Total	3.178	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	3.01	0.005	0.01	µg/L	
Iron (Fe)	Total	12.5	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1103	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0319	0.0025	0.005	µg/L	
Manganese (Mn)	Total	7.27	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	4.54	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.54	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.937	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.514	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.5435	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.009	0.005	0.015	µg/L	J
Selenium (Se)	Dissolved	0.012	0.005	0.015	µg/L	J
Silver (Ag)	Total	0.03	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.04	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.01	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.012	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	8.684	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	6.158	0.035	0.07	µg/L	
Vanadium (V)	Total	2.44	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.32	0.02	0.04	µg/L	
Zinc (Zn)	Total	6.3418	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	5.8443	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7016

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	9.1	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	9.31	0.25	0.5	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22538-R1		B13-8096 Grab	Matrix: Liquid	Sampled: 29-Aug-13 12:15	Received: 29-Aug-13	
Method: EPA 245.7		Batch ID: E-6022	Prepared: 25-Sep-13		Analyzed: 25-Sep-13	
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 1640		Batch ID: E-7016	Prepared: 29-Oct-13		Analyzed: 07-Nov-13	
Aluminum (Al)	Total	29.3	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.1	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.16	0.01	0.015	µg/L	
Arsenic (As)	Total	1.286	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.215	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.059	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0592	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2135	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.071	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.064	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.044	0.005	0.01	µg/L	
Copper (Cu)	Total	3.116	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	3.242	0.005	0.01	µg/L	
Iron (Fe)	Total	16.9	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1316	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0346	0.0025	0.005	µg/L	
Manganese (Mn)	Total	6.39	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	3.89	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	10.06	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	10.376	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.5235	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.5559	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.018	0.005	0.015	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	Dissolved	0.02	0.005	0.015	µg/L	
Silver (Ag)	Total	0.02	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.03	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.007	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	0.007	0.005	0.01	µg/L	J
Tin (Sn)	Total	0.008	0.005	0.01	µg/L	J
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	8.418	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	5.799	0.035	0.07	µg/L	
Vanadium (V)	Total	2.27	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.28	0.02	0.04	µg/L	
Zinc (Zn)	Total	6.5825	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	7.1101	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7016

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	8.27	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	8.02	0.25	0.5	µg/L	

Sample ID: 22539-R1

B13-8095 Grab

Matrix: Liquid

Sampled: 29-Aug-13 14:05

Received: 29-Aug-13

Method: EPA 245-7

Batch ID: E-6022

Prepared: 25-Sep-13

Analyzed: 25-Sep-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Method: EPA 1640

Batch ID: E-7016

Prepared: 29-Oct-13

Analyzed: 07-Nov-13

Aluminum (Al)	Total	20.9	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.1	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.17	0.01	0.015	µg/L	
Arsenic (As)	Total	1.097	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.114	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0571	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0557	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.1844	0.0125	0.025	µg/L	

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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	Dissolved	0.0559	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.058	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.061	0.005	0.01	µg/L	
Copper (Cu)	Total	3.363	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	3.054	0.005	0.01	µg/L	
Iron (Fe)	Total	13.6	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1164	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0395	0.0025	0.005	µg/L	
Manganese (Mn)	Total	6.89	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	4.62	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.787	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	10.027	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.528	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.5504	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.013	0.005	0.015	µg/L	J
Selenium (Se)	Dissolved	0.017	0.005	0.015	µg/L	
Silver (Ag)	Total	0.03	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.03	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.007	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	0.006	0.005	0.01	µg/L	J
Tin (Sn)	Total	0.019	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	8.323	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	6.019	0.035	0.07	µg/L	
Vanadium (V)	Total	2.35	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.29	0.02	0.04	µg/L	
Zinc (Zn)	Total	7.028	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	6.7548	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7016

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	7.93	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	9.09	0.25	0.5	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22540-R1		B13-8087 Grab	Matrix: Liquid	Sampled: 29-Aug-13 15:05	Received: 29-Aug-13	
Method: EPA 245.7		Batch ID: E-6022	Prepared: 25-Sep-13		Analyzed: 25-Sep-13	
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 1640		Batch ID: E-7017	Prepared: 29-Oct-13		Analyzed: 08-Nov-13	
Aluminum (Al)	Total	31.7	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.13	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.11	0.01	0.015	µg/L	
Arsenic (As)	Total	1.199	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.221	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0522	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0585	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2354	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.0934	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.062	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.032	0.005	0.01	µg/L	
Copper (Cu)	Total	2.987	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.687	0.005	0.01	µg/L	
Iron (Fe)	Total	19.7	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1202	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.02	0.0025	0.005	µg/L	
Manganese (Mn)	Total	5.87	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	2.86	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.748	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.946	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.5071	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.5208	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.012	0.005	0.015	µg/L	J



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	Dissolved	0.007	0.005	0.015	µg/L	J
Silver (Ag)	Total	0.02	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.01	0.01	0.02	µg/L	J
Thallium (Tl)	Total	0.008	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	0.009	0.005	0.01	µg/L	J
Tin (Sn)	Total	ND	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	9.057	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	5.542	0.035	0.07	µg/L	
Vanadium (V)	Total	2.21	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.11	0.02	0.04	µg/L	
Zinc (Zn)	Total	6.3685	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	5.3483	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7017

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	6.48	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	8.12	0.25	0.5	µg/L	

Sample ID: 22541-R1

B13-8073 Grab

Matrix: Liquid

Sampled: 29-Aug-13 16:20

Received: 29-Aug-13

Method: EPA 245.7

Batch ID: E-6022

Prepared: 25-Sep-13

Analyzed: 25-Sep-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Method: EPA 1640

Batch ID: E-7017

Prepared: 29-Oct-13

Analyzed: 08-Nov-13

Aluminum (Al)	Total	43.9	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.12	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.15	0.01	0.015	µg/L	
Arsenic (As)	Total	1.26	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.029	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0506	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0545	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2238	0.0125	0.025	µg/L	

PHYSIS Project ID: 1307002-011

Client: AMEC

Project: RHMP Bight '13



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	Dissolved	0.108	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.074	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.044	0.005	0.01	µg/L	
Copper (Cu)	Total	4.8	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	4.124	0.005	0.01	µg/L	
Iron (Fe)	Total	31.4	0.5	1	µg/L	
Iron (Fe)	Dissolved	0.6	0.5	1	µg/L	J
Lead (Pb)	Total	0.1614	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0183	0.0025	0.005	µg/L	
Manganese (Mn)	Total	8.93	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	5.86	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.254	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.752	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.4401	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.4409	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.023	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.018	0.005	0.015	µg/L	
Silver (Ag)	Total	0.03	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.02	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.01	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	0.008	0.005	0.01	µg/L	J
Tin (Sn)	Total	0.01	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	10.289	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	6.561	0.035	0.07	µg/L	
Vanadium (V)	Total	2.25	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.13	0.02	0.04	µg/L	
Zinc (Zn)	Total	11.4329	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	10.1474	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7017

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	7.84	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	10.36	0.25	0.5	µg/L	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22530-R1</div> <div>B13-8109 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-4154</div> </div> <div> <div>Sampled: 28-Aug-13 7:15</div> <div>Prepared: 04-Sep-13</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 07-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	68			% Recovery	
(d10-Phenanthrene)	Total	92			% Recovery	
(d12-Chrysene)	Total	113			% Recovery	
(d8-Naphthalene)	Total	49			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	1.8	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	1.6	1	5	ng/L	J
Benz[a]anthracene	Total	2.6	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	5	1	5	ng/L	
Fluorene	Total	1.1	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.7	1	5	ng/L	J
Pyrene	Total	1.7	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22531-R1</div> <div>B13-8118 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-4154</div> </div> <div> <div>Sampled: 28-Aug-13 10:20</div> <div>Prepared: 04-Sep-13</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 07-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	74			% Recovery	
(d10-Phenanthrene)	Total	96			% Recovery	
(d12-Chrysene)	Total	110			% Recovery	
(d8-Naphthalene)	Total	53			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	2	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	2.4	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	5.4	1	5	ng/L	
Fluorene	Total	1.6	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.9	1	5	ng/L	J
Pyrene	Total	1.4	1	5	ng/L	J



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22532-R1</div> <div>B13-8122 Grab Method: EPA 625</div> <div>Matrix: Liquid Batch ID: O-4154</div> <div>Sampled: 28-Aug-13 13:25 Prepared: 04-Sep-13</div> <div>Received: 29-Aug-13 Analyzed: 07-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	73			% Recovery	
(d10-Phenanthrene)	Total	97			% Recovery	
(d12-Chrysene)	Total	110			% Recovery	
(d8-Naphthalene)	Total	53			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	2	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	2	1	5	ng/L	J
Benz[a]anthracene	Total	2.4	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	5	1	5	ng/L	
Fluorene	Total	1.3	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.1	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	2.2	1	5	ng/L	J
Pyrene	Total	1.2	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22533-R1</div> <div>B13-8033 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-4154</div> </div> <div> <div>Sampled: 28-Aug-13 16:25</div> <div>Prepared: 04-Sep-13</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 07-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	69			% Recovery	
(d10-Phenanthrene)	Total	93			% Recovery	
(d12-Chrysene)	Total	113			% Recovery	
(d8-Naphthalene)	Total	44			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	1.1	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	1.6	1	5	ng/L	J
Benz[a]anthracene	Total	2.1	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	2.7	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.9	1	5	ng/L	J
Pyrene	Total	ND	1	5	ng/L	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22534-R1		Matrix: Liquid		Sampled: 29-Aug-13 7:00		Received: 29-Aug-13
B13-8093 Grab		Batch ID: O-4154		Prepared: 04-Sep-13		Analyzed: 07-Oct-13
(d10-Acenaphthene)	Total	62			% Recovery	
(d10-Phenanthrene)	Total	85			% Recovery	
(d12-Chrysene)	Total	109			% Recovery	
(d8-Naphthalene)	Total	46			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	1.4	1	5	ng/L	J
2-Methylnaphthalene	Total	1.3	1	5	ng/L	J
Acenaphthene	Total	1.9	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	2.5	1	5	ng/L	J
Benz[a]anthracene	Total	4	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	3.8	1	5	ng/L	J
Fluorene	Total	1.3	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.2	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	3	1	5	ng/L	J
Pyrene	Total	2.1	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22535-R1</div> <div>B13-8100 Grab Method: EPA 625</div> <div>Matrix: Liquid Batch ID: O-4154</div> <div>Sampled: 29-Aug-13 8:25 Prepared: 04-Sep-13</div> <div>Received: 29-Aug-13 Analyzed: 13-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	84			% Recovery	
(d10-Phenanthrene)	Total	96			% Recovery	
(d12-Chrysene)	Total	108			% Recovery	
(d8-Naphthalene)	Total	65			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	2.8	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	2.2	1	5	ng/L	J
Benz[a]anthracene	Total	1.9	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	6	1	5	ng/L	
Fluorene	Total	1.7	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.2	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	3.4	1	5	ng/L	J
Pyrene	Total	2.1	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22536-R1</div> <div>B13-8099 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-4154</div> </div> <div> <div>Sampled: 29-Aug-13 9:30</div> <div>Prepared: 04-Sep-13</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 13-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	81			% Recovery	
(d10-Phenanthrene)	Total	92			% Recovery	
(d12-Chrysene)	Total	105			% Recovery	
(d8-Naphthalene)	Total	63			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	1.3	1	5	ng/L	J
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	2.8	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	1.9	1	5	ng/L	J
Benz[a]anthracene	Total	1.8	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	1.6	1	5	ng/L	J
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	1.1	1	5	ng/L	J
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	4.9	1	5	ng/L	J
Fluorene	Total	1.7	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.7	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	3	1	5	ng/L	J
Pyrene	Total	1.8	1	5	ng/L	J



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22537-R1</div> <div>B13-8098 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-4154</div> </div> <div> <div>Sampled: 29-Aug-13 10:45</div> <div>Prepared: 04-Sep-13</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 08-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	70			% Recovery	
(d10-Phenanthrene)	Total	92			% Recovery	
(d12-Chrysene)	Total	100			% Recovery	
(d8-Naphthalene)	Total	53			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	2.2	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	1.4	1	5	ng/L	J
Benz[a]anthracene	Total	1.9	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	4.3	1	5	ng/L	J
Fluorene	Total	1.6	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	2.6	1	5	ng/L	J
Pyrene	Total	1.6	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22538-R1</div> <div>B13-8096 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-4154</div> </div> <div> <div>Sampled: 29-Aug-13 12:15</div> <div>Prepared: 04-Sep-13</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 08-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	71			% Recovery	
(d10-Phenanthrene)	Total	93			% Recovery	
(d12-Chrysene)	Total	92			% Recovery	
(d8-Naphthalene)	Total	50			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	1.3	1	5	ng/L	J
Acenaphthene	Total	2.2	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	1.3	1	5	ng/L	J
Benz[a]anthracene	Total	1.5	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	4.6	1	5	ng/L	J
Fluorene	Total	1.8	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.1	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	3.5	1	5	ng/L	J
Pyrene	Total	1.5	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22539-R1</div> <div>B13-8095 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-4154</div> </div> <div> <div>Sampled: 29-Aug-13 14:05</div> <div>Prepared: 04-Sep-13</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 08-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	72			% Recovery	
(d10-Phenanthrene)	Total	93			% Recovery	
(d12-Chrysene)	Total	104			% Recovery	
(d8-Naphthalene)	Total	52			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	22.8	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	1.1	1	5	ng/L	J
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	5	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	9.6	1	5	ng/L	
Fluorene	Total	3.2	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	8.3	1	5	ng/L	
Pyrene	Total	ND	1	5	ng/L	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22540-R1</div> <div>B13-8087 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-4154</div> </div> <div> <div>Sampled: 29-Aug-13 15:05</div> <div>Prepared: 04-Sep-13</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 08-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	68			% Recovery	
(d10-Phenanthrene)	Total	92			% Recovery	
(d12-Chrysene)	Total	100			% Recovery	
(d8-Naphthalene)	Total	46			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	36.7	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	1.9	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	5	1	5	ng/L	
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.1	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	3.1	1	5	ng/L	J
Pyrene	Total	ND	1	5	ng/L	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22541-R1 B13-8073 Grab Method: EPA 625		Matrix: Liquid Batch ID: O-4154		Sampled: 29-Aug-13 16:20 Prepared: 04-Sep-13		Received: 29-Aug-13 Analyzed: 08-Oct-13
(d10-Acenaphthene)	Total	61			% Recovery	
(d10-Phenanthrene)	Total	94			% Recovery	
(d12-Chrysene)	Total	77			% Recovery	
(d8-Naphthalene)	Total	38			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	33.2	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	3.1	1	5	ng/L	J
2,6-Dimethylnaphthalene	Total	1.6	1	5	ng/L	J
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	1.1	1	5	ng/L	J
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	3.2	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.1	1	5	ng/L	J
Pyrene	Total	1.1	1	5	ng/L	J

QUALITY CONTROL REPORT

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CA ELAP #2769

Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Ammonia as N		Method: SM 4500-NH₃ D		Fraction: NA		Prepared: 25-Sep-13			Analyzed: 25-Sep-13			
22528-B1	QAQC Procedural Blank	C-14039	ND	0.02	0.05	mg/L						
22528-BS1	QAQC Procedural Blank	C-14039	0.21	0.02	0.05	mg/L	0.25	0	84	70 - 130%	PASS	
22528-BS2	QAQC Procedural Blank	C-14039	0.21	0.02	0.05	mg/L	0.25	0	84	70 - 130%	PASS	0 30 PASS
22531-MS1	B13-8118	C-14039	0.24	0.02	0.05	mg/L	0.25	0	96	70 - 130%	PASS	
22531-MS2	B13-8118	C-14039	0.24	0.02	0.05	mg/L	0.25	0	96	70 - 130%	PASS	0 30 PASS
22531-R2	B13-8118	C-14039	ND	0.02	0.05	mg/L				0	30	PASS
MBAS		Method: SM 5540-C		Fraction: NA		Prepared: 30-Aug-13			Analyzed: 30-Aug-13			
22528-B1	QAQC Procedural Blank	C-13129	ND	0.005	0.025	mg/L						
22528-BS1	QAQC Procedural Blank	C-13129	0.13	0.005	0.025	mg/L	0.1	0	130	70 - 130%	PASS	
22528-BS2	QAQC Procedural Blank	C-13129	0.128	0.005	0.025	mg/L	0.1	0	128	70 - 130%	PASS	2 30 PASS
22530-MS1	B13-8109	C-13129	0.173	0.005	0.025	mg/L	0.1	0.049	124	70 - 130%	PASS	
22530-MS2	B13-8109	C-13129	0.178	0.005	0.025	mg/L	0.1	0.049	129	70 - 130%	PASS	4 30 PASS
22530-R2	B13-8109	C-13129	0.056	0.005	0.025	mg/L				26	30	PASS
Nitrate as N		Method: SM 4500-NO₃ E		Fraction: NA		Prepared: 30-Aug-13			Analyzed: 25-Sep-13			
22528-B1	QAQC Procedural Blank	C-14049	ND	0.01	0.05	mg/L						
22528-BS1	QAQC Procedural Blank	C-14049	0.12	0.01	0.05	mg/L	0.11	0	109	70 - 130%	PASS	
22528-BS2	QAQC Procedural Blank	C-14049	0.12	0.01	0.05	mg/L	0.11	0	109	70 - 130%	PASS	0 30 PASS
22530-MS1	B13-8109	C-14049	0.13	0.01	0.05	mg/L	0.11	0	118	70 - 130%	PASS	
22530-MS2	B13-8109	C-14049	0.14	0.01	0.05	mg/L	0.11	0	127	70 - 130%	PASS	7 30 PASS
22530-R2	B13-8109	C-14049	ND	0.01	0.05	mg/L				0	30	PASS
22534-MS1	B13-8093	C-14049	0.14	0.01	0.05	mg/L	0.11	0	127	70 - 130%	PASS	
22534-MS2	B13-8093	C-14049	0.14	0.01	0.05	mg/L	0.11	0	127	70 - 130%	PASS	0 30 PASS
Oil & Grease		Method: EPA 1664A		Fraction: NA		Prepared: 24-Sep-13			Analyzed: 24-Sep-13			
22528-B1	QAQC Procedural Blank	C-14069	ND	1	1	mg/L						
22528-BS1	QAQC Procedural Blank	C-14069	35	1	1	mg/L	40.2	0	87	70 - 130%	PASS	
22528-BS2	QAQC Procedural Blank	C-14069	36.9	1	1	mg/L	40.2	0	92	70 - 130%	PASS	6 30 PASS
22534-MS1	B13-8093	C-14069	15	1	1	mg/L	20.1	0	75	70 - 130%	PASS	
22534-R2	B13-8093	C-14069	ND	1	1	mg/L				0	30	PASS



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CA ELAP #2769

Conventional

QUALITY CONTROL REPORT

SAMPLE ID		BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY LIMITS			PRECISION LIMITS			QA CODE
Total Orthophosphate as P			Method: SM 4500-P E			Fraction: NA		Prepared: 30-Aug-13			Analyzed: 30-Aug-13				
22528-B1	QAQC Procedural Blank	C-13127	ND	0.01	0.02	mg/L									
22528-BS1	QAQC Procedural Blank	C-13127	0.19	0.01	0.02	mg/L	0.2	0	95	70 - 130%	PASS				
22528-BS2	QAQC Procedural Blank	C-13127	0.19	0.01	0.02	mg/L	0.2	0	95	70 - 130%	PASS	0	30	PASS	
22530-MS1	B13-8109	C-13127	0.21	0.01	0.02	mg/L	0.2	0.03	90	70 - 130%	PASS				
22530-MS2	B13-8109	C-13127	0.21	0.01	0.02	mg/L	0.2	0.03	90	70 - 130%	PASS	0	30	PASS	
22530-R2	B13-8109	C-13127	0.03	0.01	0.02	mg/L						0	30	PASS	



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22528-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 245.7		Batch ID: E-6022		Prepared: 25-Sep-13		Analyzed: 25-Sep-13		
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L					
Mercury (Hg)	Total	ND	0.01	0.02	µg/L					
		Method: EPA 1640		Batch ID: E-7016		Prepared: 29-Oct-13		Analyzed: 07-Nov-13		
Aluminum (Al)	Dissolved	ND	3	6	µg/L					
Aluminum (Al)	Total	ND	3	6	µg/L					
Antimony (Sb)	Dissolved	ND	0.01	0.015	µg/L					
Antimony (Sb)	Total	ND	0.01	0.015	µg/L					
Arsenic (As)	Dissolved	ND	0.005	0.015	µg/L					
Arsenic (As)	Total	ND	0.005	0.015	µg/L					
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L					
Beryllium (Be)	Total	ND	0.005	0.01	µg/L					
Cadmium (Cd)	Dissolved	ND	0.0025	0.005	µg/L					
Cadmium (Cd)	Total	ND	0.0025	0.005	µg/L					
Chromium (Cr)	Dissolved	ND	0.0125	0.025	µg/L					
Chromium (Cr)	Total	ND	0.0125	0.025	µg/L					
Cobalt (Co)	Dissolved	ND	0.005	0.01	µg/L					
Cobalt (Co)	Total	ND	0.005	0.01	µg/L					
Copper (Cu)	Dissolved	ND	0.005	0.01	µg/L					
Copper (Cu)	Total	ND	0.005	0.01	µg/L					
Iron (Fe)	Dissolved	ND	0.5	1	µg/L					
Iron (Fe)	Total	ND	0.5	1	µg/L					
Lead (Pb)	Dissolved	ND	0.0025	0.005	µg/L					
Lead (Pb)	Total	ND	0.0025	0.005	µg/L					
Manganese (Mn)	Dissolved	ND	0.01	0.02	µg/L					
Manganese (Mn)	Total	ND	0.01	0.02	µg/L					
Molybdenum (Mo)	Dissolved	ND	0.005	0.01	µg/L					
Molybdenum (Mo)	Total	ND	0.005	0.01	µg/L					
Nickel (Ni)	Dissolved	ND	0.0025	0.005	µg/L					
Nickel (Ni)	Total	ND	0.0025	0.005	µg/L					

PHYSIS Project ID: 1307002-011

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Selenium (Se)	Dissolved	ND	0.005	0.015	µg/L					
Selenium (Se)	Total	ND	0.005	0.015	µg/L					
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L					
Silver (Ag)	Total	ND	0.01	0.02	µg/L					
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L					
Thallium (Tl)	Total	ND	0.005	0.01	µg/L					
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L					
Tin (Sn)	Total	ND	0.005	0.01	µg/L					
Titanium (Ti)	Dissolved	ND	0.035	0.07	µg/L					
Titanium (Ti)	Total	ND	0.035	0.07	µg/L					
Vanadium (V)	Dissolved	ND	0.02	0.04	µg/L					
Vanadium (V)	Total	ND	0.02	0.04	µg/L					
Zinc (Zn)	Dissolved	ND	0.0025	0.005	µg/L					
Zinc (Zn)	Total	ND	0.0025	0.005	µg/L					

Method: EPA 200.8

Batch ID: E-7016

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Dissolved	ND	0.25	0.5	µg/L					
Barium (Ba)	Total	ND	0.25	0.5	µg/L					

Sample ID: 22528-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6022

Prepared: 25-Sep-13

Analyzed: 25-Sep-13

Mercury (Hg)	Total	0.09	0.01	0.02	µg/L	0.1	0	90	80 - 120%	PASS
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Method: EPA 200.8

Batch ID: E-7016

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	1014.31	0.25	0.5	µg/L	1000	0	101	75 - 125%	PASS
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Sample ID: 22528-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6022

Prepared: 25-Sep-13

Analyzed: 25-Sep-13

Mercury (Hg)	Total	0.09	0.01	0.02	µg/L	0.1	0	90	80 - 120%	PASS	0	30	PASS
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Method: EPA 200.8

Batch ID: E-7016

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	1027.62	0.25	0.5	µg/L	1000	0	103	75 - 125%	PASS	2		PASS
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Sample ID: 22529-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6022

Prepared: 25-Sep-13

Analyzed: 25-Sep-13



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L					
Mercury (Hg)	Total	ND	0.01	0.02	µg/L					
Method: EPA 1640			Batch ID: E-7017			Prepared: 29-Oct-13			Analyzed: 08-Nov-13	
Aluminum (Al)	Dissolved	ND	3	6	µg/L					
Aluminum (Al)	Total	ND	3	6	µg/L					
Antimony (Sb)	Dissolved	ND	0.01	0.015	µg/L					
Antimony (Sb)	Total	ND	0.01	0.015	µg/L					
Arsenic (As)	Dissolved	ND	0.005	0.015	µg/L					
Arsenic (As)	Total	ND	0.005	0.015	µg/L					
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L					
Beryllium (Be)	Total	ND	0.005	0.01	µg/L					
Cadmium (Cd)	Dissolved	ND	0.0025	0.005	µg/L					
Cadmium (Cd)	Total	ND	0.0025	0.005	µg/L					
Chromium (Cr)	Dissolved	ND	0.0125	0.025	µg/L					
Chromium (Cr)	Total	ND	0.0125	0.025	µg/L					
Cobalt (Co)	Dissolved	ND	0.005	0.01	µg/L					
Cobalt (Co)	Total	ND	0.005	0.01	µg/L					
Copper (Cu)	Dissolved	ND	0.005	0.01	µg/L					
Copper (Cu)	Total	ND	0.005	0.01	µg/L					
Iron (Fe)	Dissolved	ND	0.5	1	µg/L					
Iron (Fe)	Total	ND	0.5	1	µg/L					
Lead (Pb)	Dissolved	ND	0.0025	0.005	µg/L					
Lead (Pb)	Total	ND	0.0025	0.005	µg/L					
Manganese (Mn)	Dissolved	ND	0.01	0.02	µg/L					
Manganese (Mn)	Total	ND	0.01	0.02	µg/L					
Molybdenum (Mo)	Dissolved	ND	0.005	0.01	µg/L					
Molybdenum (Mo)	Total	ND	0.005	0.01	µg/L					
Nickel (Ni)	Dissolved	ND	0.0025	0.005	µg/L					
Nickel (Ni)	Total	ND	0.0025	0.005	µg/L					
Selenium (Se)	Dissolved	ND	0.005	0.015	µg/L					
Selenium (Se)	Total	ND	0.005	0.015	µg/L					



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L					
Silver (Ag)	Total	ND	0.01	0.02	µg/L					
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L					
Thallium (Tl)	Total	ND	0.005	0.01	µg/L					
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L					
Tin (Sn)	Total	ND	0.005	0.01	µg/L					
Titanium (Ti)	Dissolved	ND	0.035	0.07	µg/L					
Titanium (Ti)	Total	ND	0.035	0.07	µg/L					
Vanadium (V)	Dissolved	ND	0.02	0.04	µg/L					
Vanadium (V)	Total	ND	0.02	0.04	µg/L					
Zinc (Zn)	Dissolved	ND	0.0025	0.005	µg/L					
Zinc (Zn)	Total	ND	0.0025	0.005	µg/L					

Method: EPA 200.8

Batch ID: E-7017

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Dissolved	ND	0.25	0.5	µg/L					
Barium (Ba)	Total	ND	0.25	0.5	µg/L					

Sample ID: 22529-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6022

Prepared: 25-Sep-13

Analyzed: 25-Sep-13

Mercury (Hg)	Total	0.09	0.01	0.02	µg/L	0.1	0	90	80 - 120%	PASS
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Method: EPA 200.8

Batch ID: E-7017

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	986.84	0.25	0.5	µg/L	1000	0	99	75 - 125%	PASS
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Sample ID: 22529-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6022

Prepared: 25-Sep-13

Analyzed: 25-Sep-13

Mercury (Hg)	Total	0.09	0.01	0.02	µg/L	0.1	0	90	80 - 120%	PASS	0	30	PASS
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Method: EPA 200.8

Batch ID: E-7017

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	976.65	0.25	0.5	µg/L	1000	0	98	75 - 125%	PASS	1	30	PASS
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Sample ID: 22530-MS1

B13-8109 Grab

Matrix: Liquid

Sampled: 28-Aug-13 7:15

Received: 29-Aug-13

Method: EPA 245.7

Batch ID: E-6022

Prepared: 25-Sep-13

Analyzed: 25-Sep-13

Mercury (Hg)	Total	0.09	0.01	0.02	µg/L	0.1	0	90	80 - 120%	PASS
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Method: EPA 200.8

Batch ID: E-7016

Prepared: 29-Oct-13

Analyzed: 05-Nov-13



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Barium (Ba)	Dissolved	1081.43	0.25	0.5	µg/L	1000	7.4	107 75 - 125% PASS		
Sample ID: 22530-MS2		B13-8109 Grab	Matrix: Liquid		Sampled: 28-Aug-13 7:15		Received: 29-Aug-13			
		Method: EPA 245.7	Batch ID: E-6022		Prepared: 25-Sep-13		Analyzed: 25-Sep-13			
Mercury (Hg)	Total	0.09	0.01	0.02	µg/L	0.1	0	90 80 - 120% PASS	0 30 PASS	
		Method: EPA 200.8	Batch ID: E-7016		Prepared: 29-Oct-13		Analyzed: 05-Nov-13			
Barium (Ba)	Dissolved	1070.95	0.25	0.5	µg/L	1000	7.4	106 75 - 125% PASS	1 30 PASS	
Sample ID: 22530-R2		B13-8109 Grab	Matrix: Liquid		Sampled: 28-Aug-13 7:15		Received: 29-Aug-13			
		Method: EPA 245.7	Batch ID: E-6022		Prepared: 25-Sep-13		Analyzed: 25-Sep-13			
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L				0 30 PASS	
Mercury (Hg)	Total	ND	0.01	0.02	µg/L				0 30 PASS	
		Method: EPA 1640	Batch ID: E-7016		Prepared: 29-Oct-13		Analyzed: 07-Nov-13			
Aluminum (Al)	Dissolved	ND	3	6	µg/L				0 30 PASS	
Aluminum (Al)	Total	29.6	3	6	µg/L				6 30 PASS	
Antimony (Sb)	Dissolved	0.15	0.01	0.015	µg/L				12 30 PASS	
Antimony (Sb)	Total	0.08	0.01	0.015	µg/L				32 30 FAIL	SL
Arsenic (As)	Dissolved	1.074	0.005	0.015	µg/L				15 30 PASS	
Arsenic (As)	Total	1.043	0.005	0.015	µg/L				15 30 PASS	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L				0 30 PASS	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L				33 30 FAIL	SL
Cadmium (Cd)	Dissolved	0.053	0.0025	0.005	µg/L				4 30 PASS	
Cadmium (Cd)	Total	0.0595	0.0025	0.005	µg/L				2 30 PASS	
Chromium (Cr)	Dissolved	0.0764	0.0125	0.025	µg/L				2 30 PASS	
Chromium (Cr)	Total	0.2094	0.0125	0.025	µg/L				5 30 PASS	
Cobalt (Co)	Dissolved	0.049	0.005	0.01	µg/L				20 30 PASS	
Cobalt (Co)	Total	0.063	0.005	0.01	µg/L				2 30 PASS	
Copper (Cu)	Dissolved	2.318	0.005	0.01	µg/L				1 30 PASS	
Copper (Cu)	Total	2.748	0.005	0.01	µg/L				1 30 PASS	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L				0 30 PASS	
Iron (Fe)	Total	18.6	0.5	1	µg/L				0 30 PASS	
Lead (Pb)	Dissolved	0.0263	0.0025	0.005	µg/L				16 30 PASS	



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Lead (Pb)	Total	0.1294	0.0025	0.005	µg/L				1 30 PASS	
Manganese (Mn)	Dissolved	2.11	0.01	0.02	µg/L				1 30 PASS	
Manganese (Mn)	Total	5.35	0.01	0.02	µg/L				4 30 PASS	
Molybdenum (Mo)	Dissolved	10.061	0.005	0.01	µg/L				3 30 PASS	
Molybdenum (Mo)	Total	9.856	0.005	0.01	µg/L				1 30 PASS	
Nickel (Ni)	Dissolved	0.4988	0.0025	0.005	µg/L				1 30 PASS	
Nickel (Ni)	Total	0.4849	0.0025	0.005	µg/L				1 30 PASS	
Selenium (Se)	Dissolved	0.011	0.005	0.015	µg/L				10 30 PASS	J
Selenium (Se)	Total	0.015	0.005	0.015	µg/L				40 30 FAIL	SL
Silver (Ag)	Dissolved	0.04	0.01	0.02	µg/L				0 30 PASS	
Silver (Ag)	Total	0.03	0.01	0.02	µg/L				0 30 PASS	
Thallium (Tl)	Dissolved	0.009	0.005	0.01	µg/L				25 30 PASS	J
Thallium (Tl)	Total	0.009	0.005	0.01	µg/L				12 30 PASS	J
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L				0 30 PASS	
Tin (Sn)	Total	0.018	0.005	0.01	µg/L				20 30 PASS	
Titanium (Ti)	Dissolved	7.56	0.035	0.07	µg/L				12 30 PASS	
Titanium (Ti)	Total	7.537	0.035	0.07	µg/L				24 30 PASS	
Vanadium (V)	Dissolved	2.25	0.02	0.04	µg/L				5 30 PASS	
Vanadium (V)	Total	2.39	0.02	0.04	µg/L				1 30 PASS	
Zinc (Zn)	Dissolved	5.1755	0.0025	0.005	µg/L				3 30 PASS	
Zinc (Zn)	Total	7.8555	0.0025	0.005	µg/L				1 30 PASS	
Method: EPA 200.8		Batch ID: E-7016		Prepared: 29-Oct-13		Analyzed: 05-Nov-13				
Barium (Ba)	Dissolved	7.79	0.25	0.5	µg/L				11 30 PASS	
Barium (Ba)	Total	8.92	0.25	0.5	µg/L				21 30 PASS	

Sample ID: 22540-MS1

B13-8087 Grab

Matrix: Liquid

Sampled: 29-Aug-13 15:05

Received: 29-Aug-13

Method: EPA 245.7

Batch ID: E-6022

Prepared: 25-Sep-13

Analyzed: 25-Sep-13

Mercury (Hg)	Total	0.09	0.01	0.02	µg/L	0.1	0	90	80 - 120%	PASS
Method: EPA 200.8		Batch ID: E-7017		Prepared: 29-Oct-13		Analyzed: 05-Nov-13				
Barium (Ba)	Dissolved	997.02	0.25	0.5	µg/L	1000	7.67	99	75 - 125%	PASS

Sample ID: 22540-MS2

B13-8087 Grab

Matrix: Liquid

Sampled: 29-Aug-13 15:05

Received: 29-Aug-13



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CA ELAP #2769

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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Method: EPA 245.7		Batch ID: E-6022		Prepared: 25-Sep-13		Analyzed: 25-Sep-13				
Mercury (Hg)	Total	0.09	0.01	0.02	µg/L	0.1	0	90 80 - 120% PASS	0 30 PASS	
Method: EPA 200.8		Batch ID: E-7017		Prepared: 29-Oct-13		Analyzed: 05-Nov-13				
Barium (Ba)	Dissolved	1000.4	0.25	0.5	µg/L	1000	7.67	99 75 - 125% PASS	0 30 PASS	
Sample ID: 22540-R2		B13-8087 Grab		Matrix: Liquid		Sampled: 29-Aug-13 15:05		Received: 29-Aug-13		
Method: EPA 245.7		Batch ID: E-6022		Prepared: 25-Sep-13		Analyzed: 25-Sep-13				
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L				0 30 PASS	
Mercury (Hg)	Total	ND	0.01	0.02	µg/L				0 30 PASS	
Method: EPA 1640		Batch ID: E-7017		Prepared: 29-Oct-13		Analyzed: 08-Nov-13				
Aluminum (Al)	Dissolved	ND	3	6	µg/L				0 30 PASS	
Aluminum (Al)	Total	28.4	3	6	µg/L				11 30 PASS	
Antimony (Sb)	Dissolved	0.13	0.01	0.015	µg/L				17 30 PASS	
Antimony (Sb)	Total	0.09	0.01	0.015	µg/L				36 30 FAIL	SL
Arsenic (As)	Dissolved	1.128	0.005	0.015	µg/L				8 30 PASS	
Arsenic (As)	Total	1.144	0.005	0.015	µg/L				5 30 PASS	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L				0 30 PASS	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L				0 30 PASS	
Cadmium (Cd)	Dissolved	0.054	0.0025	0.005	µg/L				8 30 PASS	
Cadmium (Cd)	Total	0.0515	0.0025	0.005	µg/L				1 30 PASS	
Chromium (Cr)	Dissolved	0.0975	0.0125	0.025	µg/L				4 30 PASS	
Chromium (Cr)	Total	0.1738	0.0125	0.025	µg/L				30 30 PASS	
Cobalt (Co)	Dissolved	0.044	0.005	0.01	µg/L				32 30 FAIL	SL
Cobalt (Co)	Total	0.07	0.005	0.01	µg/L				12 30 PASS	
Copper (Cu)	Dissolved	2.663	0.005	0.01	µg/L				1 30 PASS	
Copper (Cu)	Total	2.908	0.005	0.01	µg/L				3 30 PASS	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L				0 30 PASS	
Iron (Fe)	Total	19.3	0.5	1	µg/L				2 30 PASS	
Lead (Pb)	Dissolved	0.0192	0.0025	0.005	µg/L				4 30 PASS	
Lead (Pb)	Total	0.1166	0.0025	0.005	µg/L				3 30 PASS	
Manganese (Mn)	Dissolved	2.91	0.01	0.02	µg/L				2 30 PASS	
Manganese (Mn)	Total	5.84	0.01	0.02	µg/L				1 30 PASS	



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Molybdenum (Mo)	Dissolved	9.947	0.005	0.01	µg/L				0 30 PASS	
Molybdenum (Mo)	Total	9.452	0.005	0.01	µg/L				3 30 PASS	
Nickel (Ni)	Dissolved	0.5217	0.0025	0.005	µg/L				0 30 PASS	
Nickel (Ni)	Total	0.4784	0.0025	0.005	µg/L				6 30 PASS	
Selenium (Se)	Dissolved	0.015	0.005	0.015	µg/L				73 30 FAIL	SL
Selenium (Se)	Total	0.008	0.005	0.015	µg/L				40 30 FAIL	J,SL
Silver (Ag)	Dissolved	0.02	0.01	0.02	µg/L				67 30 FAIL	SL
Silver (Ag)	Total	ND	0.01	0.02	µg/L				67 30 FAIL	SL
Thallium (Tl)	Dissolved	0.007	0.005	0.01	µg/L				25 30 PASS	J
Thallium (Tl)	Total	0.01	0.005	0.01	µg/L				22 30 PASS	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L				0 30 PASS	
Tin (Sn)	Total	0.01	0.005	0.01	µg/L				67 30 FAIL	SL
Titanium (Ti)	Dissolved	6.709	0.035	0.07	µg/L				19 30 PASS	
Titanium (Ti)	Total	7.658	0.035	0.07	µg/L				17 30 PASS	
Vanadium (V)	Dissolved	2.11	0.02	0.04	µg/L				0 30 PASS	
Vanadium (V)	Total	2.25	0.02	0.04	µg/L				2 30 PASS	
Zinc (Zn)	Dissolved	5.5051	0.0025	0.005	µg/L				3 30 PASS	
Zinc (Zn)	Total	6.5665	0.0025	0.005	µg/L				3 30 PASS	

Method: EPA 200.8

Batch ID: E-7017

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Dissolved	7.23	0.25	0.5	µg/L				12 30 PASS	
Barium (Ba)	Total	8.16	0.25	0.5	µg/L				23 30 PASS	

Sample ID: 22542-LCM1

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-7016

Prepared: 29-Oct-13

Analyzed: 07-Nov-13

Aluminum (Al)	Total	ND	3	6	µg/L					
Antimony (Sb)	Total	0.01	0.01	0.015	µg/L					
Arsenic (As)	Total	1.63	0.005	0.015	µg/L					
Beryllium (Be)	Total	0.005	0.005	0.01	µg/L					
Cadmium (Cd)	Total	0.1052	0.0025	0.005	µg/L					
Chromium (Cr)	Total	0.1959	0.0125	0.025	µg/L					
Cobalt (Co)	Total	ND	0.005	0.01	µg/L					
Copper (Cu)	Total	0.107	0.005	0.01	µg/L					

PHYSIS Project ID: 1307002-011

Client: AMEC

Project: RHMP Bight '13



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Iron (Fe)	Total	2.4	0.5	1	µg/L					
Lead (Pb)	Total	0.0048	0.0025	0.005	µg/L					
Manganese (Mn)	Total	0.38	0.01	0.02	µg/L					
Molybdenum (Mo)	Total	9.98	0.005	0.01	µg/L					
Nickel (Ni)	Total	0.4617	0.0025	0.005	µg/L					
Selenium (Se)	Total	0.046	0.005	0.015	µg/L					
Silver (Ag)	Total	0.03	0.01	0.02	µg/L					
Thallium (Tl)	Total	0.007	0.005	0.01	µg/L					
Tin (Sn)	Total	0.007	0.005	0.01	µg/L					
Titanium (Ti)	Total	10.135	0.035	0.07	µg/L					
Vanadium (V)	Total	1.73	0.02	0.04	µg/L					
Zinc (Zn)	Total	0.7377	0.0025	0.005	µg/L					

Sample ID: 22542-LCS1

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-7016

Prepared: 29-Oct-13

Analyzed: 07-Nov-13

Aluminum (Al)	Total	16.5	3	6	µg/L	20	0	82	0 - 191%	PASS
Antimony (Sb)	Total	2.39	0.01	0.015	µg/L	20	0.01	12	10 - 110%	PASS
Arsenic (As)	Total	18.45	0.005	0.015	µg/L	20	1.63	84	74 - 128%	PASS
Beryllium (Be)	Total	15.406	0.005	0.01	µg/L	20	0.005	77	60 - 118%	PASS
Cadmium (Cd)	Total	18.669	0.0025	0.005	µg/L	20	0.1052	93	68 - 131%	PASS
Chromium (Cr)	Total	19.0081	0.0125	0.025	µg/L	20	0.1959	94	32 - 173%	PASS
Cobalt (Co)	Total	17.495	0.005	0.01	µg/L	20	0	87	87 - 119%	PASS
Copper (Cu)	Total	18.248	0.005	0.01	µg/L	20	0.107	91	61 - 119%	PASS
Iron (Fe)	Total	15.6	0.5	1	µg/L	20	2.4	66	22 - 129%	PASS
Lead (Pb)	Total	18.2182	0.0025	0.005	µg/L	20	0.0048	91	75 - 120%	PASS
Manganese (Mn)	Total	18.18	0.01	0.02	µg/L	20	0.38	89	32 - 131%	PASS
Molybdenum (Mo)	Total	28.23	0.005	0.01	µg/L	20	9.98	91	54 - 131%	PASS
Nickel (Ni)	Total	18.4198	0.0025	0.005	µg/L	20	0.4617	90	60 - 113%	PASS
Selenium (Se)	Total	19.752	0.005	0.015	µg/L	20	0.046	99	0 - 183%	PASS
Silver (Ag)	Total	17.84	0.01	0.02	µg/L	20	0.03	89	64 - 133%	PASS
Thallium (Tl)	Total	17.895	0.005	0.01	µg/L	20	0.007	89	70 - 125%	PASS
Tin (Sn)	Total	20.192	0.005	0.01	µg/L	20	0.007	101	69 - 118%	PASS

PHYSIS Project ID: 1307002-011

Client: AMEC

Project: RHMP Bight '13



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Titanium (Ti)	Total	25.99	0.035	0.07	µg/L	20	10.135	79 72 - 129%	PASS	
Vanadium (V)	Total	20.87	0.02	0.04	µg/L	20	1.73	96 72 - 137%	PASS	
Zinc (Zn)	Total	17.11	0.0025	0.005	µg/L	20	0.7377	82 61 - 128%	PASS	

Sample ID: 22542-LCS2

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-7016

Prepared: 29-Oct-13

Analyzed: 07-Nov-13

Aluminum (Al)	Total	22.1	3	6	µg/L	20	0	111 0 - 191%	PASS	0 30 PASS
Antimony (Sb)	Total	2.09	0.01	0.015	µg/L	20	0.01	10 10 - 110%	PASS	18 30 PASS
Arsenic (As)	Total	18.429	0.005	0.015	µg/L	20	1.63	84 74 - 128%	PASS	0 30 PASS
Beryllium (Be)	Total	15.872	0.005	0.01	µg/L	20	0.005	79 60 - 118%	PASS	3 30 PASS
Cadmium (Cd)	Total	18.3431	0.0025	0.005	µg/L	20	0.1052	91 68 - 131%	PASS	2 30 PASS
Chromium (Cr)	Total	19.3541	0.0125	0.025	µg/L	20	0.1959	96 32 - 173%	PASS	2 30 PASS
Cobalt (Co)	Total	18.016	0.005	0.01	µg/L	20	0	90 87 - 119%	PASS	0 30 PASS
Copper (Cu)	Total	17.901	0.005	0.01	µg/L	20	0.107	89 61 - 119%	PASS	2 30 PASS
Iron (Fe)	Total	15.8	0.5	1	µg/L	20	2.4	67 22 - 129%	PASS	2 30 PASS
Lead (Pb)	Total	17.9273	0.0025	0.005	µg/L	20	0.0048	90 75 - 120%	PASS	1 30 PASS
Manganese (Mn)	Total	18.13	0.01	0.02	µg/L	20	0.38	89 32 - 131%	PASS	0 30 PASS
Molybdenum (Mo)	Total	28.106	0.005	0.01	µg/L	20	9.98	91 54 - 131%	PASS	0 30 PASS
Nickel (Ni)	Total	17.8906	0.0025	0.005	µg/L	20	0.4617	87 60 - 113%	PASS	3 30 PASS
Selenium (Se)	Total	19.516	0.005	0.015	µg/L	20	0.046	97 0 - 183%	PASS	2 30 PASS
Silver (Ag)	Total	18.87	0.01	0.02	µg/L	20	0.03	94 64 - 133%	PASS	5 30 PASS
Thallium (Tl)	Total	18.178	0.005	0.01	µg/L	20	0.007	91 70 - 125%	PASS	2 30 PASS
Tin (Sn)	Total	20.721	0.005	0.01	µg/L	20	0.007	104 69 - 118%	PASS	3 30 PASS
Titanium (Ti)	Total	26.537	0.035	0.07	µg/L	20	10.135	82 72 - 129%	PASS	4 30 PASS
Vanadium (V)	Total	21.47	0.02	0.04	µg/L	20	1.73	99 72 - 137%	PASS	3 30 PASS
Zinc (Zn)	Total	17.4033	0.0025	0.005	µg/L	20	0.7377	83 61 - 128%	PASS	1 30 PASS

Sample ID: 22543-LCM1

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-7017

Prepared: 29-Oct-13

Analyzed: 08-Nov-13

Aluminum (Al)	Total	ND	3	6	µg/L					
Antimony (Sb)	Total	0.03	0.01	0.015	µg/L					
Arsenic (As)	Total	1.506	0.005	0.015	µg/L					



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Beryllium (Be)	Total	ND	0.005	0.01	µg/L					
Cadmium (Cd)	Total	0.1018	0.0025	0.005	µg/L					
Chromium (Cr)	Total	0.1707	0.0125	0.025	µg/L					
Cobalt (Co)	Total	0.008	0.005	0.01	µg/L					
Copper (Cu)	Total	0.113	0.005	0.01	µg/L					
Iron (Fe)	Total	3.4	0.5	1	µg/L					
Lead (Pb)	Total	ND	0.0025	0.005	µg/L					
Manganese (Mn)	Total	0.36	0.01	0.02	µg/L					
Molybdenum (Mo)	Total	9.734	0.005	0.01	µg/L					
Nickel (Ni)	Total	0.4392	0.0025	0.005	µg/L					
Selenium (Se)	Total	0.039	0.005	0.015	µg/L					
Silver (Ag)	Total	0.02	0.01	0.02	µg/L					
Thallium (Tl)	Total	0.007	0.005	0.01	µg/L					
Tin (Sn)	Total	0.012	0.005	0.01	µg/L					
Titanium (Ti)	Total	10.619	0.035	0.07	µg/L					
Vanadium (V)	Total	1.7	0.02	0.04	µg/L					
Zinc (Zn)	Total	0.8276	0.0025	0.005	µg/L					

Sample ID: 22543-LCS1

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-7017

Prepared: 29-Oct-13

Analyzed: 08-Nov-13

Aluminum (Al)	Total	17.9	3	6	µg/L	20	0	89	0 - 191%	PASS
Antimony (Sb)	Total	2.16	0.01	0.015	µg/L	20	0.03	11	10 - 110%	PASS
Arsenic (As)	Total	19.043	0.005	0.015	µg/L	20	1.506	88	74 - 128%	PASS
Beryllium (Be)	Total	15.378	0.005	0.01	µg/L	20	0	77	60 - 118%	PASS
Cadmium (Cd)	Total	17.097	0.0025	0.005	µg/L	20	0.1018	85	68 - 131%	PASS
Chromium (Cr)	Total	18.7414	0.0125	0.025	µg/L	20	0.1707	93	32 - 173%	PASS
Cobalt (Co)	Total	17.383	0.005	0.01	µg/L	20	0.008	87	87 - 119%	PASS
Copper (Cu)	Total	17.44	0.005	0.01	µg/L	20	0.113	87	61 - 119%	PASS
Iron (Fe)	Total	14.1	0.5	1	µg/L	20	3.4	54	22 - 129%	PASS
Lead (Pb)	Total	16.713	0.0025	0.005	µg/L	20	0	84	75 - 120%	PASS
Manganese (Mn)	Total	18.11	0.01	0.02	µg/L	20	0.36	89	32 - 131%	PASS
Molybdenum (Mo)	Total	25.901	0.005	0.01	µg/L	20	9.734	81	54 - 131%	PASS

PHYSIS Project ID: 1307002-011

Client: AMEC

Project: RHMP Bight '13



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Nickel (Ni)	Total	17.0594	0.0025	0.005	µg/L	20	0.4392	83	60 - 113%	PASS		
Selenium (Se)	Total	18.694	0.005	0.015	µg/L	20	0.039	93	0 - 183%	PASS		
Silver (Ag)	Total	18.2	0.01	0.02	µg/L	20	0.02	91	64 - 133%	PASS		
Thallium (Tl)	Total	18.626	0.005	0.01	µg/L	20	0.007	93	70 - 125%	PASS		
Tin (Sn)	Total	21.841	0.005	0.01	µg/L	20	0.012	109	69 - 118%	PASS		
Titanium (Ti)	Total	25.344	0.035	0.07	µg/L	20	10.619	74	72 - 129%	PASS		
Vanadium (V)	Total	20.55	0.02	0.04	µg/L	20	1.7	94	72 - 137%	PASS		
Zinc (Zn)	Total	16.8927	0.0025	0.005	µg/L	20	0.8276	80	61 - 128%	PASS		

Sample ID: 22543-LCS2

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-7017

Prepared: 29-Oct-13

Analyzed: 08-Nov-13

Aluminum (Al)	Total	16	3	6	µg/L	20	0	80	0 - 191%	PASS	0	30	PASS	
Antimony (Sb)	Total	2.02	0.01	0.015	µg/L	20	0.03	10	10 - 110%	PASS	10	30	PASS	
Arsenic (As)	Total	18.255	0.005	0.015	µg/L	20	1.506	84	74 - 128%	PASS	5	30	PASS	
Beryllium (Be)	Total	14.927	0.005	0.01	µg/L	20	0	75	60 - 118%	PASS	0	30	PASS	
Cadmium (Cd)	Total	16.9437	0.0025	0.005	µg/L	20	0.1018	84	68 - 131%	PASS	1	30	PASS	
Chromium (Cr)	Total	18.3843	0.0125	0.025	µg/L	20	0.1707	91	32 - 173%	PASS	2	30	PASS	
Cobalt (Co)	Total	16.942	0.005	0.01	µg/L	20	0.008	85	87 - 119%	FAIL	2	30	PASS	R
Copper (Cu)	Total	17.516	0.005	0.01	µg/L	20	0.113	87	61 - 119%	PASS	0	30	PASS	
Iron (Fe)	Total	14.6	0.5	1	µg/L	20	3.4	56	22 - 129%	PASS	4	30	PASS	
Lead (Pb)	Total	16.6154	0.0025	0.005	µg/L	20	0	83	75 - 120%	PASS	0	30	PASS	
Manganese (Mn)	Total	17.74	0.01	0.02	µg/L	20	0.36	87	32 - 131%	PASS	2	30	PASS	
Molybdenum (Mo)	Total	26.35	0.005	0.01	µg/L	20	9.734	83	54 - 131%	PASS	2	30	PASS	
Nickel (Ni)	Total	17.1585	0.0025	0.005	µg/L	20	0.4392	84	60 - 113%	PASS	1	30	PASS	
Selenium (Se)	Total	18.439	0.005	0.015	µg/L	20	0.039	92	0 - 183%	PASS	1	30	PASS	
Silver (Ag)	Total	18.7	0.01	0.02	µg/L	20	0.02	93	64 - 133%	PASS	2	30	PASS	
Thallium (Tl)	Total	18.623	0.005	0.01	µg/L	20	0.007	93	70 - 125%	PASS	0	30	PASS	
Tin (Sn)	Total	20.873	0.005	0.01	µg/L	20	0.012	104	69 - 118%	PASS	5	30	PASS	
Titanium (Ti)	Total	25.32	0.035	0.07	µg/L	20	10.619	74	72 - 129%	PASS	0	30	PASS	
Vanadium (V)	Total	20.24	0.02	0.04	µg/L	20	1.7	93	72 - 137%	PASS	1	30	PASS	
Zinc (Zn)	Total	16.3427	0.0025	0.005	µg/L	20	0.8276	78	61 - 128%	PASS	3	30	PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22528-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 625

Batch ID: O-4154

Prepared: 04-Sep-13

Analyzed: 05-Oct-13

(d10-Acenaphthene)	Total	76			% Recovery	100		76	50 - 150%	PASS
(d10-Phenanthrene)	Total	89			% Recovery	100		89	50 - 150%	PASS
(d12-Chrysene)	Total	78			% Recovery	100		78	50 - 150%	PASS
(d8-Naphthalene)	Total	61			% Recovery	100		61	25 - 125%	PASS
1-Methylnaphthalene	Total	ND	1	5	ng/L					
1-Methylphenanthrene	Total	ND	1	5	ng/L					
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L					
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L					
2-Methylnaphthalene	Total	ND	1	5	ng/L					
Acenaphthene	Total	ND	1	5	ng/L					
Acenaphthylene	Total	ND	1	5	ng/L					
Anthracene	Total	ND	1	5	ng/L					
Benz[a]anthracene	Total	ND	1	5	ng/L					
Benzo[a]pyrene	Total	ND	1	5	ng/L					
Benzo[b]fluoranthene	Total	ND	1	5	ng/L					
Benzo[e]pyrene	Total	ND	1	5	ng/L					
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L					
Benzo[k]fluoranthene	Total	ND	1	5	ng/L					
Biphenyl	Total	ND	1	5	ng/L					
Chrysene	Total	ND	1	5	ng/L					
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L					
Dibenzothiophene	Total	ND	1	5	ng/L					
Fluoranthene	Total	ND	1	5	ng/L					
Fluorene	Total	ND	1	5	ng/L					
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L					
Naphthalene	Total	ND	1	5	ng/L					
Perylene	Total	ND	1	5	ng/L					
Phenanthrene	Total	ND	1	5	ng/L					
Pyrene	Total	ND	1	5	ng/L					

PHYSIS Project ID: 1307002-011

Client: AMEC

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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22528-BS1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 625			Batch ID: O-4154		Prepared: 04-Sep-13		Analyzed: 05-Oct-13	
(d10-Acenaphthene)	Total	77			% Recovery	100	0	77	50 - 150% PASS	
(d10-Phenanthrene)	Total	90			% Recovery	100	0	90	50 - 150% PASS	
(d12-Chrysene)	Total	105			% Recovery	100	0	105	50 - 150% PASS	
(d8-Naphthalene)	Total	64			% Recovery	100	0	64	25 - 125% PASS	
1-Methylnaphthalene	Total	726.2	1	5	ng/L	1000	0	73	50 - 150% PASS	
1-Methylphenanthrene	Total	977.3	1	5	ng/L	1000	0	98	50 - 150% PASS	
2,3,5-Trimethylnaphthalene	Total	851.3	1	5	ng/L	1000	0	85	50 - 150% PASS	
2,6-Dimethylnaphthalene	Total	794.2	1	5	ng/L	1000	0	79	50 - 150% PASS	
2-Methylnaphthalene	Total	731.1	1	5	ng/L	1000	0	73	50 - 150% PASS	
Acenaphthene	Total	794.4	1	5	ng/L	1000	0	79	50 - 150% PASS	
Acenaphthylene	Total	799.4	1	5	ng/L	1000	0	80	50 - 150% PASS	
Anthracene	Total	907.3	1	5	ng/L	1000	0	91	50 - 150% PASS	
Benz[a]anthracene	Total	1109.6	1	5	ng/L	1000	0	111	50 - 150% PASS	
Benzo[a]pyrene	Total	1027.4	1	5	ng/L	1000	0	103	50 - 150% PASS	
Benzo[b]fluoranthene	Total	1024.7	1	5	ng/L	1000	0	102	50 - 150% PASS	
Benzo[e]pyrene	Total	928.5	1	5	ng/L	1000	0	93	50 - 150% PASS	
Benzo[g,h,i]perylene	Total	1024.6	1	5	ng/L	1000	0	102	50 - 150% PASS	
Benzo[k]fluoranthene	Total	993.3	1	5	ng/L	1000	0	99	50 - 150% PASS	
Biphenyl	Total	766.4	1	5	ng/L	1000	0	77	50 - 150% PASS	
Chrysene	Total	971.6	1	5	ng/L	1000	0	97	50 - 150% PASS	
Dibenz[a,h]anthracene	Total	1262.7	1	5	ng/L	1000	0	126	50 - 150% PASS	
Dibenzothiophene	Total	888.4	1	5	ng/L	1000	0	89	50 - 150% PASS	
Fluoranthene	Total	993.7	1	5	ng/L	1000	0	99	50 - 150% PASS	
Fluorene	Total	862.3	1	5	ng/L	1000	0	86	50 - 150% PASS	
Indeno[1,2,3-c,d]pyrene	Total	1112.4	1	5	ng/L	1000	0	111	50 - 150% PASS	
Naphthalene	Total	675.6	1	5	ng/L	1000	0	68	25 - 125% PASS	
Perylene	Total	1069.4	1	5	ng/L	1000	0	107	50 - 150% PASS	
Phenanthrene	Total	879.7	1	5	ng/L	1000	0	88	50 - 150% PASS	
Pyrene	Total	1003.2	1	5	ng/L	1000	0	100	50 - 150% PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22528-BS2		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 625			Batch ID: O-4154		Prepared: 04-Sep-13		Analyzed: 05-Oct-13	
(d10-Acenaphthene)	Total	76			% Recovery	100	0	76 50 - 150% PASS	1 30 PASS	
(d10-Phenanthrene)	Total	91			% Recovery	100	0	91 50 - 150% PASS	1 30 PASS	
(d12-Chrysene)	Total	109			% Recovery	100	0	109 50 - 150% PASS	4 30 PASS	
(d8-Naphthalene)	Total	62			% Recovery	100	0	62 25 - 125% PASS	3 30 PASS	
1-Methylnaphthalene	Total	716.2	1	5	ng/L	1000	0	72 50 - 150% PASS	1 30 PASS	
1-Methylphenanthrene	Total	1034.1	1	5	ng/L	1000	0	103 50 - 150% PASS	5 30 PASS	
2,3,5-Trimethylnaphthalene	Total	851.6	1	5	ng/L	1000	0	85 50 - 150% PASS	0 30 PASS	
2,6-Dimethylnaphthalene	Total	784	1	5	ng/L	1000	0	78 50 - 150% PASS	1 30 PASS	
2-Methylnaphthalene	Total	722.5	1	5	ng/L	1000	0	72 50 - 150% PASS	1 30 PASS	
Acenaphthene	Total	782.4	1	5	ng/L	1000	0	78 50 - 150% PASS	1 30 PASS	
Acenaphthylene	Total	789.6	1	5	ng/L	1000	0	79 50 - 150% PASS	1 30 PASS	
Anthracene	Total	941.5	1	5	ng/L	1000	0	94 50 - 150% PASS	3 30 PASS	
Benz[a]anthracene	Total	1175.5	1	5	ng/L	1000	0	118 50 - 150% PASS	6 30 PASS	
Benzo[a]pyrene	Total	956.6	1	5	ng/L	1000	0	96 50 - 150% PASS	7 30 PASS	
Benzo[b]fluoranthene	Total	982.6	1	5	ng/L	1000	0	98 50 - 150% PASS	4 30 PASS	
Benzo[e]pyrene	Total	874.2	1	5	ng/L	1000	0	87 50 - 150% PASS	7 30 PASS	
Benzo[g,h,i]perylene	Total	1070.1	1	5	ng/L	1000	0	107 50 - 150% PASS	5 30 PASS	
Benzo[k]fluoranthene	Total	951.7	1	5	ng/L	1000	0	95 50 - 150% PASS	4 30 PASS	
Biphenyl	Total	754.4	1	5	ng/L	1000	0	75 50 - 150% PASS	3 30 PASS	
Chrysene	Total	974.1	1	5	ng/L	1000	0	97 50 - 150% PASS	0 30 PASS	
Dibenz[a,h]anthracene	Total	1304.1	1	5	ng/L	1000	0	130 50 - 150% PASS	3 30 PASS	
Dibenzothiophene	Total	896.9	1	5	ng/L	1000	0	90 50 - 150% PASS	1 30 PASS	
Fluoranthene	Total	1087.1	1	5	ng/L	1000	0	109 50 - 150% PASS	10 30 PASS	
Fluorene	Total	856.5	1	5	ng/L	1000	0	86 50 - 150% PASS	0 30 PASS	
Indeno[1,2,3-c,d]pyrene	Total	1138.4	1	5	ng/L	1000	0	114 50 - 150% PASS	3 30 PASS	
Naphthalene	Total	669.1	1	5	ng/L	1000	0	67 25 - 125% PASS	1 30 PASS	
Perylene	Total	1128.4	1	5	ng/L	1000	0	113 50 - 150% PASS	5 30 PASS	
Phenanthrene	Total	900.8	1	5	ng/L	1000	0	90 50 - 150% PASS	2 30 PASS	
Pyrene	Total	1097.7	1	5	ng/L	1000	0	110 50 - 150% PASS	10 30 PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22534-MS1		B13-8093 Grab		Matrix: Liquid		Sampled: 29-Aug-13 7:00		Received: 29-Aug-13		
		Method: EPA 625		Batch ID: O-4154		Prepared: 04-Sep-13		Analyzed: 05-Oct-13		
(d10-Acenaphthene)	Total	78			% Recovery	100	0	78	50 - 150%	PASS
(d10-Phenanthrene)	Total	89			% Recovery	100	0	89	50 - 150%	PASS
(d12-Chrysene)	Total	105			% Recovery	100	0	105	50 - 150%	PASS
(d8-Naphthalene)	Total	59			% Recovery	100	0	59	25 - 125%	PASS
1-Methylnaphthalene	Total	740.9	1	5	ng/L	1052.6	0	70	50 - 150%	PASS
1-Methylphenanthrene	Total	1126.9	1	5	ng/L	1052.6	0	107	50 - 150%	PASS
2,3,5-Trimethylnaphthalene	Total	955.4	1	5	ng/L	1052.6	0	91	50 - 150%	PASS
2,6-Dimethylnaphthalene	Total	841.6	1	5	ng/L	1052.6	1.3	80	50 - 150%	PASS
2-Methylnaphthalene	Total	741.6	1	5	ng/L	1052.6	1.3	70	50 - 150%	PASS
Acenaphthene	Total	859.1	1	5	ng/L	1052.6	1.8	81	50 - 150%	PASS
Acenaphthylene	Total	892.7	1	5	ng/L	1052.6	0	85	50 - 150%	PASS
Anthracene	Total	942.9	1	5	ng/L	1052.6	2.3	89	50 - 150%	PASS
Benz[a]anthracene	Total	1277.7	1	5	ng/L	1052.6	3.7	121	50 - 150%	PASS
Benzo[a]pyrene	Total	863.7	1	5	ng/L	1052.6	0	82	50 - 150%	PASS
Benzo[b]fluoranthene	Total	909.5	1	5	ng/L	1052.6	0	86	50 - 150%	PASS
Benzo[e]pyrene	Total	785.3	1	5	ng/L	1052.6	0	75	50 - 150%	PASS
Benzo[g,h,i]perylene	Total	1089.6	1	5	ng/L	1052.6	0	104	50 - 150%	PASS
Benzo[k]fluoranthene	Total	864.4	1	5	ng/L	1052.6	0	82	50 - 150%	PASS
Biphenyl	Total	801.1	1	5	ng/L	1052.6	0	76	50 - 150%	PASS
Chrysene	Total	980.6	1	5	ng/L	1052.6	0	93	50 - 150%	PASS
Dibenz[a,h]anthracene	Total	1366.4	1	5	ng/L	1052.6	0	130	50 - 150%	PASS
Dibenzothiophene	Total	905.8	1	5	ng/L	1052.6	0	86	50 - 150%	PASS
Fluoranthene	Total	1203.6	1	5	ng/L	1052.6	3.9	114	50 - 150%	PASS
Fluorene	Total	972.2	1	5	ng/L	1052.6	1.4	92	50 - 150%	PASS
Indeno[1,2,3-c,d]pyrene	Total	1226.5	1	5	ng/L	1052.6	0	117	50 - 150%	PASS
Naphthalene	Total	671.9	1	5	ng/L	1052.6	1.2	64	25 - 125%	PASS
Perylene	Total	1298	1	5	ng/L	1052.6	0	123	50 - 150%	PASS
Phenanthrene	Total	906.4	1	5	ng/L	1052.6	2.7	86	50 - 150%	PASS
Pyrene	Total	1206.4	1	5	ng/L	1052.6	2	114	50 - 150%	PASS



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22534-MS2		B13-8093 Grab		Matrix: Liquid		Sampled: 29-Aug-13 7:00		Received: 29-Aug-13		
		Method: EPA 625		Batch ID: O-4154		Prepared: 04-Sep-13		Analyzed: 05-Oct-13		
(d10-Acenaphthene)	Total	77			% Recovery	100	0	77 50 - 150%	PASS	1 30 PASS
(d10-Phenanthrene)	Total	94			% Recovery	100	0	94 50 - 150%	PASS	5 30 PASS
(d12-Chrysene)	Total	114			% Recovery	100	0	114 50 - 150%	PASS	8 30 PASS
(d8-Naphthalene)	Total	58			% Recovery	100	0	58 25 - 125%	PASS	2 30 PASS
1-Methylnaphthalene	Total	745.2	1	5	ng/L	1075.2	0	69 50 - 150%	PASS	1 30 PASS
1-Methylphenanthrene	Total	1239.4	1	5	ng/L	1075.2	0	115 50 - 150%	PASS	7 30 PASS
2,3,5-Trimethylnaphthalene	Total	970	1	5	ng/L	1075.2	0	90 50 - 150%	PASS	1 30 PASS
2,6-Dimethylnaphthalene	Total	834.2	1	5	ng/L	1075.2	1.3	77 50 - 150%	PASS	4 30 PASS
2-Methylnaphthalene	Total	746.7	1	5	ng/L	1075.2	1.3	69 50 - 150%	PASS	1 30 PASS
Acenaphthene	Total	884	1	5	ng/L	1075.2	1.8	82 50 - 150%	PASS	1 30 PASS
Acenaphthylene	Total	916.3	1	5	ng/L	1075.2	0	85 50 - 150%	PASS	0 30 PASS
Anthracene	Total	1015.5	1	5	ng/L	1075.2	2.3	94 50 - 150%	PASS	5 30 PASS
Benz[a]anthracene	Total	1373.4	1	5	ng/L	1075.2	3.7	127 50 - 150%	PASS	5 30 PASS
Benzo[a]pyrene	Total	972.7	1	5	ng/L	1075.2	0	90 50 - 150%	PASS	9 30 PASS
Benzo[b]fluoranthene	Total	1013.5	1	5	ng/L	1075.2	0	94 50 - 150%	PASS	9 30 PASS
Benzo[e]pyrene	Total	889.3	1	5	ng/L	1075.2	0	83 50 - 150%	PASS	10 30 PASS
Benzo[g,h,i]perylene	Total	1130.9	1	5	ng/L	1075.2	0	105 50 - 150%	PASS	1 30 PASS
Benzo[k]fluoranthene	Total	977.5	1	5	ng/L	1075.2	0	91 50 - 150%	PASS	10 30 PASS
Biphenyl	Total	805.3	1	5	ng/L	1075.2	0	75 50 - 150%	PASS	1 30 PASS
Chrysene	Total	1105.8	1	5	ng/L	1075.2	0	103 50 - 150%	PASS	10 30 PASS
Dibenz[a,h]anthracene	Total	1390.4	1	5	ng/L	1075.2	0	129 50 - 150%	PASS	1 30 PASS
Dibenzothiophene	Total	987.6	1	5	ng/L	1075.2	0	92 50 - 150%	PASS	7 30 PASS
Fluoranthene	Total	1314.4	1	5	ng/L	1075.2	3.9	122 50 - 150%	PASS	7 30 PASS
Fluorene	Total	993.6	1	5	ng/L	1075.2	1.4	92 50 - 150%	PASS	0 30 PASS
Indeno[1,2,3-c,d]pyrene	Total	1242.4	1	5	ng/L	1075.2	0	116 50 - 150%	PASS	1 30 PASS
Naphthalene	Total	698.9	1	5	ng/L	1075.2	1.2	65 25 - 125%	PASS	2 30 PASS
Perylene	Total	1448.2	1	5	ng/L	1075.2	0	135 50 - 150%	PASS	9 30 PASS
Phenanthrene	Total	983.8	1	5	ng/L	1075.2	2.7	91 50 - 150%	PASS	6 30 PASS
Pyrene	Total	1249.6	1	5	ng/L	1075.2	2	116 50 - 150%	PASS	2 30 PASS



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22534-R2		B13-8093 Grab		Matrix: Liquid		Sampled: 29-Aug-13 7:00		Received: 29-Aug-13		
		Method: EPA 625		Batch ID: O-4154		Prepared: 04-Sep-13		Analyzed: 07-Oct-13		
(d10-Acenaphthene)	Total	66			% Recovery	100		66 50 - 150% PASS	6 30 PASS	
(d10-Phenanthrene)	Total	85			% Recovery	100		85 50 - 150% PASS	0 30 PASS	
(d12-Chrysene)	Total	97			% Recovery	100		97 50 - 150% PASS	12 30 PASS	
(d8-Naphthalene)	Total	50			% Recovery	100		50 25 - 125% PASS	8 30 PASS	
1-Methylnaphthalene	Total	ND	1	5	ng/L				0 30 PASS	
1-Methylphenanthrene	Total	ND	1	5	ng/L				0 30 PASS	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L				0 30 PASS	
2,6-Dimethylnaphthalene	Total	1.1	1	5	ng/L				24 30 PASS	J
2-Methylnaphthalene	Total	1.4	1	5	ng/L				7 30 PASS	J
Acenaphthene	Total	1.6	1	5	ng/L				17 30 PASS	J
Acenaphthylene	Total	ND	1	5	ng/L				0 30 PASS	
Anthracene	Total	2	1	5	ng/L				22 30 PASS	J
Benz[a]anthracene	Total	3.4	1	5	ng/L				16 30 PASS	J
Benzo[a]pyrene	Total	ND	1	5	ng/L				0 30 PASS	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L				0 30 PASS	
Benzo[e]pyrene	Total	ND	1	5	ng/L				0 30 PASS	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L				0 30 PASS	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L				0 30 PASS	
Biphenyl	Total	ND	1	5	ng/L				0 30 PASS	
Chrysene	Total	ND	1	5	ng/L				0 30 PASS	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L				0 30 PASS	
Dibenzothiophene	Total	ND	1	5	ng/L				0 30 PASS	
Fluoranthene	Total	4.1	1	5	ng/L				8 30 PASS	J
Fluorene	Total	1.4	1	5	ng/L				7 30 PASS	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L				0 30 PASS	
Naphthalene	Total	1.3	1	5	ng/L				8 30 PASS	J
Perylene	Total	ND	1	5	ng/L				0 30 PASS	
Phenanthrene	Total	2.3	1	5	ng/L				26 30 PASS	J
Pyrene	Total	1.9	1	5	ng/L				10 30 PASS	J

SUBCONTRACT

REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS

CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

Analysis Request and Chain of Custody

RHMP

Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8109	8/28/13	0715	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8109			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8109			DOC	Grab	40 mL VOA	None	2
B13-8109			MTBE	Grab	40 mL VOA	HCl	3
B13-8109			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8109			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8109			PAHs	Grab	1 L Glass	None	2
B13-8109			TOC	Grab	40 mL VOA	H2SO4	2
B13-8109			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JS

Relinquished By: [Signature]

Date/Time: 8/29/13 1910

Received By: [Signature]

Date/Time: 8/29/13 1910

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Analysis Request and Chain of Custody

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From:

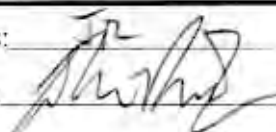
AMEC Environment & Infrastructure
Attn: Chris Stransky
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San Diego, CA 92123
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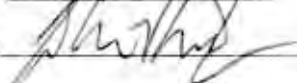
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Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8118	8/28/13	1020	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8118			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8118			DOC	Grab	40 mL VOA	None	2
B13-8118			MTBE	Grab	40 mL VOA	HCl	3
B13-8118			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8118			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8118			PAHs	Grab	1 L Glass	None	2
B13-8118			TOC	Grab	40 mL VOA	H2SO4	2
B13-8118			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

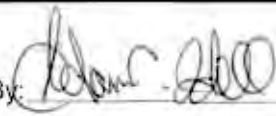
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Date/Time: 8/29/13 1910

Date/Time: _____

Analysis Request and Chain of Custody

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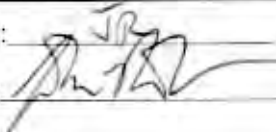
AMEC Environment & Infrastructure
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San Diego, CA 92123
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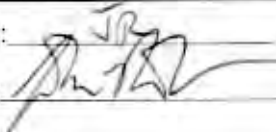
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SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8122	8/28/13	1325	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8122			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8122			DOC	Grab	40 mL VOA	None	2
B13-8122			MTBE	Grab	40 mL VOA	HCl	3
B13-8122			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8122			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8122			PAHs	Grab	1 L Glass	None	2
B13-8122			TOC	Grab	40 mL VOA	H2SO4	2
B13-8122			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

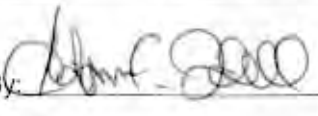
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Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8033	8/28/13	1625	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8033	8/28/13		Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8033			DOC	Grab	40 mL VOA	None	2
B13-8033			MTBE	Grab	40 mL VOA	HCl	3
B13-8033			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8033			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8033			PAHs	Grab	1 L Glass	None	2
B13-8033			TDS	Grab	1 L HDPE	None	
B13-8033			TOC	Grab	40 mL VOA	H2SO4	2
B13-8033			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JS*

Relinquished By: *[Signature]*

Date/Time: 8/29/13 1910

Received By: *[Signature]*

Date/Time: 8/29/13 1910

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Received By: _____

Date/Time: _____

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SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8093	8/29/13	0700	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8093			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8093			DOC	Grab	40 mL VOA	None	2
B13-8093			MTBE	Grab	40 mL VOA	HCl	3
B13-8093			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8093			Oil and Grease	Grab	1 L Glass	H2SO4	3 *
B13-8093			PAHs	Grab	1 L Glass	None	4 *
B13-8093			TOC	Grab	40 mL VOA	H2SO4	2
B13-8093			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

* EXTRA VOLUME PROVIDED FOR MS/MSD

Sampler's Initials: JR

Relinquished By: [Signature]

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Date/Time:

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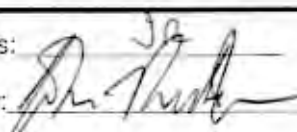
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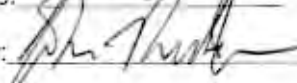
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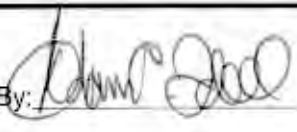
SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8100	8/29/13	0825	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8100			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8100			DOC	Grab	40 mL VOA	None	2
B13-8100			MTBE	Grab	40 mL VOA	HCl	3
B13-8100			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8100			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8100			PAHs	Grab	1 L Glass	None	2
B13-8100			TOC	Grab	40 mL VOA	H2SO4	2
B13-8100			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: 

Relinquished By: 

Date/Time: 8/29/13 1910

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Date/Time: 8/29/13 1910

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

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SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8099	8/29/13	0930	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8099			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8099			DOC	Grab	40 mL VOA	None	2
B13-8099			MTBE	Grab	40 mL VOA	HCl	3
B13-8099			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8099			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8099			PAHs	Grab	1 L Glass	None	2
B13-8099			TOC	Grab	40 mL VOA	H2SO4	2
B13-8099			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JS

Relinquished By: [Signature]

Date/Time: 8/29/13 1910

Received By: [Signature]

Date/Time: 8/29/13 1910

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

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From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8098	8/29/13	1045	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8098			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8098			DOC	Grab	40 mL VOA	None	2
B13-8098			MTBE	Grab	40 mL VOA	HCl	3
B13-8098			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8098			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8098			PAHs	Grab	1 L Glass	None	2
B13-8098			TOC	Grab	40 mL VOA	H2SO4	2
B13-8098			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JS

Relinquished By: [Signature]

Date/Time: 8/29/13 1910

Received By: [Signature]

Date/Time: 8/29/13 1910

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

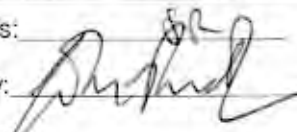
AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

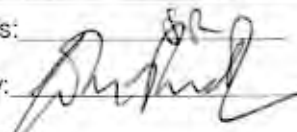
To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8096	8/29/13	1215	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8096			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8096			DOC	Grab	40 mL VOA	None	2
B13-8096			MTBE	Grab	40 mL VOA	HCl	3
B13-8096			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8096			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8096			PAHs	Grab	1 L Glass	None	2
B13-8096			TOC	Grab	40 mL VOA	H2SO4	2
B13-8096			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

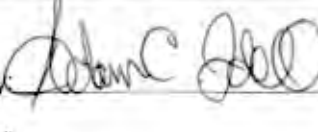
Sampler's Initials: 

Relinquished By: 

Relinquished By: _____

Date/Time: 8/29/13 1910

Date/Time: _____

Received By: 

Received By: _____

Date/Time: 8/29/13 1910

Date/Time: _____

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

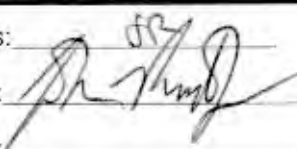
AMEC Environment & Infrastructure
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9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

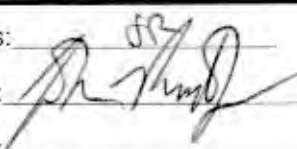
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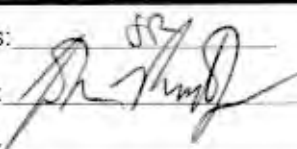
Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8095	8/29/13	1405	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8095			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8095			DOC	Grab	40 mL VOA	None	2
B13-8095			MTBE	Grab	40 mL VOA	HCl	3
B13-8095			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8095			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8095			PAHs	Grab	1 L Glass	None	2
B13-8095			TOC	Grab	40 mL VOA	H2SO4	2
B13-8095			Total Metals	Grab	1 L HDPE	None	1

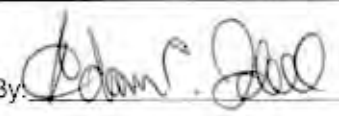
Comments: See attachment for detailed analytical list.

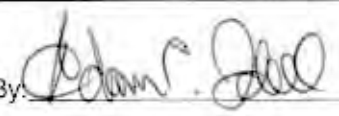
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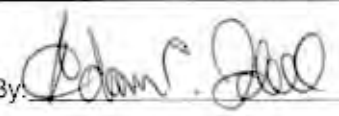
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Relinquished By: 

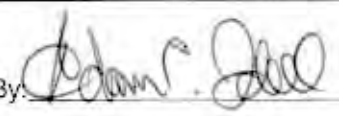
Date/Time: 8/29/13 1910

Date/Time: 

Received By: 

Received By: 

Date/Time: 8/29/13 1910

Date/Time: 

Analysis Request and Chain of Custody

RHMP

Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8087	8/29/13	1505	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8087			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8087			DOC	Grab	40 mL VOA	None	2
B13-8087			MTBE	Grab	40 mL VOA	HCl	3
B13-8087			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8087			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8087			PAHs	Grab	1 L Glass	None	2
B13-8087			TOC	Grab	40 mL VOA	H2SO4	2
B13-8087			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JS*

Relinquished By: *[Signature]*

Date/Time:

8/29/13 1910

Received By: *[Signature]*

Date/Time:

8/29/13 1910

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP

Bight '13

From:

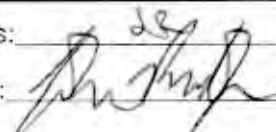
AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

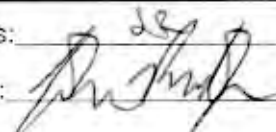
To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

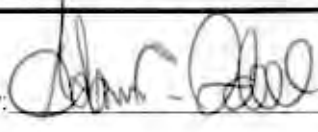
SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8073	8/29/13	1620	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8073			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8073			DOC	Grab	40 mL VOA	None	2
B13-8073			MTBE	Grab	40 mL VOA	HCl	3
B13-8073			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8073			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8073			PAHs	Grab	1 L Glass	None	2
B13-8073			TOC	Grab	40 mL VOA	H2SO4	2
B13-8073			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: 

Relinquished By: 

Date/Time: 8/29/13 1910

Received By: 

Date/Time: 8/29/13 1910

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

to physics

Table 4-1.
Chemical Analyses of Water Samples

Analyte	Analysis Method	Water Target Reporting Limits ^a	Units
pH	Field Measures	--	--
Specific Conductance	Field Measures	--	µS/cm
Dissolved Oxygen	Field Measures	--	mg/L
Temperature	Field Measures	--	°C
Salinity	Field Measures	--	ppt
Transmissivity	Field Measures	--	%
Ammonia-N	SM 4500-NH3 D	0.05	mg/L
Methylene Blue-Activated Substances (MBAS)	SM 5540 C	0.025	mg/L
Nitrate-N	EPA 300.0/SM 4500-NO3 E	0.05	mg/L
Oil & Grease	EPA 1664A	1.0	mg/L
Dissolved Organic Carbon (DOC)	EPA 415.3	0.5	mg/L
Total Organic Carbon (TOC)	EPA 415.3	0.5	mg/L
Total Orthophosphate as P	SM 4500 P E	0.05	mg/L
Aluminum (Al)	EPA 1640	1.0	µg/L
Antimony (Sb)	EPA 1640	0.015	µg/L
Arsenic (As)	EPA 1640	0.015	µg/L
Barium (Ba)	EPA 200.8	0.5	µg/L
Beryllium (Be)	EPA 1640	0.01	µg/L
Cadmium (Cd)	EPA 1640	0.005	µg/L
Chromium (Cr)	EPA 1640	0.025	µg/L
Cobalt (Co)	EPA 1640	0.01	µg/L
Copper (Cu)	EPA 1640	0.01	µg/L
Iron (Fe)	EPA 1640	1.0	µg/L
Lead (Pb)	EPA 1640	0.005	µg/L
Manganese (Mn)	EPA 1640	0.02	µg/L
Mercury (Hg)	EPA 245.7	0.02	µg/L
Molybdenum (Mo)	EPA 1640	0.01	µg/L
Nickel (Ni)	EPA 1640	0.005	µg/L
Selenium (Se)	EPA 1640	0.015	µg/L
Silver (Ag)	EPA 1640	0.02	µg/L
Thallium (Tl)	EPA 1640	0.01	µg/L
Tin (Sn)	EPA 1640	0.01	µg/L
Titanium (Ti)	EPA 1640	0.07	µg/L
Vanadium (V)	EPA 1640	0.04	µg/L
Zinc (Zn)	EPA 1640	0.005	µg/L
Polycyclic Aromatic Hydrocarbons (PAHs) ^b	EPA 625	5.0	ng/L
Methyl-t-butyl Ether (MTBE)	EPA 8260B	1.0	µg/L

Notes: Metals analysis will consist of both total and dissolved fractions. Filtering for the dissolved fraction will occur in the field immediately after collection.

^a Reporting limits provided by Physis Environmental Laboratories.

^b Includes acenaphthene, acenaphthylene, anthracene, benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[e]pyrene, benzo[g,h,i]perylene, benzo[k]fluoranthene, biphenyl, chrysene, dibenz[a,h]anthracene, di benzo[thiophene, fluoranthene, fluorene, indeno[1,2,3-c,d]pyrene, naphthalene, perylene, phenanthrene, pyrene, 2,6-dimethylnaphthalene, 1-methylnaphthalene, 2-methylnaphthalene, 1-methylphenanthrene, 2,3,5-trimethylnaphthalene, and 1,6,7-trimethylnaphthalene.

µg/L - micrograms per liter (parts per billion) mg/L - milligrams per liter

µS/cm - microSiemens per centimeter ppt - parts per thousand °C - degrees Celsius

SAMPLE RECEIPT SUMMARY

CLIENT: AMEC Date Received: 8/29/30 Received By: AI Inspected By: AI

COURIER

☒ PHYSIS ☐ CLIENT ☐ FEDEX ☐ UPS
start 15:30 end 21:00 ☐ OTHER: _____

COOLER

☒ COOLER ☐ BOX total #
☐ OTHER: _____ 9

TEMPERATURE

3.1 °C ☒ WET ICE ☐ BLUE ICE
☐ DRY ICE ☐ NONE

SAMPLE INTEGRITY UPON RECEIPT

1. COC(s) included and completely filled out..... YES
2. All sample containers arrived intact..... YES
3. All samples listed on COC(s) are present..... YES
4. Information on containers consistent with information on COC(s)..... YES
5. Correct containers and volume for all analyses indicated..... YES
6. All samples received within method holding time..... YES
7. Correct preservation used for all analyses indicated..... YES

NOTES



November 2 , 2013

Chris Stransky
AMEC
9210 Sky Park Court
Suite 200
San Diego, CA 92123-

Project Name: RHMP Bight '13
Physis Project ID: 1307002-013

Dear Chris,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 8/30/2013. A total of 5 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventionals
Total Orthophosphate as P by SM 4500-P E
Oil & Grease by EPA 1664A
Nitrate as N by SM 4500-NO ₃ E
MBAS by SM 5540-C
Ammonia as N by SM 4500-NH ₃ D
Elements
Total and Dissolved Barium by EPA 200.8
Total & Dissolved Trace Metals by EPA 1640
Total & Dissolved Mercury by EPA 245.7
Organics
Polynuclear Aromatic Hydrocarbons by EPA 625
Subcontract
Total Organic Carbon by SM 5310 B
Methyl Tertiary Butyl Ether (MTBE) by EPA 624
Dissolved Organic Carbon by SM 5310 B

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,



Misty Mercier
Extension 202
714-335-5918 cell
mistymercier@physislabs.com

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and are used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use was assessed through the analysis of procedural blanks at a minimum frequency of one per batch. Physis' QM requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the procedural blanks be flagged in the project sample results with a B qualifier.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS₁/MS₂, BS₁/BS₂, LCS₁/LCS₂, LCM₁/LCM₂, CRM₁/CRM₂, surrogate spikes and/or replicate project sample analysis (R₁/R₂) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

MATRIX SPIKES: MS samples were employed to assess the effect a particular project sample matrix has on the accuracy of a measurement. It is prepared by adding a known amount of the target analyte(s) to an aliquot of the project sample. Matrix spikes indicate the bias of analytical measurements due to chemical interferences inherent in the sample matrix. If the matrix spike recovery does not fall within the specified acceptance limits, it may be an indication of sample matrix interference in the specific project sample used for the MS. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

BLANK SPIKES: BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

CERTIFIED REFERENCE MATERIALS: CRMs are pre-homogenized materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of a preparation and analytical method. CRMs are analyzed to provide evidence that the laboratory method produces results that are comparable to those obtained by an independent organization.

SURROGATES: Where CRMs are unavailable, target analyte recovery can be assessed by monitoring added surrogate compounds/elements. A surrogate is a pure analyte unlikely to be found in any project sample and most often used with organic analytical procedures. Percent recovery is calculated for each surrogate and is used to monitor method performance within each discrete sample and is indicative of the procedure's ability to recover the actual analytes of interest.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored

under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes. Physis' QM requires that all samples analyzed beyond the method recommended holding time be flagged in the sample results with an H qualifier.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
*	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified recovery and/or RPD acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore MS recovery and/or RPD acceptance limits do not apply
SL	analyte results for R1 and/or R2 were lower than 10 times the MDL, therefore RPD acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore MS recovery and/or RPD were outside the specified acceptance limits
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

ANALYTICAL REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature



1904 E. Wright Circle, Anaheim CA 92806

main: (714) 602-5320

fax: (714) 602-5321

www.physislabs.com

info@physislabs.com

CA ELAP #2769

Conventionals

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22564-R1 B13-8058 Grab Matrix: Liquid Sampled: 30-Aug-13 6:50 Received: 30-Aug-13 Method: SM 4500-P E Batch ID: C-13127 Prepared: 30-Aug-13 Analyzed: 30-Aug-13						
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
Method: SM 5540-C Batch ID: C-13129 Prepared: 30-Aug-13 Analyzed: 30-Aug-13						
MBAS	NA	0.024	0.005	0.025	mg/L	J
Method: SM 4500-NH3 D Batch ID: C-14024 Prepared: 20-Sep-13 Analyzed: 20-Sep-13						
Ammonia as N	NA	ND	0.02	0.05	mg/L	
Method: SM 4500-NO3 E Batch ID: C-14049 Prepared: 30-Aug-13 Analyzed: 25-Sep-13						
Nitrate as N	NA	ND	0.01	0.05	mg/L	
Method: EPA 1664A Batch ID: C-14070 Prepared: 26-Sep-13 Analyzed: 26-Sep-13						
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22565-R1 B13-8068 Grab Matrix: Liquid Sampled: 30-Aug-13 7:55 Received: 30-Aug-13 Method: SM 4500-P E Batch ID: C-13127 Prepared: 30-Aug-13 Analyzed: 30-Aug-13						
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
Method: SM 5540-C Batch ID: C-13129 Prepared: 30-Aug-13 Analyzed: 30-Aug-13						
MBAS	NA	0.043	0.005	0.025	mg/L	
Method: SM 4500-NH3 D Batch ID: C-14024 Prepared: 20-Sep-13 Analyzed: 20-Sep-13						
Ammonia as N	NA	ND	0.02	0.05	mg/L	
Method: SM 4500-NO3 E Batch ID: C-14049 Prepared: 30-Aug-13 Analyzed: 25-Sep-13						
Nitrate as N	NA	ND	0.01	0.05	mg/L	
Method: EPA 1664A Batch ID: C-14070 Prepared: 26-Sep-13 Analyzed: 26-Sep-13						
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22566-R1 B13-8090 Grab Matrix: Liquid Sampled: 30-Aug-13 9:05 Received: 30-Aug-13 Method: SM 4500-P E Batch ID: C-13127 Prepared: 30-Aug-13 Analyzed: 30-Aug-13						
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
Method: SM 5540-C Batch ID: C-13129 Prepared: 30-Aug-13 Analyzed: 30-Aug-13						
MBAS	NA	0.042	0.005	0.025	mg/L	
Method: SM 4500-NH3 D Batch ID: C-14024 Prepared: 20-Sep-13 Analyzed: 20-Sep-13						
Ammonia as N	NA	ND	0.02	0.05	mg/L	
Method: SM 4500-NO3 E Batch ID: C-14049 Prepared: 30-Aug-13 Analyzed: 25-Sep-13						



1904 E. Wright Circle, Anaheim CA 92806

main: (714) 602-5320

fax: (714) 602-5321

www.physislabs.com

info@physilabs.com

CA ELAP #2769

Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14070		Prepared: 26-Sep-13		Analyzed: 26-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22567-R1	B13-8045 Grab	Matrix: Liquid		Sampled: 30-Aug-13 10:45		Received: 30-Aug-13
	Method: SM 4500-P E	Batch ID: C-13127		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13129		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
MBAS	NA	0.039	0.005	0.025	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14024		Prepared: 20-Sep-13		Analyzed: 20-Sep-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14049		Prepared: 30-Aug-13		Analyzed: 25-Sep-13
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14070		Prepared: 26-Sep-13		Analyzed: 26-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22568-R1	B13-8031 Grab	Matrix: Liquid		Sampled: 30-Aug-13 12:00		Received: 30-Aug-13
	Method: SM 4500-P E	Batch ID: C-13127		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: SM 5540-C	Batch ID: C-13129		Prepared: 30-Aug-13		Analyzed: 30-Aug-13
MBAS	NA	0.043	0.005	0.025	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14024		Prepared: 20-Sep-13		Analyzed: 20-Sep-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14049		Prepared: 30-Aug-13		Analyzed: 25-Sep-13
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14070		Prepared: 26-Sep-13		Analyzed: 26-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22564-R1 B13-8058 Grab Matrix: Liquid Sampled: 30-Aug-13 6:50 Received: 30-Aug-13 Method: EPA 245.7 Batch ID: E-6042 Prepared: 13-Nov-13 Analyzed: 13-Nov-13						
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 1640 Batch ID: E-7017 Prepared: 29-Oct-13 Analyzed: 08-Nov-13						
Aluminum (Al)	Total	264.6	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.1	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.13	0.01	0.015	µg/L	
Arsenic (As)	Total	1.381	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	0.919	0.005	0.015	µg/L	
Beryllium (Be)	Total	0.007	0.005	0.01	µg/L	J
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0703	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0679	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.8489	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.0922	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.181	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.08	0.005	0.01	µg/L	
Copper (Cu)	Total	3.397	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.158	0.005	0.01	µg/L	
Iron (Fe)	Total	233.2	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.4656	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0396	0.0025	0.005	µg/L	
Manganese (Mn)	Total	12.48	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	7.4	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.738	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.994	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.693	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.5768	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.034	0.005	0.015	µg/L	



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	Dissolved	0.016	0.005	0.015	µg/L	
Silver (Ag)	Total	0.02	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.012	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	0.01	0.005	0.01	µg/L	
Tin (Sn)	Total	0.063	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.014	0.005	0.01	µg/L	
Titanium (Ti)	Total	21.899	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	5.203	0.035	0.07	µg/L	
Vanadium (V)	Total	3.04	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.32	0.02	0.04	µg/L	
Zinc (Zn)	Total	6.5113	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	3.9868	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7017

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	9.07	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	9.23	0.25	0.5	µg/L	

Sample ID: 22565-R1

B13-8068 Grab

Matrix: Liquid

Sampled: 30-Aug-13 7:55

Received: 30-Aug-13

Method: EPA 245.7

Batch ID: E-6042

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Method: EPA 1640

Batch ID: E-7017

Prepared: 29-Oct-13

Analyzed: 08-Nov-13

Aluminum (Al)	Total	101.3	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.09	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.1	0.01	0.015	µg/L	
Arsenic (As)	Total	1.165	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.05	0.005	0.015	µg/L	
Beryllium (Be)	Total	0.006	0.005	0.01	µg/L	J
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.064	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0634	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.3008	0.0125	0.025	µg/L	

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Project: RHMP Bight '13



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	Dissolved	0.1377	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.105	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.077	0.005	0.01	µg/L	
Copper (Cu)	Total	3.423	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.638	0.005	0.01	µg/L	
Iron (Fe)	Total	73.8	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.2651	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0401	0.0025	0.005	µg/L	
Manganese (Mn)	Total	9.47	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	5.83	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	10.002	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	10.175	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.6349	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.5769	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.023	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.02	0.005	0.015	µg/L	
Silver (Ag)	Total	0.02	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.02	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.012	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	0.008	0.005	0.01	µg/L	J
Tin (Sn)	Total	0.033	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.005	0.005	0.01	µg/L	J
Titanium (Ti)	Total	12.181	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	6.23	0.035	0.07	µg/L	
Vanadium (V)	Total	2.5	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.21	0.02	0.04	µg/L	
Zinc (Zn)	Total	6.251	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	5.1408	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-7017		Prepared: 29-Oct-13		Analyzed: 05-Nov-13
Barium (Ba)	Total	9.23	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	7.69	0.25	0.5	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22566-R1 B13-8090 Grab Matrix: Liquid Sampled: 30-Aug-13 9:05 Received: 30-Aug-13 Method: EPA 245.7 Batch ID: E-6042 Prepared: 13-Nov-13 Analyzed: 13-Nov-13						
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 1640 Batch ID: E-7017 Prepared: 29-Oct-13 Analyzed: 08-Nov-13						
Aluminum (Al)	Total	42.9	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.11	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.09	0.01	0.015	µg/L	
Arsenic (As)	Total	1.209	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.092	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0632	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0682	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.224	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1026	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.097	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.076	0.005	0.01	µg/L	
Copper (Cu)	Total	3.466	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.705	0.005	0.01	µg/L	
Iron (Fe)	Total	30.9	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.228	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0792	0.0025	0.005	µg/L	
Manganese (Mn)	Total	9.03	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	7.59	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	10.034	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	10.41	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.659	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.6386	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.019	0.005	0.015	µg/L	

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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	Dissolved	0.031	0.005	0.015	µg/L	
Silver (Ag)	Total	0.01	0.01	0.02	µg/L	J
Silver (Ag)	Dissolved	0.01	0.01	0.02	µg/L	J
Thallium (Tl)	Total	0.008	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	0.011	0.005	0.01	µg/L	
Tin (Sn)	Total	0.031	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	8.906	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	6.38	0.035	0.07	µg/L	
Vanadium (V)	Total	2.45	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.22	0.02	0.04	µg/L	
Zinc (Zn)	Total	12.5101	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	12.3026	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7017

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	7.92	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	10.91	0.25	0.5	µg/L	

Sample ID: 22567-R1

B13-8045 Grab

Matrix: Liquid

Sampled: 30-Aug-13 10:45

Received: 30-Aug-13

Method: EPA 245.7

Batch ID: E-6042

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Method: EPA 1640

Batch ID: E-7017

Prepared: 29-Oct-13

Analyzed: 08-Nov-13

Aluminum (Al)	Total	52.4	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.09	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.11	0.01	0.015	µg/L	
Arsenic (As)	Total	1.054	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	0.996	0.005	0.015	µg/L	
Beryllium (Be)	Total	0.005	0.005	0.01	µg/L	J
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0705	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0728	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.1476	0.0125	0.025	µg/L	

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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	Dissolved	0.0534	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.103	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.091	0.005	0.01	µg/L	
Copper (Cu)	Total	3.169	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.865	0.005	0.01	µg/L	
Iron (Fe)	Total	36.2	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1127	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.007	0.0025	0.005	µg/L	
Manganese (Mn)	Total	10.37	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	7.05	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	10.453	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	10.513	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.6517	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.6396	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.019	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.017	0.005	0.015	µg/L	
Silver (Ag)	Total	0.02	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.02	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.01	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	0.009	0.005	0.01	µg/L	J
Tin (Sn)	Total	ND	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.008	0.005	0.01	µg/L	J
Titanium (Ti)	Total	9.016	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	5.729	0.035	0.07	µg/L	
Vanadium (V)	Total	2.47	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.31	0.02	0.04	µg/L	
Zinc (Zn)	Total	5.2057	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	5.1099	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-7017		Prepared: 29-Oct-13		Analyzed: 05-Nov-13
Barium (Ba)	Total	9.19	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	8.94	0.25	0.5	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22568-R1 B13-8031 Grab Matrix: Liquid Sampled: 30-Aug-13 12:00 Received: 30-Aug-13 Method: EPA 245.7 Batch ID: E-6042 Prepared: 13-Nov-13 Analyzed: 13-Nov-13						
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 1640 Batch ID: E-7017 Prepared: 29-Oct-13 Analyzed: 08-Nov-13						
Aluminum (Al)	Total	68.3	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.12	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.11	0.01	0.015	µg/L	
Arsenic (As)	Total	1.152	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	0.92	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0742	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0804	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.195	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.0863	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.106	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.106	0.005	0.01	µg/L	
Copper (Cu)	Total	3.114	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.64	0.005	0.01	µg/L	
Iron (Fe)	Total	50.9	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1184	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0119	0.0025	0.005	µg/L	
Manganese (Mn)	Total	10.94	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	8.22	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	10.227	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	10.537	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.6503	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.631	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.029	0.005	0.015	µg/L	

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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	Dissolved	0.022	0.005	0.015	µg/L	
Silver (Ag)	Total	0.02	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.01	0.01	0.02	µg/L	J
Thallium (Tl)	Total	0.012	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	0.012	0.005	0.01	µg/L	
Tin (Sn)	Total	0.017	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	0.014	0.005	0.01	µg/L	
Titanium (Ti)	Total	9.909	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	7.576	0.035	0.07	µg/L	
Vanadium (V)	Total	2.6	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.48	0.02	0.04	µg/L	
Zinc (Zn)	Total	4.8237	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	3.8901	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-7017		Prepared: 29-Oct-13		Analyzed: 05-Nov-13
Barium (Ba)	Total	10.22	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	10.75	0.25	0.5	µg/L	



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22564-R1</div> <div>B13-8058 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-4155</div> </div> <div> <div>Sampled: 30-Aug-13 6:50</div> <div>Prepared: 03-Sep-13</div> </div> <div> <div>Received: 30-Aug-13</div> <div>Analyzed: 08-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	68			% Recovery	
(d10-Phenanthrene)	Total	92			% Recovery	
(d12-Chrysene)	Total	94			% Recovery	
(d8-Naphthalene)	Total	50			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	1.6	1	5	ng/L	J
Benz[a]anthracene	Total	2.4	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	1.3	1	5	ng/L	J
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	1.3	1	5	ng/L	J
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	2.6	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.7	1	5	ng/L	J
Pyrene	Total	1.5	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22565-R1 B13-8068 Grab Method: EPA 625		Matrix: Liquid Batch ID: O-4155		Sampled: 30-Aug-13 7:55 Prepared: 03-Sep-13		Received: 30-Aug-13 Analyzed: 09-Oct-13
(d10-Acenaphthene)	Total	67			% Recovery	
(d10-Phenanthrene)	Total	92			% Recovery	
(d12-Chrysene)	Total	90			% Recovery	
(d8-Naphthalene)	Total	48			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	1.9	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	2	1	5	ng/L	J
Benz[a]anthracene	Total	2	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	1.3	1	5	ng/L	J
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	4.1	1	5	ng/L	J
Fluorene	Total	1.1	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	2.3	1	5	ng/L	J
Pyrene	Total	1.6	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22566-R1</div> <div>B13-8090 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-4155</div> </div> <div> <div>Sampled: 30-Aug-13 9:05</div> <div>Prepared: 03-Sep-13</div> </div> <div> <div>Received: 30-Aug-13</div> <div>Analyzed: 09-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	68			% Recovery	
(d10-Phenanthrene)	Total	91			% Recovery	
(d12-Chrysene)	Total	88			% Recovery	
(d8-Naphthalene)	Total	52			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	3.2	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	2.9	1	5	ng/L	J
Benz[a]anthracene	Total	2.4	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	1.4	1	5	ng/L	J
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	1.9	1	5	ng/L	J
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	1.1	1	5	ng/L	J
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	6	1	5	ng/L	
Fluorene	Total	2.2	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.3	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	4.2	1	5	ng/L	J
Pyrene	Total	3.5	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22567-R1</div> <div>B13-8045 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-4155</div> </div> <div> <div>Sampled: 30-Aug-13 10:45</div> <div>Prepared: 03-Sep-13</div> </div> <div> <div>Received: 30-Aug-13</div> <div>Analyzed: 09-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	65			% Recovery	
(d10-Phenanthrene)	Total	90			% Recovery	
(d12-Chrysene)	Total	87			% Recovery	
(d8-Naphthalene)	Total	44			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	1.2	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	1.5	1	5	ng/L	J
Benz[a]anthracene	Total	1.7	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	2.4	1	5	ng/L	J
Fluorene	Total	1	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	ND	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	2.2	1	5	ng/L	J
Pyrene	Total	ND	1	5	ng/L	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22568-R1</div> <div>B13-8031 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-4155</div> </div> <div> <div>Sampled: 30-Aug-13 12:00</div> <div>Prepared: 03-Sep-13</div> </div> <div> <div>Received: 30-Aug-13</div> <div>Analyzed: 09-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	71			% Recovery	
(d10-Phenanthrene)	Total	92			% Recovery	
(d12-Chrysene)	Total	94			% Recovery	
(d8-Naphthalene)	Total	53			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	1.1	1	5	ng/L	J
Acenaphthene	Total	1.4	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	1.5	1	5	ng/L	J
Benz[a]anthracene	Total	1.9	1	5	ng/L	J
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	2.3	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.3	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	2.3	1	5	ng/L	J
Pyrene	Total	1.3	1	5	ng/L	J

QUALITY CONTROL REPORT

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CA ELAP #2769

Conventionals

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Ammonia as N		Method: SM 4500-NH₃ D		Fraction: NA		Prepared: 20-Sep-13		Analyzed: 20-Sep-13		
22563-B1	QAQC Procedural Blank	C-14024	ND	0.02	0.05	mg/L				
22563-BS1	QAQC Procedural Blank	C-14024	0.3	0.02	0.05	mg/L	0.25	0	120 70 - 130% PASS	
22563-BS2	QAQC Procedural Blank	C-14024	0.2	0.02	0.05	mg/L	0.25	0	80 70 - 130% PASS	40 30 FAIL R
22564-MS1	B13-8058	C-14024	0.28	0.02	0.05	mg/L	0.25	0	112 70 - 130% PASS	
22564-MS2	B13-8058	C-14024	0.24	0.02	0.05	mg/L	0.25	0	96 70 - 130% PASS	15 30 PASS
22564-R2	B13-8058	C-14024	ND	0.02	0.05	mg/L			0 30 PASS	
MBAS		Method: SM 5540-C		Fraction: NA		Prepared: 30-Aug-13		Analyzed: 30-Aug-13		
22563-B1	QAQC Procedural Blank	C-13129	ND	0.005	0.025	mg/L				
22563-BS1	QAQC Procedural Blank	C-13129	0.13	0.005	0.025	mg/L	0.1	0	130 70 - 130% PASS	
22563-BS2	QAQC Procedural Blank	C-13129	0.128	0.005	0.025	mg/L	0.1	0	128 70 - 130% PASS	2 30 PASS
22565-MS1	B13-8068	C-13129	0.152	0.005	0.025	mg/L	0.1	0.042	110 70 - 130% PASS	
22565-MS2	B13-8068	C-13129	0.14	0.005	0.025	mg/L	0.1	0.042	98 70 - 130% PASS	12 30 PASS
22565-R2	B13-8068	C-13129	0.041	0.005	0.025	mg/L			5 30 PASS	
Nitrate as N		Method: SM 4500-NO₃ E		Fraction: NA		Prepared: 30-Aug-13		Analyzed: 25-Sep-13		
22563-B1	QAQC Procedural Blank	C-14049	ND	0.01	0.05	mg/L				
22563-BS1	QAQC Procedural Blank	C-14049	0.12	0.01	0.05	mg/L	0.11	0	109 70 - 130% PASS	
22563-BS2	QAQC Procedural Blank	C-14049	0.12	0.01	0.05	mg/L	0.11	0	109 70 - 130% PASS	0 30 PASS
22564-MS1	B13-8058	C-14049	0.12	0.01	0.05	mg/L	0.11	0	109 70 - 130% PASS	
22564-MS2	B13-8058	C-14049	0.12	0.01	0.05	mg/L	0.11	0	109 70 - 130% PASS	0 30 PASS
22564-R2	B13-8058	C-14049	ND	0.01	0.05	mg/L			0 30 PASS	
Oil & Grease		Method: EPA 1664A		Fraction: NA		Prepared: 26-Sep-13		Analyzed: 26-Sep-13		
22563-B1	QAQC Procedural Blank	C-14070	ND	1	1	mg/L				
22563-BS1	QAQC Procedural Blank	C-14070	31	1	1	mg/L	40.1	0	77 70 - 130% PASS	
22563-BS2	QAQC Procedural Blank	C-14070	29.2	1	1	mg/L	40.1	0	73 70 - 130% PASS	5 30 PASS
Total Orthophosphate as P		Method: SM 4500-P E		Fraction: NA		Prepared: 30-Aug-13		Analyzed: 30-Aug-13		
22563-B1	QAQC Procedural Blank	C-13127	ND	0.01	0.02	mg/L				
22563-BS1	QAQC Procedural Blank	C-13127	0.19	0.01	0.02	mg/L	0.2	0	95 70 - 130% PASS	



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CA ELAP #2769

Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
22563-BS2	QAQC Procedural Blank	C-13127	0.19	0.01	0.02	mg/L	0.2	0	95 70 - 130% PASS	0 30 PASS
22564-MS1	B13-8058	C-13127	0.22	0.01	0.02	mg/L	0.2	0.03	95 70 - 130% PASS	
22564-MS2	B13-8058	C-13127	0.22	0.01	0.02	mg/L	0.2	0.03	95 70 - 130% PASS	0 30 PASS
22564-R2	B13-8058	C-13127	0.03	0.01	0.02	mg/L				0 30 PASS



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CA ELAP #2769

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22563-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6042

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L					
Mercury (Hg)	Total	ND	0.01	0.02	µg/L					

Method: EPA 1640

Batch ID: E-7017

Prepared: 29-Oct-13

Analyzed: 08-Nov-13

Aluminum (Al)	Dissolved	ND	3	6	µg/L					
Aluminum (Al)	Total	ND	3	6	µg/L					
Antimony (Sb)	Dissolved	ND	0.01	0.015	µg/L					
Antimony (Sb)	Total	ND	0.01	0.015	µg/L					
Arsenic (As)	Dissolved	ND	0.005	0.015	µg/L					
Arsenic (As)	Total	ND	0.005	0.015	µg/L					
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L					
Beryllium (Be)	Total	ND	0.005	0.01	µg/L					
Cadmium (Cd)	Dissolved	ND	0.0025	0.005	µg/L					
Cadmium (Cd)	Total	ND	0.0025	0.005	µg/L					
Chromium (Cr)	Dissolved	ND	0.0125	0.025	µg/L					
Chromium (Cr)	Total	ND	0.0125	0.025	µg/L					
Cobalt (Co)	Dissolved	ND	0.005	0.01	µg/L					
Cobalt (Co)	Total	ND	0.005	0.01	µg/L					
Copper (Cu)	Dissolved	ND	0.005	0.01	µg/L					
Copper (Cu)	Total	ND	0.005	0.01	µg/L					
Iron (Fe)	Dissolved	ND	0.5	1	µg/L					
Iron (Fe)	Total	ND	0.5	1	µg/L					
Lead (Pb)	Dissolved	ND	0.0025	0.005	µg/L					
Lead (Pb)	Total	ND	0.0025	0.005	µg/L					
Manganese (Mn)	Dissolved	ND	0.01	0.02	µg/L					
Manganese (Mn)	Total	ND	0.01	0.02	µg/L					
Molybdenum (Mo)	Dissolved	ND	0.005	0.01	µg/L					
Molybdenum (Mo)	Total	ND	0.005	0.01	µg/L					
Nickel (Ni)	Dissolved	ND	0.0025	0.005	µg/L					
Nickel (Ni)	Total	ND	0.0025	0.005	µg/L					

PHYSIS Project ID: 1307002-013

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Selenium (Se)	Dissolved	ND	0.005	0.015	µg/L					
Selenium (Se)	Total	ND	0.005	0.015	µg/L					
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L					
Silver (Ag)	Total	ND	0.01	0.02	µg/L					
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L					
Thallium (Tl)	Total	ND	0.005	0.01	µg/L					
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L					
Tin (Sn)	Total	ND	0.005	0.01	µg/L					
Titanium (Ti)	Dissolved	ND	0.035	0.07	µg/L					
Titanium (Ti)	Total	ND	0.035	0.07	µg/L					
Vanadium (V)	Dissolved	ND	0.02	0.04	µg/L					
Vanadium (V)	Total	ND	0.02	0.04	µg/L					
Zinc (Zn)	Dissolved	ND	0.0025	0.005	µg/L					
Zinc (Zn)	Total	ND	0.0025	0.005	µg/L					

Method: EPA 200.8

Batch ID: E-7017

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Dissolved	ND	0.25	0.5	µg/L					
Barium (Ba)	Total	ND	0.25	0.5	µg/L					

Sample ID: 22563-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6042

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Total	0.1	0.01	0.02	µg/L	0.1	0	100	80 - 120%	PASS
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Method: EPA 200.8

Batch ID: E-7017

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	986.84	0.25	0.5	µg/L	1000	0	99	75 - 125%	PASS
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Sample ID: 22563-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6042

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Total	0.1	0.01	0.02	µg/L	0.1	0	100	80 - 120%	PASS	0	30	PASS
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Method: EPA 200.8

Batch ID: E-7017

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Total	976.65	0.25	0.5	µg/L	1000	0	98	75 - 125%	PASS	1	30	PASS
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Sample ID: 22564-MS1

B13-8058 Grab

Matrix: Liquid

Sampled: 30-Aug-13 6:50

Received: 30-Aug-13

Method: EPA 245.7

Batch ID: E-6042

Prepared: 13-Nov-13

Analyzed: 13-Nov-13



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CA ELAP #2769

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Mercury (Hg)	Total	0.13	0.01	0.02	µg/L	0.1	0.01	120 80 - 120% PASS		
	Method: EPA 200.8					Batch ID: E-7017		Prepared: 29-Oct-13	Analyzed: 06-Nov-13	
Barium (Ba)	Dissolved	1079.55	0.25	0.5	µg/L	1000	9.28	107 75 - 125% PASS		
Sample ID: 22564-MS2		B13-8058 Grab		Matrix: Liquid		Sampled: 30-Aug-13 6:50		Received: 30-Aug-13		
	Method: EPA 245.7					Batch ID: E-6042		Prepared: 13-Nov-13	Analyzed: 13-Nov-13	
Mercury (Hg)	Total	0.13	0.01	0.02	µg/L	0.1	0.01	120 80 - 120% PASS	0 30 PASS	
	Method: EPA 200.8					Batch ID: E-7017		Prepared: 29-Oct-13	Analyzed: 06-Nov-13	
Barium (Ba)	Dissolved	1060.61	0.25	0.5	µg/L	1000	9.28	105 75 - 125% PASS	2 30 PASS	
Sample ID: 22564-R2		B13-8058 Grab		Matrix: Liquid		Sampled: 30-Aug-13 6:50		Received: 30-Aug-13		
	Method: EPA 245.7					Batch ID: E-6042		Prepared: 13-Nov-13	Analyzed: 13-Nov-13	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L				0 30 PASS	
Mercury (Hg)	Total	0.01	0.01	0.02	µg/L				0 30 PASS	J
	Method: EPA 1640					Batch ID: E-7017		Prepared: 29-Oct-13	Analyzed: 08-Nov-13	
Aluminum (Al)	Dissolved	ND	3	6	µg/L				0 30 PASS	
Aluminum (Al)	Total	260.7	3	6	µg/L				1 30 PASS	
Antimony (Sb)	Dissolved	0.08	0.01	0.015	µg/L				48 30 FAIL	SL
Antimony (Sb)	Total	0.08	0.01	0.015	µg/L				22 30 PASS	
Arsenic (As)	Dissolved	1.095	0.005	0.015	µg/L				17 30 PASS	
Arsenic (As)	Total	1.138	0.005	0.015	µg/L				19 30 PASS	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L				0 30 PASS	
Beryllium (Be)	Total	0.007	0.005	0.01	µg/L				0 30 PASS	J
Cadmium (Cd)	Dissolved	0.0682	0.0025	0.005	µg/L				0 30 PASS	
Cadmium (Cd)	Total	0.0694	0.0025	0.005	µg/L				1 30 PASS	
Chromium (Cr)	Dissolved	0.0785	0.0125	0.025	µg/L				16 30 PASS	
Chromium (Cr)	Total	0.655	0.0125	0.025	µg/L				26 30 PASS	
Cobalt (Co)	Dissolved	0.088	0.005	0.01	µg/L				10 30 PASS	
Cobalt (Co)	Total	0.15	0.005	0.01	µg/L				19 30 PASS	
Copper (Cu)	Dissolved	2.293	0.005	0.01	µg/L				6 30 PASS	
Copper (Cu)	Total	3.439	0.005	0.01	µg/L				1 30 PASS	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L				0 30 PASS	



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Iron (Fe)	Total	233.2	0.5	1	µg/L				0 30 PASS	
Lead (Pb)	Dissolved	0.0428	0.0025	0.005	µg/L				8 30 PASS	
Lead (Pb)	Total	0.4679	0.0025	0.005	µg/L				0 30 PASS	
Manganese (Mn)	Dissolved	7.59	0.01	0.02	µg/L				3 30 PASS	
Manganese (Mn)	Total	11.9	0.01	0.02	µg/L				5 30 PASS	
Molybdenum (Mo)	Dissolved	10.318	0.005	0.01	µg/L				3 30 PASS	
Molybdenum (Mo)	Total	9.95	0.005	0.01	µg/L				2 30 PASS	
Nickel (Ni)	Dissolved	0.6178	0.0025	0.005	µg/L				7 30 PASS	
Nickel (Ni)	Total	0.8173	0.0025	0.005	µg/L				16 30 PASS	
Selenium (Se)	Dissolved	0.018	0.005	0.015	µg/L				12 30 PASS	
Selenium (Se)	Total	0.018	0.005	0.015	µg/L				62 30 FAIL	SL
Silver (Ag)	Dissolved	0.03	0.01	0.02	µg/L				100 30 FAIL	SL
Silver (Ag)	Total	0.02	0.01	0.02	µg/L				0 30 PASS	
Thallium (Tl)	Dissolved	0.012	0.005	0.01	µg/L				18 30 PASS	
Thallium (Tl)	Total	0.015	0.005	0.01	µg/L				22 30 PASS	
Tin (Sn)	Dissolved	0.005	0.005	0.01	µg/L				95 30 FAIL	J,SL
Tin (Sn)	Total	0.071	0.005	0.01	µg/L				12 30 PASS	
Titanium (Ti)	Dissolved	5.984	0.035	0.07	µg/L				14 30 PASS	
Titanium (Ti)	Total	21.241	0.035	0.07	µg/L				3 30 PASS	
Vanadium (V)	Dissolved	2.4	0.02	0.04	µg/L				3 30 PASS	
Vanadium (V)	Total	3.04	0.02	0.04	µg/L				0 30 PASS	
Zinc (Zn)	Dissolved	3.863	0.0025	0.005	µg/L				3 30 PASS	
Zinc (Zn)	Total	7.0567	0.0025	0.005	µg/L				8 30 PASS	

Method: EPA 200.8

Batch ID: E-7017

Prepared: 29-Oct-13

Analyzed: 05-Nov-13

Barium (Ba)	Dissolved	9.32	0.25	0.5	µg/L				1 30 PASS	
Barium (Ba)	Total	9.55	0.25	0.5	µg/L				5 30 PASS	

Sample ID: 22569-LCM1

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-7017

Prepared: 29-Oct-13

Analyzed: 08-Nov-13

Aluminum (Al)	Total	ND	3	6	µg/L					
Antimony (Sb)	Total	0.03	0.01	0.015	µg/L					
Arsenic (As)	Total	1.506	0.005	0.015	µg/L					

PHYSIS Project ID: 1307002-013

Client: AMEC

Project: RHMP Bight '13



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Beryllium (Be)	Total	ND	0.005	0.01	µg/L					
Cadmium (Cd)	Total	0.1018	0.0025	0.005	µg/L					
Chromium (Cr)	Total	0.1707	0.0125	0.025	µg/L					
Cobalt (Co)	Total	0.008	0.005	0.01	µg/L					
Copper (Cu)	Total	0.113	0.005	0.01	µg/L					
Iron (Fe)	Total	3.4	0.5	1	µg/L					
Lead (Pb)	Total	ND	0.0025	0.005	µg/L					
Manganese (Mn)	Total	0.36	0.01	0.02	µg/L					
Molybdenum (Mo)	Total	9.734	0.005	0.01	µg/L					
Nickel (Ni)	Total	0.4392	0.0025	0.005	µg/L					
Selenium (Se)	Total	0.039	0.005	0.015	µg/L					
Silver (Ag)	Total	0.02	0.01	0.02	µg/L					
Thallium (Tl)	Total	0.007	0.005	0.01	µg/L					
Tin (Sn)	Total	0.012	0.005	0.01	µg/L					
Titanium (Ti)	Total	10.619	0.035	0.07	µg/L					
Vanadium (V)	Total	1.7	0.02	0.04	µg/L					
Zinc (Zn)	Total	0.8276	0.0025	0.005	µg/L					

Sample ID: 22569-LCS1

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-7017

Prepared: 29-Oct-13

Analyzed: 08-Nov-13

Aluminum (Al)	Total	17.9	3	6	µg/L	20	0	89	0 - 191%	PASS
Antimony (Sb)	Total	2.16	0.01	0.015	µg/L	20	0.03	11	10 - 110%	PASS
Arsenic (As)	Total	19.043	0.005	0.015	µg/L	20	1.506	88	74 - 128%	PASS
Beryllium (Be)	Total	15.378	0.005	0.01	µg/L	20	0	77	60 - 118%	PASS
Cadmium (Cd)	Total	17.097	0.0025	0.005	µg/L	20	0.1018	85	68 - 131%	PASS
Chromium (Cr)	Total	18.7414	0.0125	0.025	µg/L	20	0.1707	93	32 - 173%	PASS
Cobalt (Co)	Total	17.383	0.005	0.01	µg/L	20	0.008	87	87 - 119%	PASS
Copper (Cu)	Total	17.44	0.005	0.01	µg/L	20	0.113	87	61 - 119%	PASS
Iron (Fe)	Total	14.1	0.5	1	µg/L	20	3.4	54	22 - 129%	PASS
Lead (Pb)	Total	16.713	0.0025	0.005	µg/L	20	0	84	75 - 120%	PASS
Manganese (Mn)	Total	18.11	0.01	0.02	µg/L	20	0.36	89	32 - 131%	PASS
Molybdenum (Mo)	Total	25.901	0.005	0.01	µg/L	20	9.734	81	54 - 131%	PASS

PHYSIS Project ID: 1307002-013

Client: AMEC

Project: RHMP Bight '13



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Nickel (Ni)	Total	17.0594	0.0025	0.005	µg/L	20	0.4392	83 60 - 113%	PASS	
Selenium (Se)	Total	18.694	0.005	0.015	µg/L	20	0.039	93 0 - 183%	PASS	
Silver (Ag)	Total	18.2	0.01	0.02	µg/L	20	0.02	91 64 - 133%	PASS	
Thallium (Tl)	Total	18.626	0.005	0.01	µg/L	20	0.007	93 70 - 125%	PASS	
Tin (Sn)	Total	21.841	0.005	0.01	µg/L	20	0.012	109 69 - 118%	PASS	
Titanium (Ti)	Total	25.344	0.035	0.07	µg/L	20	10.619	74 72 - 129%	PASS	
Vanadium (V)	Total	20.55	0.02	0.04	µg/L	20	1.7	94 72 - 137%	PASS	
Zinc (Zn)	Total	16.8927	0.0025	0.005	µg/L	20	0.8276	80 61 - 128%	PASS	

Sample ID: 22569-LCS2

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-7017

Prepared: 29-Oct-13

Analyzed: 08-Nov-13

Aluminum (Al)	Total	16	3	6	µg/L	20	0	80 0 - 191%	PASS	0 30 PASS	
Antimony (Sb)	Total	2.02	0.01	0.015	µg/L	20	0.03	10 10 - 110%	PASS	10 30 PASS	
Arsenic (As)	Total	18.255	0.005	0.015	µg/L	20	1.506	84 74 - 128%	PASS	5 30 PASS	
Beryllium (Be)	Total	14.927	0.005	0.01	µg/L	20	0	75 60 - 118%	PASS	0 30 PASS	
Cadmium (Cd)	Total	16.9437	0.0025	0.005	µg/L	20	0.1018	84 68 - 131%	PASS	1 30 PASS	
Chromium (Cr)	Total	18.3843	0.0125	0.025	µg/L	20	0.1707	91 32 - 173%	PASS	2 30 PASS	
Cobalt (Co)	Total	16.942	0.005	0.01	µg/L	20	0.008	85 87 - 119%	FAIL	2 30 PASS	R
Copper (Cu)	Total	17.516	0.005	0.01	µg/L	20	0.113	87 61 - 119%	PASS	0 30 PASS	
Iron (Fe)	Total	14.6	0.5	1	µg/L	20	3.4	56 22 - 129%	PASS	4 30 PASS	
Lead (Pb)	Total	16.6154	0.0025	0.005	µg/L	20	0	83 75 - 120%	PASS	0 30 PASS	
Manganese (Mn)	Total	17.74	0.01	0.02	µg/L	20	0.36	87 32 - 131%	PASS	2 30 PASS	
Molybdenum (Mo)	Total	26.35	0.005	0.01	µg/L	20	9.734	83 54 - 131%	PASS	2 30 PASS	
Nickel (Ni)	Total	17.1585	0.0025	0.005	µg/L	20	0.4392	84 60 - 113%	PASS	1 30 PASS	
Selenium (Se)	Total	18.439	0.005	0.015	µg/L	20	0.039	92 0 - 183%	PASS	1 30 PASS	
Silver (Ag)	Total	18.7	0.01	0.02	µg/L	20	0.02	93 64 - 133%	PASS	2 30 PASS	
Thallium (Tl)	Total	18.623	0.005	0.01	µg/L	20	0.007	93 70 - 125%	PASS	0 30 PASS	
Tin (Sn)	Total	20.873	0.005	0.01	µg/L	20	0.012	104 69 - 118%	PASS	5 30 PASS	
Titanium (Ti)	Total	25.32	0.035	0.07	µg/L	20	10.619	74 72 - 129%	PASS	0 30 PASS	
Vanadium (V)	Total	20.24	0.02	0.04	µg/L	20	1.7	93 72 - 137%	PASS	1 30 PASS	
Zinc (Zn)	Total	16.3427	0.0025	0.005	µg/L	20	0.8276	78 61 - 128%	PASS	3 30 PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22563-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 625		Batch ID: O-4155		Prepared: 03-Sep-13		Analyzed: 05-Oct-13		
(d10-Acenaphthene)	Total	84			% Recovery	100		84	50 - 150% PASS	
(d10-Phenanthrene)	Total	93			% Recovery	100		93	50 - 150% PASS	
(d12-Chrysene)	Total	87			% Recovery	100		87	50 - 150% PASS	
(d8-Naphthalene)	Total	67			% Recovery	100		67	25 - 125% PASS	
1-Methylnaphthalene	Total	ND	1	5	ng/L					
1-Methylphenanthrene	Total	ND	1	5	ng/L					
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L					
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L					
2-Methylnaphthalene	Total	ND	1	5	ng/L					
Acenaphthene	Total	ND	1	5	ng/L					
Acenaphthylene	Total	ND	1	5	ng/L					
Anthracene	Total	ND	1	5	ng/L					
Benz[a]anthracene	Total	ND	1	5	ng/L					
Benzo[a]pyrene	Total	ND	1	5	ng/L					
Benzo[b]fluoranthene	Total	ND	1	5	ng/L					
Benzo[e]pyrene	Total	ND	1	5	ng/L					
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L					
Benzo[k]fluoranthene	Total	ND	1	5	ng/L					
Biphenyl	Total	ND	1	5	ng/L					
Chrysene	Total	ND	1	5	ng/L					
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L					
Dibenzothiophene	Total	ND	1	5	ng/L					
Fluoranthene	Total	ND	1	5	ng/L					
Fluorene	Total	ND	1	5	ng/L					
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L					
Naphthalene	Total	ND	1	5	ng/L					
Perylene	Total	ND	1	5	ng/L					
Phenanthrene	Total	ND	1	5	ng/L					
Pyrene	Total	ND	1	5	ng/L					



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22563-BS1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 625		Batch ID: O-4155		Prepared: 03-Sep-13		Analyzed: 05-Oct-13		
(d10-Acenaphthene)	Total	70			% Recovery	100	0	70	50 - 150% PASS	
(d10-Phenanthrene)	Total	93			% Recovery	100	0	93	50 - 150% PASS	
(d12-Chrysene)	Total	120			% Recovery	100	0	120	50 - 150% PASS	
(d8-Naphthalene)	Total	53			% Recovery	100	0	53	25 - 125% PASS	
1-Methylnaphthalene	Total	623.9	1	5	ng/L	1000	0	62	50 - 150% PASS	
1-Methylphenanthrene	Total	1053.4	1	5	ng/L	1000	0	105	50 - 150% PASS	
2,3,5-Trimethylnaphthalene	Total	799.4	1	5	ng/L	1000	0	80	50 - 150% PASS	
2,6-Dimethylnaphthalene	Total	709.3	1	5	ng/L	1000	0	71	50 - 150% PASS	
2-Methylnaphthalene	Total	632.7	1	5	ng/L	1000	0	63	50 - 150% PASS	
Acenaphthene	Total	717.4	1	5	ng/L	1000	0	72	50 - 150% PASS	
Acenaphthylene	Total	728.5	1	5	ng/L	1000	0	73	50 - 150% PASS	
Anthracene	Total	962.1	1	5	ng/L	1000	0	96	50 - 150% PASS	
Benz[a]anthracene	Total	1287.3	1	5	ng/L	1000	0	129	50 - 150% PASS	
Benzo[a]pyrene	Total	1061	1	5	ng/L	1000	0	106	50 - 150% PASS	
Benzo[b]fluoranthene	Total	1046.4	1	5	ng/L	1000	0	105	50 - 150% PASS	
Benzo[e]pyrene	Total	942.2	1	5	ng/L	1000	0	94	50 - 150% PASS	
Benzo[g,h,i]perylene	Total	1027.4	1	5	ng/L	1000	0	103	50 - 150% PASS	
Benzo[k]fluoranthene	Total	1033.4	1	5	ng/L	1000	0	103	50 - 150% PASS	
Biphenyl	Total	678.9	1	5	ng/L	1000	0	68	50 - 150% PASS	
Chrysene	Total	1075.4	1	5	ng/L	1000	0	108	50 - 150% PASS	
Dibenz[a,h]anthracene	Total	1268.8	1	5	ng/L	1000	0	127	50 - 150% PASS	
Dibenzothiophene	Total	894.6	1	5	ng/L	1000	0	89	50 - 150% PASS	
Fluoranthene	Total	1111.3	1	5	ng/L	1000	0	111	50 - 150% PASS	
Fluorene	Total	823.6	1	5	ng/L	1000	0	82	50 - 150% PASS	
Indeno[1,2,3-c,d]pyrene	Total	1152.5	1	5	ng/L	1000	0	115	50 - 150% PASS	
Naphthalene	Total	562.7	1	5	ng/L	1000	0	56	25 - 125% PASS	
Perylene	Total	1239	1	5	ng/L	1000	0	124	50 - 150% PASS	
Phenanthrene	Total	904.4	1	5	ng/L	1000	0	90	50 - 150% PASS	
Pyrene	Total	1129.6	1	5	ng/L	1000	0	113	50 - 150% PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22563-BS2		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 625			Batch ID: O-4155		Prepared: 03-Sep-13		Analyzed: 05-Oct-13	
(d10-Acenaphthene)	Total	55			% Recovery	100	0	55 50 - 150% PASS	24 30 PASS	
(d10-Phenanthrene)	Total	71			% Recovery	100	0	71 50 - 150% PASS	27 30 PASS	
(d12-Chrysene)	Total	94			% Recovery	100	0	94 50 - 150% PASS	24 30 PASS	
(d8-Naphthalene)	Total	43			% Recovery	100	0	43 25 - 125% PASS	21 30 PASS	
1-Methylnaphthalene	Total	504.4	1	5	ng/L	1000	0	50 50 - 150% PASS	21 30 PASS	
1-Methylphenanthrene	Total	802.4	1	5	ng/L	1000	0	80 50 - 150% PASS	27 30 PASS	
2,3,5-Trimethylnaphthalene	Total	618.3	1	5	ng/L	1000	0	62 50 - 150% PASS	25 30 PASS	
2,6-Dimethylnaphthalene	Total	566.1	1	5	ng/L	1000	0	57 50 - 150% PASS	22 30 PASS	
2-Methylnaphthalene	Total	507.1	1	5	ng/L	1000	0	51 50 - 150% PASS	21 30 PASS	
Acenaphthene	Total	566.9	1	5	ng/L	1000	0	57 50 - 150% PASS	23 30 PASS	
Acenaphthylene	Total	577.8	1	5	ng/L	1000	0	58 50 - 150% PASS	23 30 PASS	
Anthracene	Total	741.5	1	5	ng/L	1000	0	74 50 - 150% PASS	26 30 PASS	
Benz[a]anthracene	Total	986.4	1	5	ng/L	1000	0	99 50 - 150% PASS	26 30 PASS	
Benzo[a]pyrene	Total	804.7	1	5	ng/L	1000	0	80 50 - 150% PASS	28 30 PASS	
Benzo[b]fluoranthene	Total	839.6	1	5	ng/L	1000	0	84 50 - 150% PASS	22 30 PASS	
Benzo[e]pyrene	Total	731.3	1	5	ng/L	1000	0	73 50 - 150% PASS	25 30 PASS	
Benzo[g,h,i]perylene	Total	808	1	5	ng/L	1000	0	81 50 - 150% PASS	24 30 PASS	
Benzo[k]fluoranthene	Total	815.4	1	5	ng/L	1000	0	82 50 - 150% PASS	23 30 PASS	
Biphenyl	Total	546.1	1	5	ng/L	1000	0	55 50 - 150% PASS	21 30 PASS	
Chrysene	Total	831.2	1	5	ng/L	1000	0	83 50 - 150% PASS	26 30 PASS	
Dibenz[a,h]anthracene	Total	977	1	5	ng/L	1000	0	98 50 - 150% PASS	26 30 PASS	
Dibenzothiophene	Total	691.7	1	5	ng/L	1000	0	69 50 - 150% PASS	25 30 PASS	
Fluoranthene	Total	843.5	1	5	ng/L	1000	0	84 50 - 150% PASS	28 30 PASS	
Fluorene	Total	644.7	1	5	ng/L	1000	0	64 50 - 150% PASS	25 30 PASS	
Indeno[1,2,3-c,d]pyrene	Total	869.8	1	5	ng/L	1000	0	87 50 - 150% PASS	28 30 PASS	
Naphthalene	Total	435.6	1	5	ng/L	1000	0	44 25 - 125% PASS	24 30 PASS	
Perylene	Total	982.6	1	5	ng/L	1000	0	98 50 - 150% PASS	23 30 PASS	
Phenanthrene	Total	700.1	1	5	ng/L	1000	0	70 50 - 150% PASS	25 30 PASS	
Pyrene	Total	858.8	1	5	ng/L	1000	0	86 50 - 150% PASS	27 30 PASS	

PHYSIS Project ID: 1307002-013

Client: AMEC

Project: RHMP Bight '13

SUBCONTRACT

REPORT

TERRA CONSULTING, INC. AURORA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS

CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8058	8/30/13	0650	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8058			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8058			DOC	Grab	40 mL VOA	None	2
B13-8058			MTBE	Grab	40 mL VOA	HCl	2
B13-8058			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8058			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8058			PAHs	Grab	1 L Glass	None	2
B13-8058			TOC	Grab	40 mL VOA	H2SO4	2
B13-8058			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TL+

Relinquished By: L. J. Burns

Date/Time: 8/30/13 1400

Received By: Nigel Benton

Date/Time: 8/30/13 1400

Relinquished By: _____

Date/Time: _____

Received By: Richard Harker

Date/Time: 8/30/13 17:15

Analysis Request and Chain of Custody

RHMP

Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8068	8/30/13	0755	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8068			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8068			DOC	Grab	40 mL VOA	None	2
B13-8068			MTBE	Grab	40 mL VOA	HCl	3
B13-8068			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8068			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8068			PAHs	Grab	1 L Glass	None	2
B13-8068			TOC	Grab	40 mL VOA	H2SO4	2
B13-8068			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TH

Relinquished By: L (J. Burns)

Date/Time: 8/30/13 1400

Received By: Nigel Barton

Date/Time: 8/30/13 1400

Relinquished By:

Date/Time:

Received By: Richard Hansen

Date/Time: 8/30/13 17:15

Analysis Request and Chain of Custody

RHMP

Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8045	8/30/13	1045	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8045			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8045			DOC	Grab	40 mL VOA	None	2
B13-8045			MTBE	Grab	40 mL VOA	HCl	3
B13-8045			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8045			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8045			PAHs	Grab	1 L Glass	None	2
B13-8045			TDS	Grab	1 L HDPE	None	
B13-8045			TOC	Grab	40 mL VOA	H2SO4	2
B13-8045			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TH

Relinquished By: J. Burns Date/Time: 8/30/13 1400

Received By: (Nigd/tonen) Date/Time: 8/30/13 1400

Relinquished By: Date/Time:

Received By: Richard Hanken Date/Time: 8/30/13 17:15

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8090	8/30/13	0905	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8090			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8090			DOC	Grab	40 mL VOA	None	2
B13-8090			MTBE	Grab	40 mL VOA	HCl	3
B13-8090			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8090			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8090			PAHs	Grab	1 L Glass	None	2
B13-8090			TOC	Grab	40 mL VOA	H2SO4	2
B13-8090			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TH

Relinquished By: J. Stransky Date/Time: 8/30/13 1400

Relinquished By: Date/Time:

Received By: (Nigel Denton)

Received By: Richard Hanken Date/Time: 8/30/13 1400

Received By: Date/Time: 8/30/13 1715

Analysis Request and Chain of Custody

RHMP

Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8031	8/30/13	1200	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8031			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8031			DOC	Grab	40 mL VOA	None	2
B13-8031			MTBE	Grab	40 mL VOA	HCl	3
B13-8031			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8031			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8031			PAHs	Grab	1 L Glass	None	2
B13-8031			TDS	Grab	1 L HDPE	None	
B13-8031			TOC	Grab	40 mL VOA	H2SO4	2
B13-8031			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TH

Relinquished By: L (J. Burns) Date/Time: 8/30/13 1400 Received By: [Signature] (Angel Porten) Date/Time: 8/30/13 1400
Relinquished By: Date/Time: Received By: Richard Hanken Date/Time: 8/30/13 1715

Table 4-1.
Chemical Analyses of Water Samples

Analyte	Analysis Method	Water Target Reporting Limits ^a	Units
pH	Field Measures	--	--
Specific Conductance	Field Measures	--	µS/cm
Dissolved Oxygen	Field Measures	--	mg/L
Temperature	Field Measures	--	°C
Salinity	Field Measures	--	ppt
Transmissivity	Field Measures	--	%
Ammonia-N	SM 4500-NH3 D	0.05	mg/L
Methylene Blue-Activated Substances (MBAS)	SM 5540 C	0.025	mg/L
Nitrate-N	EPA 300.0/SM 4500-NO3 E	0.05	mg/L
Oil & Grease	EPA 1664A	1.0	mg/L
Dissolved Organic Carbon (DOC)	EPA 415.3	0.5	mg/L
Total Organic Carbon (TOC)	EPA 415.3	0.5	mg/L
Total Orthophosphate as P	SM 4500 P E	0.05	mg/L
Aluminum (Al)	EPA 1640	1.0	µg/L
Antimony (Sb)	EPA 1640	0.015	µg/L
Arsenic (As)	EPA 1640	0.015	µg/L
Barium (Ba)	EPA 200.8	0.5	µg/L
Beryllium (Be)	EPA 1640	0.01	µg/L
Cadmium (Cd)	EPA 1640	0.005	µg/L
Chromium (Cr)	EPA 1640	0.025	µg/L
Cobalt (Co)	EPA 1640	0.01	µg/L
Copper (Cu)	EPA 1640	0.01	µg/L
Iron (Fe)	EPA 1640	1.0	µg/L
Lead (Pb)	EPA 1640	0.005	µg/L
Manganese (Mn)	EPA 1640	0.02	µg/L
Mercury (Hg)	EPA 245.7	0.02	µg/L
Molybdenum (Mo)	EPA 1640	0.01	µg/L
Nickel (Ni)	EPA 1640	0.005	µg/L
Selenium (Se)	EPA 1640	0.015	µg/L
Silver (Ag)	EPA 1640	0.02	µg/L
Thallium (Tl)	EPA 1640	0.01	µg/L
Tin (Sn)	EPA 1640	0.01	µg/L
Titanium (Ti)	EPA 1640	0.07	µg/L
Vanadium (V)	EPA 1640	0.04	µg/L
Zinc (Zn)	EPA 1640	0.005	µg/L
Polycyclic Aromatic Hydrocarbons (PAHs) ^b	EPA 625	5.0	ng/L
Methyl-t-butyl Ether (MTBE)	EPA 8260B	1.0	µg/L

Notes: Metals analysis will consist of both total and dissolved fractions. Filtering for the dissolved fraction will occur in the field immediately after collection.

^a Reporting limits provided by Pysis Environmental Laboratories.

^b Includes acenaphthene, acenaphthylene, anthracene, benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[e]pyrene, benzo[g,h,i]perylene, benzo[k]fluoranthene, biphenyl, chrysene, dibenz[a,h]anthracene, di benzo[thiophene, fluoranthene, fluorene, indeno(1,2,3-c,d)pyrene, naphthalene, perylene, phenanthrene, pyrene, 2,6-dimethylnaphthalene, 1-methylnaphthalene, 2-methylnaphthalene, 1-methylphenanthrene, 2,3,5-trimethylnaphthalene, and 1,6,7-trimethylnaphthalene.

µg/L - micrograms per liter (parts per billion) mg/L - milligrams per liter

µS/cm - microSiemens per centimeter ppt - parts per thousand °C degrees Celsius

SAMPLE RECEIPT SUMMARY

CLIENT: AMEC Date Received: 8/30/13 Received By: NB Inspected By: RGH

COURIER

☒ PHYSIS ☐ CLIENT ☐ FEDEX ☐ UPS
start 12:15 end 17:15 ☐ OTHER: _____

COOLER

☒ COOLER ☐ BOX total #
☐ OTHER: _____ 3

TEMPERATURE

6 °C ☒ WET ICE ☐ BLUE ICE
☐ DRY ICE ☐ NONE

SAMPLE INTEGRITY UPON RECEIPT

1. COC(s) included and completely filled out..... YES
2. All sample containers arrived intact..... YES
3. All samples listed on COC(s) are present..... YES
4. Information on containers consistent with information on COC(s)..... YES
5. Correct containers and volume for all analyses indicated..... YES
6. All samples received within method holding time..... YES
7. Correct preservation used for all analyses indicated..... YES

NOTES



January 10, 2014

Chris Stransky
AMEC
9210 Sky Park Court
Suite 200
San Diego, CA 92123-

Project Name: RHMP Bight '13
Physis Project ID: 1307002-015

Dear Chris,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 9/6/2013. A total of 2 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventionals
Total Orthophosphate as P by SM 4500-P E
Oil & Grease by EPA 1664A
Nitrate as N by SM 4500-NO ₃ E
MBAS by SM 5540-C
Ammonia as N by SM 4500-NH ₃ D
Elements
Total and Dissolved Barium by EPA 200.8
Total & Dissolved Trace Metals by EPA 1640
Total & Dissolved Mercury by EPA 245.7
Organics
Polynuclear Aromatic Hydrocarbons by EPA 625
Subcontract
Total Organic Carbon by SM 5310 B
Methyl Tertiary Butyl Ether (MTBE) by EPA 624
Dissolved Organic Carbon by SM 5310 B

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,



Misty Mercier
Extension 202
714-335-5918 cell
mistymercier@physislabs.com

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and are used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use was assessed through the analysis of procedural blanks at a minimum frequency of one per batch. Physis' QM requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the procedural blanks be flagged in the project sample results with a B qualifier.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS1/MS2, BS1/BS2, LCS1/LCS2, LCM1/LCM2, CRM1/CRM2, surrogate spikes and/or replicate project sample analysis (R1/R2) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

MATRIX SPIKES: MS samples were employed to assess the effect a particular project sample matrix has on the accuracy of a measurement. It is prepared by adding a known amount of the target analyte(s) to an aliquot of the project sample. Matrix spikes indicate the bias of analytical measurements due to chemical interferences inherent in the sample matrix. If the matrix spike recovery does not fall within the specified acceptance limits, it may be an indication of sample matrix interference in the specific project sample used for the MS. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

BLANK SPIKES: BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

CERTIFIED REFERENCE MATERIALS: CRMs are pre-homogenized materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of a preparation and analytical method. CRMs are analyzed to provide evidence that the laboratory method produces results that are comparable to those obtained by an independent organization.

SURROGATES: Where CRMs are unavailable, target analyte recovery can be assessed by monitoring added surrogate compounds/elements. A surrogate is a pure analyte unlikely to be found in any project sample and most often used with organic analytical procedures. Percent recovery is calculated for each surrogate and is used to monitor method performance within each discrete sample and is indicative of the procedure's ability to recover the actual analytes of interest.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's

concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes. Physis' QM requires that all samples analyzed beyond the method recommended holding time be flagged in the sample results with an H qualifier.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
*	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified recovery and/or RPD acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore MS recovery and/or RPD acceptance limits do not apply
SL	analyte results for R1 and/or R2 were lower than 10 times the MDL, therefore RPD acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore MS recovery and/or RPD were outside the specified acceptance limits
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

ANALYTICAL REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature



1904 E. Wright Circle, Anaheim CA 92806

main: (714) 602-5320

fax: (714) 602-5321

www.physislabs.com

info@physislabs.com

CA ELAP #2769

Conventionals

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22595-R1		B13-8018 Grab		Matrix: Seawater		Sampled: 06-Sep-13 9:30
	Method: SM 5540-C					Received: 06-Sep-13
MBAS	NA	0.051	0.005	0.025	mg/L	Analyzed: 07-Sep-13
	Method: SM 4500-P E					Analyzed: 08-Sep-13
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
	Method: SM 4500-NH ₃ D					Analyzed: 20-Sep-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E					Analyzed: 25-Sep-13
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A					Analyzed: 26-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22596-R1		B13-8053 Grab		Matrix: Seawater		Sampled: 06-Sep-13 12:30
	Method: SM 5540-C					Received: 06-Sep-13
MBAS	NA	0.047	0.005	0.025	mg/L	Analyzed: 07-Sep-13
	Method: SM 4500-P E					Analyzed: 08-Sep-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: SM 4500-NH ₃ D					Analyzed: 20-Sep-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E					Analyzed: 25-Sep-13
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A					Analyzed: 26-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	



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CA ELAP #2769

Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22595-R1		B13-8018 Grab	Matrix: Seawater	Sampled: 06-Sep-13 9:30	Received: 06-Sep-13	
	Method: EPA 245.7	Batch ID: E-6043		Prepared: 13-Nov-13		Analyzed: 13-Nov-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
	Method: EPA 1640	Batch ID: E-7019		Prepared: 01-Nov-13		Analyzed: 04-Dec-13
Aluminum (Al)	Total	119.8	3	6	µg/L	
Aluminum (Al)	Dissolved	3.2	3	6	µg/L	J
Antimony (Sb)	Total	0.19	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.19	0.01	0.015	µg/L	
Arsenic (As)	Total	1.268	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.146	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0875	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0782	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2885	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.0773	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.133	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.087	0.005	0.01	µg/L	
Copper (Cu)	Total	2.809	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.26	0.005	0.01	µg/L	
Iron (Fe)	Total	80.3	0.5	1	µg/L	
Iron (Fe)	Dissolved	1.1	0.5	1	µg/L	
Lead (Pb)	Total	0.1189	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0167	0.0025	0.005	µg/L	
Manganese (Mn)	Total	18.69	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	17.13	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	10.101	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.73	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.6885	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.5694	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.032	0.005	0.015	µg/L	

PHYSIS Project ID: 1307002-015

Client: AMEC

Project: RHMP Bight '13



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	Dissolved	0.02	0.005	0.015	µg/L	
Silver (Ag)	Total	0.01	0.01	0.02	µg/L	J
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.012	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	13.711	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	12.259	0.035	0.07	µg/L	
Vanadium (V)	Total	3.27	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	3.04	0.02	0.04	µg/L	
Zinc (Zn)	Total	4.921	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	3.8773	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7019

Prepared: 01-Nov-13

Analyzed: 03-Dec-13

Barium (Ba)	Total	12.09	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	11.85	0.25	0.5	µg/L	

Sample ID: 22596-R1

B13-8053 Grab

Matrix: Seawater

Sampled: 06-Sep-13 12:30

Received: 06-Sep-13

Method: EPA 245.7

Batch ID: E-6043

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Method: EPA 1640

Batch ID: E-7019

Prepared: 01-Nov-13

Analyzed: 04-Dec-13

Aluminum (Al)	Total	112.3	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.17	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.16	0.01	0.015	µg/L	
Arsenic (As)	Total	1.189	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.173	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0752	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0632	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.3665	0.0125	0.025	µg/L	

PHYSIS Project ID: 1307002-015

Client: AMEC

Project: RHMP Bight '13



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	Dissolved	0.0987	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.095	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.068	0.005	0.01	µg/L	
Copper (Cu)	Total	3.173	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.568	0.005	0.01	µg/L	
Iron (Fe)	Total	54.9	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1038	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0176	0.0025	0.005	µg/L	
Manganese (Mn)	Total	10.04	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	7.41	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.504	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.909	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.6827	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.5761	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.025	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.017	0.005	0.015	µg/L	
Silver (Ag)	Total	ND	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.011	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	11.682	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	9.659	0.035	0.07	µg/L	
Vanadium (V)	Total	2.89	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.69	0.02	0.04	µg/L	
Zinc (Zn)	Total	5.5275	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	4.3333	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7019

Prepared: 01-Nov-13

Analyzed: 03-Dec-13

Barium (Ba)	Total	9.92	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	8.67	0.25	0.5	µg/L	



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22595-R1</div> <div>B13-8018 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: O-5004</div> </div> <div> <div>Sampled: 06-Sep-13 9:30</div> <div>Prepared: 13-Sep-13</div> </div> <div> <div>Received: 06-Sep-13</div> <div>Analyzed: 21-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	77			% Recovery	
(d10-Phenanthrene)	Total	95			% Recovery	
(d12-Chrysene)	Total	108			% Recovery	
(d8-Naphthalene)	Total	65			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	1.3	1	5	ng/L	J
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	1.7	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.8	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.4	1	5	ng/L	J
Pyrene	Total	ND	1	5	ng/L	



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22596-R1</div> <div>B13-8053 Grab</div> <div>Method: EPA 625</div> <div>Matrix: Seawater</div> <div>Batch ID: O-5004</div> <div>Sampled: 06-Sep-13 12:30</div> <div>Prepared: 13-Sep-13</div> <div>Received: 06-Sep-13</div> <div>Analyzed: 21-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	88			% Recovery	
(d10-Phenanthrene)	Total	107			% Recovery	
(d12-Chrysene)	Total	123			% Recovery	
(d8-Naphthalene)	Total	72			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	1.1	1	5	ng/L	J
Acenaphthene	Total	5.3	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	1.7	1	5	ng/L	J
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	1.4	1	5	ng/L	J
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	6.6	1	5	ng/L	
Fluorene	Total	2.6	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.4	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	5.6	1	5	ng/L	
Pyrene	Total	2.4	1	5	ng/L	J

QUALITY CONTROL REPORT

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CA ELAP #2769

Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
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Ammonia as N			Method: SM 4500-NH3 D			Fraction: NA			Prepared: 20-Sep-13			Analyzed: 20-Sep-13			
22594-B1	QAQC Procedural Blank	C-14024	ND	0.02	0.05	mg/L									
22594-BS1	QAQC Procedural Blank	C-14024	0.3	0.02	0.05	mg/L	0.25	0	120	70 - 130%	PASS				
22594-BS2	QAQC Procedural Blank	C-14024	0.2	0.02	0.05	mg/L	0.25	0	80	70 - 130%	PASS	40	30	FAIL	R
22595-R2	B13-8018	C-14024	ND	0.02	0.05	mg/L						0	30	PASS	

MBAS			Method: SM 5540-C			Fraction: NA			Prepared: 07-Sep-13			Analyzed: 07-Sep-13		
22594-B1	QAQC Procedural Blank	C-13139	ND	0.005	0.025	mg/L								
22594-BS1	QAQC Procedural Blank	C-13139	0.125	0.005	0.025	mg/L	0.1	0	125	70 - 130%	PASS			
22594-BS2	QAQC Procedural Blank	C-13139	0.123	0.005	0.025	mg/L	0.1	0	123	70 - 130%	PASS	2	30	PASS
22595-MS1	B13-8018	C-13139	0.122	0.005	0.025	mg/L	0.1	0.052	70	70 - 130%	PASS			
22595-MS2	B13-8018	C-13139	0.121	0.005	0.025	mg/L	0.1	0.052	69	70 - 130%	FAIL	1	30	PASS
22595-R2	B13-8018	C-13139	0.052	0.005	0.025	mg/L						2	30	PASS
														R

Nitrate as N			Method: SM 4500-NO3 E			Fraction: NA			Prepared: 08-Sep-13			Analyzed: 25-Sep-13		
22594-B1	QAQC Procedural Blank	C-14049	ND	0.01	0.05	mg/L								
22594-BS1	QAQC Procedural Blank	C-14049	0.12	0.01	0.05	mg/L	0.11	0	109	70 - 130% PASS				
22594-BS2	QAQC Procedural Blank	C-14049	0.12	0.01	0.05	mg/L	0.11	0	109	70 - 130% PASS	0	30	PASS	
22595-MS1	B13-8018	C-14049	0.12	0.01	0.05	mg/L	0.11	0	109	70 - 130% PASS				
22595-MS2	B13-8018	C-14049	0.12	0.01	0.05	mg/L	0.11	0	109	70 - 130% PASS	0	30	PASS	
22595-R2	B13-8018	C-14049	ND	0.01	0.05	mg/L					0	30	PASS	

Oil & Grease			Method: EPA 1664A			Fraction: NA			Prepared: 26-Sep-13			Analyzed: 26-Sep-13		
22594-B1	QAQC Procedural Blank	C-14070	ND	1	1	mg/L								
22594-BS1	QAQC Procedural Blank	C-14070	31	1	1	mg/L	40.1	0	77	70 - 130%	PASS			
22594-BS2	QAQC Procedural Blank	C-14070	29.2	1	1	mg/L	40.1	0	73	70 - 130%	PASS	5	30	PASS

Total Orthophosphate as P			Method: SM 4500-P E			Fraction: NA			Prepared: 08-Sep-13			Analyzed: 08-Sep-13			
22594-B1	QAQC Procedural Blank	C-14001	ND	0.01	0.02	mg/L									
22594-BS1	QAQC Procedural Blank	C-14001	0.18	0.01	0.02	mg/L	0.2	0	90	70 - 130% PASS					
22594-BS2	QAQC Procedural Blank	C-14001	0.18	0.01	0.02	mg/L	0.2	0	90	70 - 130% PASS			0	30	PASS
22595-MS1	B13-8018	C-14001	0.21	0.01	0.02	mg/L	0.2	0.02	95	70 - 130% PASS					



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Conventional

QUALITY CONTROL REPORT

SAMPLE ID		BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS			PRECISION % LIMITS			QA CODE
22595-MS2	B13-8018	C-14001	0.21	0.01	0.02	mg/L	0.2	0.02	95	70 - 130%	PASS	0	30	PASS	
22595-R2	B13-8018	C-14001	0.02	0.01	0.02	mg/L						0	30	PASS	



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22594-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6043

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L					
Mercury (Hg)	Total	ND	0.01	0.02	µg/L					
Method: EPA 1640										
						Batch ID: E-7019		Prepared: 01-Nov-13		Analyzed: 04-Dec-13
Aluminum (Al)	Dissolved	ND	3	6	µg/L					
Aluminum (Al)	Total	ND	3	6	µg/L					
Antimony (Sb)	Dissolved	ND	0.01	0.015	µg/L					
Antimony (Sb)	Total	ND	0.01	0.015	µg/L					
Arsenic (As)	Dissolved	ND	0.005	0.015	µg/L					
Arsenic (As)	Total	ND	0.005	0.015	µg/L					
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L					
Beryllium (Be)	Total	ND	0.005	0.01	µg/L					
Cadmium (Cd)	Dissolved	ND	0.0025	0.005	µg/L					
Cadmium (Cd)	Total	ND	0.0025	0.005	µg/L					
Chromium (Cr)	Dissolved	ND	0.0125	0.025	µg/L					
Chromium (Cr)	Total	ND	0.0125	0.025	µg/L					
Cobalt (Co)	Dissolved	ND	0.005	0.01	µg/L					
Cobalt (Co)	Total	ND	0.005	0.01	µg/L					
Copper (Cu)	Dissolved	ND	0.005	0.01	µg/L					
Copper (Cu)	Total	ND	0.005	0.01	µg/L					
Iron (Fe)	Dissolved	ND	0.5	1	µg/L					
Iron (Fe)	Total	ND	0.5	1	µg/L					
Lead (Pb)	Dissolved	ND	0.0025	0.005	µg/L					
Lead (Pb)	Total	ND	0.0025	0.005	µg/L					
Manganese (Mn)	Dissolved	ND	0.01	0.02	µg/L					
Manganese (Mn)	Total	ND	0.01	0.02	µg/L					
Molybdenum (Mo)	Dissolved	ND	0.005	0.01	µg/L					
Molybdenum (Mo)	Total	ND	0.005	0.01	µg/L					
Nickel (Ni)	Dissolved	ND	0.0025	0.005	µg/L					
Nickel (Ni)	Total	ND	0.0025	0.005	µg/L					

PHYSIS Project ID: 1307002-015

Client: AMEC

Project: RHMP Bight '13



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Selenium (Se)	Dissolved	ND	0.005	0.015	µg/L					
Selenium (Se)	Total	ND	0.005	0.015	µg/L					
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L					
Silver (Ag)	Total	ND	0.01	0.02	µg/L					
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L					
Thallium (Tl)	Total	ND	0.005	0.01	µg/L					
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L					
Tin (Sn)	Total	ND	0.005	0.01	µg/L					
Titanium (Ti)	Dissolved	ND	0.035	0.07	µg/L					
Titanium (Ti)	Total	ND	0.035	0.07	µg/L					
Vanadium (V)	Dissolved	ND	0.02	0.04	µg/L					
Vanadium (V)	Total	ND	0.02	0.04	µg/L					
Zinc (Zn)	Dissolved	ND	0.0025	0.005	µg/L					
Zinc (Zn)	Total	ND	0.0025	0.005	µg/L					

Method: EPA 200.8

Batch ID: E-7019

Prepared: 01-Nov-13

Analyzed: 03-Dec-13

Barium (Ba)	Dissolved	ND	0.25	0.5	µg/L					
Barium (Ba)	Total	ND	0.25	0.5	µg/L					

Sample ID: 22594-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6043

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Dissolved	0.1	0.01	0.02	µg/L	0.1	0	100	80 - 120%	PASS
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Method: EPA 200.8

Batch ID: E-7019

Prepared: 01-Nov-13

Analyzed: 03-Dec-13

Barium (Ba)	Dissolved	1030.17	0.25	0.5	µg/L	1000	0	103	75 - 125%	PASS
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Sample ID: 22594-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6043

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Dissolved	0.1	0.01	0.02	µg/L	0.1	0	100	80 - 120%	PASS
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Method: EPA 200.8

Batch ID: E-7019

Prepared: 01-Nov-13

Analyzed: 03-Dec-13

Barium (Ba)	Dissolved	1016.67	0.25	0.5	µg/L	1000	0	102	75 - 125%	PASS
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Sample ID: 22595-MS1

B13-8018 Grab

Matrix: Seawater

Sampled: 06-Sep-13 9:30

Received: 06-Sep-13

Method: EPA 245.7

Batch ID: E-6043

Prepared: 13-Nov-13

Analyzed: 13-Nov-13



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Mercury (Hg)	Total	0.12	0.01	0.02	µg/L	0.1	0	120 80 - 120% PASS		
	Method: EPA 200.8					Batch ID: E-7019		Prepared: 01-Nov-13		Analyzed: 03-Dec-13
Barium (Ba)	Dissolved	1061.08	0.25	0.5	µg/L	1000	12.34	105 75 - 125% PASS		
Sample ID: 22595-MS2		B13-8018 Grab		Matrix: Seawater		Sampled: 06-Sep-13 9:30		Received: 06-Sep-13		
	Method: EPA 245.7					Batch ID: E-6043		Prepared: 13-Nov-13		Analyzed: 13-Nov-13
Mercury (Hg)	Total	0.12	0.01	0.02	µg/L	0.1	0	120 80 - 120% PASS	0 30 PASS	
	Method: EPA 200.8					Batch ID: E-7019		Prepared: 01-Nov-13		Analyzed: 03-Dec-13
Barium (Ba)	Dissolved	1072.84	0.25	0.5	µg/L	1000	12.34	106 75 - 125% PASS	1 30 PASS	
Sample ID: 22595-R2		B13-8018 Grab		Matrix: Seawater		Sampled: 06-Sep-13 9:30		Received: 06-Sep-13		
	Method: EPA 245.7					Batch ID: E-6043		Prepared: 13-Nov-13		Analyzed: 13-Nov-13
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L				0 30 PASS	
Mercury (Hg)	Total	ND	0.01	0.02	µg/L				0 30 PASS	
	Method: EPA 1640					Batch ID: E-7019		Prepared: 01-Nov-13		Analyzed: 04-Dec-13
Aluminum (Al)	Dissolved	ND	3	6	µg/L				6 30 PASS	
Aluminum (Al)	Total	113	3	6	µg/L				6 30 PASS	
Antimony (Sb)	Dissolved	0.19	0.01	0.015	µg/L				0 30 PASS	
Antimony (Sb)	Total	0.18	0.01	0.015	µg/L				5 30 PASS	
Arsenic (As)	Dissolved	1.271	0.005	0.015	µg/L				10 30 PASS	
Arsenic (As)	Total	1.288	0.005	0.015	µg/L				2 30 PASS	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L				0 30 PASS	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L				0 30 PASS	
Cadmium (Cd)	Dissolved	0.0749	0.0025	0.005	µg/L				4 30 PASS	
Cadmium (Cd)	Total	0.0849	0.0025	0.005	µg/L				3 30 PASS	
Chromium (Cr)	Dissolved	0.1155	0.0125	0.025	µg/L				40 30 FAIL	SL
Chromium (Cr)	Total	0.2801	0.0125	0.025	µg/L				3 30 PASS	
Cobalt (Co)	Dissolved	0.094	0.005	0.01	µg/L				8 30 PASS	
Cobalt (Co)	Total	0.134	0.005	0.01	µg/L				1 30 PASS	
Copper (Cu)	Dissolved	2.238	0.005	0.01	µg/L				1 30 PASS	
Copper (Cu)	Total	2.95	0.005	0.01	µg/L				5 30 PASS	
Iron (Fe)	Dissolved	1.1	0.5	1	µg/L				0 30 PASS	



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Iron (Fe)	Total	80.8	0.5	1	µg/L				1 30	PASS
Lead (Pb)	Dissolved	0.0199	0.0025	0.005	µg/L				17 30	PASS
Lead (Pb)	Total	0.0988	0.0025	0.005	µg/L				18 30	PASS
Manganese (Mn)	Dissolved	16.9	0.01	0.02	µg/L				1 30	PASS
Manganese (Mn)	Total	19.43	0.01	0.02	µg/L				4 30	PASS
Molybdenum (Mo)	Dissolved	9.999	0.005	0.01	µg/L				3 30	PASS
Molybdenum (Mo)	Total	10.417	0.005	0.01	µg/L				3 30	PASS
Nickel (Ni)	Dissolved	0.5873	0.0025	0.005	µg/L				3 30	PASS
Nickel (Ni)	Total	0.756	0.0025	0.005	µg/L				9 30	PASS
Selenium (Se)	Dissolved	0.04	0.005	0.015	µg/L				67 30	FAIL SL
Selenium (Se)	Total	0.024	0.005	0.015	µg/L				29 30	PASS
Silver (Ag)	Dissolved	0.01	0.01	0.02	µg/L				0 30	PASS J
Silver (Ag)	Total	0.02	0.01	0.02	µg/L				67 30	FAIL SL
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L				0 30	PASS
Thallium (Tl)	Total	ND	0.005	0.01	µg/L				0 30	PASS
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L				0 30	PASS
Tin (Sn)	Total	0.01	0.005	0.01	µg/L				18 30	PASS
Titanium (Ti)	Dissolved	10.799	0.035	0.07	µg/L				13 30	PASS
Titanium (Ti)	Total	12.904	0.035	0.07	µg/L				6 30	PASS
Vanadium (V)	Dissolved	3.08	0.02	0.04	µg/L				1 30	PASS
Vanadium (V)	Total	3.36	0.02	0.04	µg/L				3 30	PASS
Zinc (Zn)	Dissolved	3.7042	0.0025	0.005	µg/L				5 30	PASS
Zinc (Zn)	Total	4.774	0.0025	0.005	µg/L				3 30	PASS

Method: EPA 200.8

Batch ID: E-7019

Prepared: 01-Nov-13

Analyzed: 03-Dec-13

Barium (Ba)	Dissolved	12.83	0.25	0.5	µg/L				8 30	PASS
Barium (Ba)	Total	12.93	0.25	0.5	µg/L				7 30	PASS

Sample ID: 22597-LCM1

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-7019

Prepared: 01-Nov-13

Analyzed: 04-Dec-13

Aluminum (Al)	Total	ND	3	6	µg/L					
Antimony (Sb)	Total	0.08	0.01	0.015	µg/L					
Arsenic (As)	Total	1.777	0.005	0.015	µg/L					

PHYSIS Project ID: 1307002-015

Client: AMEC

Project: RHMP Bight '13



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Beryllium (Be)	Total	0.009	0.005	0.01	µg/L					
Cadmium (Cd)	Total	0.0906	0.0025	0.005	µg/L					
Chromium (Cr)	Total	0.2392	0.0125	0.025	µg/L					
Cobalt (Co)	Total	ND	0.005	0.01	µg/L					
Copper (Cu)	Total	0.107	0.005	0.01	µg/L					
Iron (Fe)	Total	3.2	0.5	1	µg/L					
Lead (Pb)	Total	ND	0.0025	0.005	µg/L					
Manganese (Mn)	Total	0.19	0.01	0.02	µg/L					
Molybdenum (Mo)	Total	8.457	0.005	0.01	µg/L					
Nickel (Ni)	Total	0.3888	0.0025	0.005	µg/L					
Selenium (Se)	Total	0.029	0.005	0.015	µg/L					
Silver (Ag)	Total	ND	0.01	0.02	µg/L					
Thallium (Tl)	Total	0.006	0.005	0.01	µg/L					
Tin (Sn)	Total	ND	0.005	0.01	µg/L					
Titanium (Ti)	Total	15.009	0.035	0.07	µg/L					
Vanadium (V)	Total	2.07	0.02	0.04	µg/L					
Zinc (Zn)	Total	0.5895	0.0025	0.005	µg/L					

Sample ID: 22597-LCS1

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-7019

Prepared: 01-Nov-13

Analyzed: 04-Dec-13

Aluminum (Al)	Total	22.5	3	6	µg/L	20	0	112	0 - 191%	PASS
Antimony (Sb)	Total	2.99	0.01	0.015	µg/L	20	0.08	15	10 - 110%	PASS
Arsenic (As)	Total	21.973	0.005	0.015	µg/L	20	1.777	101	74 - 128%	PASS
Beryllium (Be)	Total	15.941	0.005	0.01	µg/L	20	0.009	80	60 - 118%	PASS
Cadmium (Cd)	Total	19.2418	0.0025	0.005	µg/L	20	0.0906	96	68 - 131%	PASS
Chromium (Cr)	Total	21.4036	0.0125	0.025	µg/L	20	0.2392	106	32 - 173%	PASS
Cobalt (Co)	Total	19.956	0.005	0.01	µg/L	20	0	100	87 - 119%	PASS
Copper (Cu)	Total	18.67	0.005	0.01	µg/L	20	0.107	93	61 - 119%	PASS
Iron (Fe)	Total	18	0.5	1	µg/L	20	3.2	74	22 - 129%	PASS
Lead (Pb)	Total	19.6273	0.0025	0.005	µg/L	20	0	98	75 - 120%	PASS
Manganese (Mn)	Total	15.96	0.01	0.02	µg/L	20	0.19	79	32 - 131%	PASS
Molybdenum (Mo)	Total	28.862	0.005	0.01	µg/L	20	8.457	102	54 - 131%	PASS

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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Nickel (Ni)	Total	18.8957	0.0025	0.005	µg/L	20	0.3888	93 60 - 113%	PASS	
Selenium (Se)	Total	12.575	0.005	0.015	µg/L	20	0.029	63 0 - 183%	PASS	
Silver (Ag)	Total	7.98	0.01	0.02	µg/L	10	0	80 64 - 133%	PASS	
Thallium (Tl)	Total	18.233	0.005	0.01	µg/L	20	0.006	91 70 - 125%	PASS	
Tin (Sn)	Total	17.46	0.005	0.01	µg/L	20	0	87 69 - 118%	PASS	
Titanium (Ti)	Total	31.132	0.035	0.07	µg/L	20	15.009	81 72 - 129%	PASS	
Vanadium (V)	Total	24.04	0.02	0.04	µg/L	20	2.07	110 72 - 137%	PASS	
Zinc (Zn)	Total	17.1686	0.0025	0.005	µg/L	20	0.5895	83 61 - 128%	PASS	

Sample ID: 22597-LCS2

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-7019

Prepared: 01-Nov-13

Analyzed: 04-Dec-13

Aluminum (Al)	Total	23.2	3	6	µg/L	20	0	116 0 - 191%	PASS	0 30 PASS	
Antimony (Sb)	Total	2.86	0.01	0.015	µg/L	20	0.08	14 10 - 110%	PASS	7 30 PASS	
Arsenic (As)	Total	21.918	0.005	0.015	µg/L	20	1.777	101 74 - 128%	PASS	0 30 PASS	
Beryllium (Be)	Total	15.456	0.005	0.01	µg/L	20	0.009	77 60 - 118%	PASS	4 30 PASS	
Cadmium (Cd)	Total	19.2411	0.0025	0.005	µg/L	20	0.0906	96 68 - 131%	PASS	0 30 PASS	
Chromium (Cr)	Total	21.3671	0.0125	0.025	µg/L	20	0.2392	106 32 - 173%	PASS	0 30 PASS	
Cobalt (Co)	Total	19.913	0.005	0.01	µg/L	20	0	100 87 - 119%	PASS	0 30 PASS	
Copper (Cu)	Total	18.444	0.005	0.01	µg/L	20	0.107	92 61 - 119%	PASS	1 30 PASS	
Iron (Fe)	Total	18.6	0.5	1	µg/L	20	3.2	77 22 - 129%	PASS	4 30 PASS	
Lead (Pb)	Total	19.6169	0.0025	0.005	µg/L	20	0	98 75 - 120%	PASS	0 30 PASS	
Manganese (Mn)	Total	14.18	0.01	0.02	µg/L	20	0.19	70 32 - 131%	PASS	12 30 PASS	
Molybdenum (Mo)	Total	29.005	0.005	0.01	µg/L	20	8.457	103 54 - 131%	PASS	1 30 PASS	
Nickel (Ni)	Total	18.6157	0.0025	0.005	µg/L	20	0.3888	91 60 - 113%	PASS	2 30 PASS	
Selenium (Se)	Total	17.743	0.005	0.015	µg/L	20	0.029	89 0 - 183%	PASS	34 30 FAIL	R
Silver (Ag)	Total	8.44	0.01	0.02	µg/L	10	0	84 64 - 133%	PASS	0 30 PASS	
Thallium (Tl)	Total	18.339	0.005	0.01	µg/L	20	0.006	92 70 - 125%	PASS	1 30 PASS	
Tin (Sn)	Total	17.79	0.005	0.01	µg/L	20	0	89 69 - 118%	PASS	0 30 PASS	
Titanium (Ti)	Total	31.34	0.035	0.07	µg/L	20	15.009	82 72 - 129%	PASS	1 30 PASS	
Vanadium (V)	Total	23.97	0.02	0.04	µg/L	20	2.07	110 72 - 137%	PASS	0 30 PASS	
Zinc (Zn)	Total	17.1361	0.0025	0.005	µg/L	20	0.5895	83 61 - 128%	PASS	0 30 PASS	



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22594-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 625

Batch ID: O-5004

Prepared: 13-Sep-13

Analyzed: 21-Oct-13

(d10-Acenaphthene)	Total	73			% Recovery	100		73	50 - 150%	PASS
(d10-Phenanthrene)	Total	88			% Recovery	100		88	50 - 150%	PASS
(d12-Chrysene)	Total	100			% Recovery	100		100	50 - 150%	PASS
(d8-Naphthalene)	Total	63			% Recovery	100		63	25 - 125%	PASS
1-Methylnaphthalene	Total	ND	1	5	ng/L					
1-Methylphenanthrene	Total	ND	1	5	ng/L					
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L					
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L					
2-Methylnaphthalene	Total	ND	1	5	ng/L					
Acenaphthene	Total	ND	1	5	ng/L					
Acenaphthylene	Total	ND	1	5	ng/L					
Anthracene	Total	ND	1	5	ng/L					
Benz[a]anthracene	Total	ND	1	5	ng/L					
Benzo[a]pyrene	Total	ND	1	5	ng/L					
Benzo[b]fluoranthene	Total	ND	1	5	ng/L					
Benzo[e]pyrene	Total	ND	1	5	ng/L					
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L					
Benzo[k]fluoranthene	Total	ND	1	5	ng/L					
Biphenyl	Total	ND	1	5	ng/L					
Chrysene	Total	ND	1	5	ng/L					
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L					
Dibenzothiophene	Total	ND	1	5	ng/L					
Fluoranthene	Total	ND	1	5	ng/L					
Fluorene	Total	ND	1	5	ng/L					
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L					
Naphthalene	Total	ND	1	5	ng/L					
Perylene	Total	ND	1	5	ng/L					
Phenanthrene	Total	ND	1	5	ng/L					
Pyrene	Total	ND	1	5	ng/L					

PHYSIS Project ID: 1307002-015

Client: AMEC

Project: RHMP Bight '13



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22594-BS1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 625			Batch ID: O-5004		Prepared: 13-Sep-13		Analyzed: 21-Oct-13	
(d10-Acenaphthene)	Total	101			% Recovery	100	0	101	50 - 150% PASS	
(d10-Phenanthrene)	Total	97			% Recovery	100	0	97	50 - 150% PASS	
(d12-Chrysene)	Total	107			% Recovery	100	0	107	50 - 150% PASS	
(d8-Naphthalene)	Total	96			% Recovery	100	0	96	25 - 125% PASS	
1-Methylnaphthalene	Total	959.2	1	5	ng/L	1000	0	96	50 - 150% PASS	
1-Methylphenanthrene	Total	966.7	1	5	ng/L	1000	0	97	50 - 150% PASS	
2,3,5-Trimethylnaphthalene	Total	1014.8	1	5	ng/L	1000	0	101	50 - 150% PASS	
2,6-Dimethylnaphthalene	Total	994.6	1	5	ng/L	1000	0	99	50 - 150% PASS	
2-Methylnaphthalene	Total	976.4	1	5	ng/L	1000	0	98	50 - 150% PASS	
Acenaphthene	Total	1000.2	1	5	ng/L	1000	0	100	50 - 150% PASS	
Acenaphthylene	Total	951.8	1	5	ng/L	1000	0	95	50 - 150% PASS	
Anthracene	Total	915.6	1	5	ng/L	1000	0	92	50 - 150% PASS	
Benz[a]anthracene	Total	1073.8	1	5	ng/L	1000	0	107	50 - 150% PASS	
Benzo[a]pyrene	Total	1014.4	1	5	ng/L	1000	0	101	50 - 150% PASS	
Benzo[b]fluoranthene	Total	1098.5	1	5	ng/L	1000	0	110	50 - 150% PASS	
Benzo[e]pyrene	Total	1039.1	1	5	ng/L	1000	0	104	50 - 150% PASS	
Benzo[g,h,i]perylene	Total	1008.9	1	5	ng/L	1000	0	101	50 - 150% PASS	
Benzo[k]fluoranthene	Total	1016.4	1	5	ng/L	1000	0	102	50 - 150% PASS	
Biphenyl	Total	990.5	1	5	ng/L	1000	0	99	50 - 150% PASS	
Chrysene	Total	1045	1	5	ng/L	1000	0	104	50 - 150% PASS	
Dibenz[a,h]anthracene	Total	1002.9	1	5	ng/L	1000	0	100	50 - 150% PASS	
Dibenzothiophene	Total	958.9	1	5	ng/L	1000	0	96	50 - 150% PASS	
Fluoranthene	Total	934	1	5	ng/L	1000	0	93	50 - 150% PASS	
Fluorene	Total	1002.1	1	5	ng/L	1000	0	100	50 - 150% PASS	
Indeno[1,2,3-c,d]pyrene	Total	1028	1	5	ng/L	1000	0	103	50 - 150% PASS	
Naphthalene	Total	947.6	1	5	ng/L	1000	0	95	25 - 125% PASS	
Perylene	Total	1018	1	5	ng/L	1000	0	102	50 - 150% PASS	
Phenanthrene	Total	966	1	5	ng/L	1000	0	97	50 - 150% PASS	
Pyrene	Total	946.4	1	5	ng/L	1000	0	95	50 - 150% PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22594-BS2		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 625			Batch ID: O-5004		Prepared: 13-Sep-13		Analyzed: 21-Oct-13	
(d10-Acenaphthene)	Total	86			% Recovery	100	0	86 50 - 150% PASS	16 30 PASS	
(d10-Phenanthrene)	Total	96			% Recovery	100	0	96 50 - 150% PASS	1 30 PASS	
(d12-Chrysene)	Total	103			% Recovery	100	0	103 50 - 150% PASS	4 30 PASS	
(d8-Naphthalene)	Total	81			% Recovery	100	0	81 25 - 125% PASS	17 30 PASS	
1-Methylnaphthalene	Total	822	1	5	ng/L	1000	0	82 50 - 150% PASS	16 30 PASS	
1-Methylphenanthrene	Total	995.9	1	5	ng/L	1000	0	100 50 - 150% PASS	3 30 PASS	
2,3,5-Trimethylnaphthalene	Total	883.6	1	5	ng/L	1000	0	88 50 - 150% PASS	14 30 PASS	
2,6-Dimethylnaphthalene	Total	862.6	1	5	ng/L	1000	0	86 50 - 150% PASS	14 30 PASS	
2-Methylnaphthalene	Total	844.1	1	5	ng/L	1000	0	84 50 - 150% PASS	15 30 PASS	
Acenaphthene	Total	856.4	1	5	ng/L	1000	0	86 50 - 150% PASS	15 30 PASS	
Acenaphthylene	Total	831.6	1	5	ng/L	1000	0	83 50 - 150% PASS	13 30 PASS	
Anthracene	Total	943.2	1	5	ng/L	1000	0	94 50 - 150% PASS	2 30 PASS	
Benz[a]anthracene	Total	1058.8	1	5	ng/L	1000	0	106 50 - 150% PASS	1 30 PASS	
Benzo[a]pyrene	Total	975.7	1	5	ng/L	1000	0	98 50 - 150% PASS	3 30 PASS	
Benzo[b]fluoranthene	Total	1085.3	1	5	ng/L	1000	0	109 50 - 150% PASS	1 30 PASS	
Benzo[e]pyrene	Total	1016.5	1	5	ng/L	1000	0	102 50 - 150% PASS	2 30 PASS	
Benzo[g,h,i]perylene	Total	1012.5	1	5	ng/L	1000	0	101 50 - 150% PASS	0 30 PASS	
Benzo[k]fluoranthene	Total	968	1	5	ng/L	1000	0	97 50 - 150% PASS	5 30 PASS	
Biphenyl	Total	857.1	1	5	ng/L	1000	0	86 50 - 150% PASS	14 30 PASS	
Chrysene	Total	1015	1	5	ng/L	1000	0	101 50 - 150% PASS	2 30 PASS	
Dibenz[a,h]anthracene	Total	1031.8	1	5	ng/L	1000	0	103 50 - 150% PASS	3 30 PASS	
Dibenzothiophene	Total	942	1	5	ng/L	1000	0	94 50 - 150% PASS	2 30 PASS	
Fluoranthene	Total	1014.9	1	5	ng/L	1000	0	101 50 - 150% PASS	8 30 PASS	
Fluorene	Total	909.4	1	5	ng/L	1000	0	91 50 - 150% PASS	9 30 PASS	
Indeno[1,2,3-c,d]pyrene	Total	1051.9	1	5	ng/L	1000	0	105 50 - 150% PASS	2 30 PASS	
Naphthalene	Total	814.9	1	5	ng/L	1000	0	81 25 - 125% PASS	16 30 PASS	
Perylene	Total	995.2	1	5	ng/L	1000	0	100 50 - 150% PASS	2 30 PASS	
Phenanthrene	Total	967.5	1	5	ng/L	1000	0	97 50 - 150% PASS	0 30 PASS	
Pyrene	Total	1037.6	1	5	ng/L	1000	0	104 50 - 150% PASS	9 30 PASS	

SUBCONTRACT

REPORT

TERRA CONSULTING, INC. AURORA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS

CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

Analysis Request and Chain of Custody

RHMP

Bight '13

From:


AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

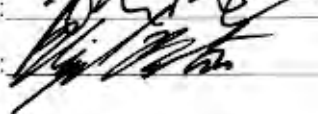
To:

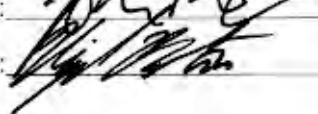
Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8018	9/6/13	0930	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8018			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8018			DOC	Grab	40 mL VOA	None	2
B13-8018			MTBE	Grab	40 mL VOA	HCl	3
B13-8018			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8018			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8018			PAHs	Grab	1 L Glass	None	2
B13-8018			TDS	Grab	1 L HDPE	None	
B13-8018			TOC	Grab	40 mL VOA	H2SO4	2
B13-8018			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.


Sampler's Initials: 

Relinquished By: 

Relinquished By: 

Date/Time: 9/6/13 1414

Date/Time: 9/6/13 1513

Received By:  (Higel Benton)

Received By: Richard Hanken

Date/Time: 9/6/13 1415

Date/Time: 9/6/13 1513

17:13

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

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To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8053	9/6/13	1230	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8053			Dissolved Metals and Hardness	Grab	250 mL HDPE	None	1
B13-8053			DOC	Grab	40 mL VOA	None	2
B13-8053			MTBE	Grab	40 mL VOA	HCl	3
B13-8053			Nitrate, Total Ortho-P, MBAS	Grab	500 mL HDPE	None	1
B13-8053			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8053			PAHs	Grab	1 L Glass	None	2
B13-8053			TDS	Grab	1 L HDPE	None	
B13-8053			TOC	Grab	40 mL VOA	H2SO4	2
B13-8053			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials:

Relinquished By:

Date/Time:

9/6/13 1414

Received By:

Nigel Benton

Date/Time:

9/6/13 1415

Relinquished By:

Date/Time:

9/6/13 1513

Received By:

Richard Hanken

Date/Time:

9/6/13 1513

17113

SAMPLE RECEIPT SUMMARY

CLIENT: AMEC
 Date Received: 9/6/13
 Received By: RGH
 Inspected By: RGH

COURIER

☒ PHYSIS
 ☐ CLIENT
 ☐ FEDEX
 ☐ UPS

start 12:00 end 17:30
☐ OTHER: Nigel Benton

COOLER

☒ COOLER
 ☐ BOX
 total # 3

☐ OTHER: _____

TEMPERATURE

16.4 °C
 ☒ WET ICE
 ☐ BLUE ICE

☐ DRY ICE
 ☐ NONE

SAMPLE INTEGRITY UPON RECEIPT

1. COC(s) included and completely filled out..... **YES**
2. All sample containers arrived intact..... **YES**
3. All samples listed on COC(s) are present..... **YES**
4. Information on containers consistent with information on COC(s)..... **YES**
5. Correct containers and volume for all analyses indicated..... **YES**
6. All samples received within method holding time..... **YES**
7. Correct preservation used for all analyses indicated..... **YES**

NOTES



January 16, 2014

Chris Stransky
AMEC
9210 Sky Park Court
Suite 200
San Diego, CA 92123-

Project Name: RHMP Bight '13
Physis Project ID: 1307002-017

Dear Chris,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 9/10/2013. A total of 16 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventionals
Total Orthophosphate as P by SM 4500-P E
Oil & Grease by EPA 1664A
Nitrate as N by SM 4500-NO ₃ E
MBAS by SM 5540-C
Ammonia as N by SM 4500-NH ₃ D
Elements
Total and Dissolved Barium by EPA 200.8
Total & Dissolved Trace Metals by EPA 1640
Total & Dissolved Mercury by EPA 245.7
Organics
Polynuclear Aromatic Hydrocarbons by EPA 625
Subcontract
Total Organic Carbon by SM 5310 B
Methyl Tertiary Butyl Ether (MTBE) by EPA 624
Dissolved Organic Carbon by SM 5310 B

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,



Misty Mercier
Extension 202
714-335-5918 cell
mistymercier@physislabs.com

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and are used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use was assessed through the analysis of procedural blanks at a minimum frequency of one per batch. Physis' QM requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the procedural blanks be flagged in the project sample results with a B qualifier.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS1/MS2, BS1/BS2, LCS1/LCS2, LCM1/LCM2, CRM1/CRM2, surrogate spikes and/or replicate project sample analysis (R1/R2) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

MATRIX SPIKES: MS samples were employed to assess the effect a particular project sample matrix has on the accuracy of a measurement. It is prepared by adding a known amount of the target analyte(s) to an aliquot of the project sample. Matrix spikes indicate the bias of analytical measurements due to chemical interferences inherent in the sample matrix. If the matrix spike recovery does not fall within the specified acceptance limits, it may be an indication of sample matrix interference in the specific project sample used for the MS. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

BLANK SPIKES: BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

CERTIFIED REFERENCE MATERIALS: CRMs are pre-homogenized materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of a preparation and analytical method. CRMs are analyzed to provide evidence that the laboratory method produces results that are comparable to those obtained by an independent organization.

SURROGATES: Where CRMs are unavailable, target analyte recovery can be assessed by monitoring added surrogate compounds/elements. A surrogate is a pure analyte unlikely to be found in any project sample and most often used with organic analytical procedures. Percent recovery is calculated for each surrogate and is used to monitor method performance within each discrete sample and is indicative of the procedure's ability to recover the actual analytes of interest.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's

concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes. Physis' QM requires that all samples analyzed beyond the method recommended holding time be flagged in the sample results with an H qualifier.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
*	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified recovery and/or RPD acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore MS recovery and/or RPD acceptance limits do not apply
SL	analyte results for R1 and/or R2 were lower than 10 times the MDL, therefore RPD acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore MS recovery and/or RPD were outside the specified acceptance limits
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

ANALYTICAL REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature



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CA ELAP #2769

Conventionals

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22607-R1		B13-8111 Grab		Matrix: Seawater		Sampled: 09-Sep-13 8:30
	Method: SM 5540-C					Received: 10-Sep-13
		Batch ID: C-13149				Analyzed: 11-Sep-13
MBAS	NA	0.045	0.005	0.025	mg/L	
	Method: SM 4500-P E	Batch ID: C-14004				Analyzed: 11-Sep-13
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14052				Analyzed: 05-Oct-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14053				Analyzed: 07-Oct-13
Nitrate as N	NA	0.01	0.01	0.05	mg/L	J
	Method: EPA 1664A	Batch ID: C-14069				Analyzed: 24-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22608-R1		B13-8112 Grab		Matrix: Seawater		Sampled: 09-Sep-13 9:40
	Method: SM 5540-C					Received: 10-Sep-13
		Batch ID: C-13149				Analyzed: 11-Sep-13
MBAS	NA	0.054	0.005	0.025	mg/L	
	Method: SM 4500-P E	Batch ID: C-14004				Analyzed: 11-Sep-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14052				Analyzed: 05-Oct-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14053				Analyzed: 07-Oct-13
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14069				Analyzed: 24-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22609-R1		B13-8500 Grab		Matrix: Seawater		Sampled: 09-Sep-13 10:45
	Method: SM 5540-C					Received: 10-Sep-13
		Batch ID: C-13149				Analyzed: 11-Sep-13
MBAS	NA	0.046	0.005	0.025	mg/L	
	Method: SM 4500-P E	Batch ID: C-14004				Analyzed: 11-Sep-13
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14052				Analyzed: 05-Oct-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14053				Analyzed: 07-Oct-13



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Conventionals

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14069		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22610-R1	B13-8123 Grab	Matrix: Seawater	Sampled: 09-Sep-13	11:45	Received: 10-Sep-13	
	Method: SM 5540-C	Batch ID: C-13149	Prepared: 11-Sep-13		Analyzed: 11-Sep-13	
MBAS	NA	0.051	0.005	0.025	mg/L	
	Method: SM 4500-P E	Batch ID: C-14004		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14052		Prepared: 05-Oct-13		Analyzed: 05-Oct-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14053		Prepared: 11-Sep-13		Analyzed: 07-Oct-13
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14069		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22611-R1	B13-8124 Grab	Matrix: Seawater	Sampled: 09-Sep-13	13:10	Received: 10-Sep-13	
	Method: SM 5540-C	Batch ID: C-13149	Prepared: 11-Sep-13		Analyzed: 11-Sep-13	
MBAS	NA	0.043	0.005	0.025	mg/L	
	Method: SM 4500-P E	Batch ID: C-14004		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14052		Prepared: 07-Oct-13		Analyzed: 07-Oct-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14053		Prepared: 11-Sep-13		Analyzed: 07-Oct-13
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14069		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22612-R1	B13-8128 Grab	Matrix: Seawater	Sampled: 09-Sep-13	14:15	Received: 10-Sep-13	
	Method: SM 5540-C	Batch ID: C-13149	Prepared: 11-Sep-13		Analyzed: 11-Sep-13	
MBAS	NA	0.047	0.005	0.025	mg/L	
	Method: SM 4500-P E	Batch ID: C-14004		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	



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Conventionals

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14052		Prepared: 07-Oct-13		Analyzed: 07-Oct-13
	NA	ND	0.02	0.05	mg/L	
Nitrate as N	Method: SM 4500-NO ₃ E	Batch ID: C-14053		Prepared: 11-Sep-13		Analyzed: 07-Oct-13
	NA	0.01	0.01	0.05	mg/L	J
Oil & Grease	Method: EPA 1664A	Batch ID: C-14069		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
	NA	ND	1	1	mg/L	
Sample ID: 22613-R1 B13-8127 Grab Matrix: Seawater Sampled: 09-Sep-13 15:40 Received: 10-Sep-13						
MBAS	Method: SM 5540-C	Batch ID: C-13149		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
	NA	0.049	0.005	0.025	mg/L	
Total Orthophosphate as P	Method: SM 4500-P E	Batch ID: C-14004		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
	NA	0.02	0.01	0.02	mg/L	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14052		Prepared: 07-Oct-13		Analyzed: 07-Oct-13
	NA	ND	0.02	0.05	mg/L	
Nitrate as N	Method: SM 4500-NO ₃ E	Batch ID: C-14053		Prepared: 11-Sep-13		Analyzed: 07-Oct-13
	NA	ND	0.01	0.05	mg/L	
Oil & Grease	Method: EPA 1664A	Batch ID: C-14069		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
	NA	ND	1	1	mg/L	
Sample ID: 22614-R1 B13-8121 Grab Matrix: Seawater Sampled: 09-Sep-13 17:00 Received: 10-Sep-13						
MBAS	Method: SM 5540-C	Batch ID: C-13149		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
	NA	0.058	0.005	0.025	mg/L	
Total Orthophosphate as P	Method: SM 4500-P E	Batch ID: C-14004		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
	NA	0.03	0.01	0.02	mg/L	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14052		Prepared: 07-Oct-13		Analyzed: 07-Oct-13
	NA	0.02	0.02	0.05	mg/L	J
Nitrate as N	Method: SM 4500-NO ₃ E	Batch ID: C-14053		Prepared: 11-Sep-13		Analyzed: 07-Oct-13
	NA	0.01	0.01	0.05	mg/L	J
Oil & Grease	Method: EPA 1664A	Batch ID: C-14069		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
	NA	ND	1	1	mg/L	
Sample ID: 22615-R1 B13-8085 Grab Matrix: Seawater Sampled: 10-Sep-13 8:10 Received: 10-Sep-13						
	Method: SM 5540-C	Batch ID: C-13149		Prepared: 11-Sep-13		Analyzed: 11-Sep-13



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Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
MBAS	NA	0.036	0.005	0.025	mg/L	
	Method: SM 4500-P E	Batch ID: C-14004		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14052		Prepared: 07-Oct-13		Analyzed: 07-Oct-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14053		Prepared: 11-Sep-13		Analyzed: 07-Oct-13
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14069		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	

Sample ID: 22616-R1

B13-8105 Grab

Matrix: Seawater

Sampled: 10-Sep-13

9:30

Received: 10-Sep-13

Method: SM 5540-C

Batch ID: C-13149

Prepared: 11-Sep-13

Analyzed: 11-Sep-13

MBAS	NA	0.035	0.005	0.025	mg/L	
	Method: SM 4500-P E	Batch ID: C-14004		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
Total Orthophosphate as P	NA	0.03	0.01	0.02	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14052		Prepared: 07-Oct-13		Analyzed: 07-Oct-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14053		Prepared: 11-Sep-13		Analyzed: 07-Oct-13
Nitrate as N	NA	0.01	0.01	0.05	mg/L	J
	Method: EPA 1664A	Batch ID: C-14069		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	

Sample ID: 22617-R1

B13-8117 Grab

Matrix: Seawater

Sampled: 10-Sep-13

11:00

Received: 10-Sep-13

Method: SM 5540-C

Batch ID: C-13149

Prepared: 11-Sep-13

Analyzed: 11-Sep-13

MBAS	NA	0.053	0.005	0.025	mg/L	
	Method: SM 4500-P E	Batch ID: C-14004		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14052		Prepared: 07-Oct-13		Analyzed: 07-Oct-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14053		Prepared: 11-Sep-13		Analyzed: 07-Oct-13
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14069		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	



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CA ELAP #2769

Conventionals

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22618-R1	B13-8113 Grab	Matrix: Seawater		Sampled: 10-Sep-13	12:00	Received: 10-Sep-13
	Method: SM 5540-C	Batch ID: C-13149		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
MBAS	NA	0.04	0.005	0.025	mg/L	
	Method: SM 4500-P E	Batch ID: C-14004		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14052		Prepared: 07-Oct-13		Analyzed: 07-Oct-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14053		Prepared: 11-Sep-13		Analyzed: 07-Oct-13
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14069		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22619-R1	B13-8116 Grab	Matrix: Seawater		Sampled: 10-Sep-13	13:30	Received: 10-Sep-13
	Method: SM 5540-C	Batch ID: C-13149		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
MBAS	NA	0.063	0.005	0.025	mg/L	
	Method: SM 4500-P E	Batch ID: C-14004		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14052		Prepared: 07-Oct-13		Analyzed: 07-Oct-13
Ammonia as N	NA	0.03	0.02	0.05	mg/L	J
	Method: SM 4500-NO ₃ E	Batch ID: C-14053		Prepared: 11-Sep-13		Analyzed: 07-Oct-13
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14069		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22620-R1	B13-8108 Grab	Matrix: Seawater		Sampled: 10-Sep-13	14:35	Received: 10-Sep-13
	Method: SM 5540-C	Batch ID: C-13149		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
MBAS	NA	0.057	0.005	0.025	mg/L	
	Method: SM 4500-P E	Batch ID: C-14004		Prepared: 11-Sep-13		Analyzed: 11-Sep-13
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14052		Prepared: 07-Oct-13		Analyzed: 07-Oct-13
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14053		Prepared: 11-Sep-13		Analyzed: 07-Oct-13



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14069		Prepared: 24-Sep-13		Analyzed: 24-Sep-13
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22621-R1	B13-8106 Grab	Matrix: Seawater	Sampled: 10-Sep-13	15:30	Received: 10-Sep-13	
	Method: SM 5540-C	Batch ID: C-13149	Prepared: 11-Sep-13		Analyzed: 11-Sep-13	
MBAS	NA	0.055	0.005	0.025	mg/L	
	Method: SM 4500-P E	Batch ID: C-14004	Prepared: 11-Sep-13		Analyzed: 11-Sep-13	
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14052	Prepared: 07-Oct-13		Analyzed: 07-Oct-13	
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14053	Prepared: 11-Sep-13		Analyzed: 07-Oct-13	
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14069	Prepared: 24-Sep-13		Analyzed: 24-Sep-13	
Oil & Grease	NA	ND	1	1	mg/L	
Sample ID: 22622-R1	B13-8102 Grab	Matrix: Seawater	Sampled: 10-Sep-13	16:30	Received: 10-Sep-13	
	Method: SM 5540-C	Batch ID: C-13149	Prepared: 11-Sep-13		Analyzed: 11-Sep-13	
MBAS	NA	0.046	0.005	0.025	mg/L	
	Method: SM 4500-P E	Batch ID: C-14004	Prepared: 11-Sep-13		Analyzed: 11-Sep-13	
Total Orthophosphate as P	NA	0.02	0.01	0.02	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14052	Prepared: 07-Oct-13		Analyzed: 07-Oct-13	
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14053	Prepared: 11-Sep-13		Analyzed: 07-Oct-13	
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 1664A	Batch ID: C-14069	Prepared: 24-Sep-13		Analyzed: 24-Sep-13	
Oil & Grease	NA	ND	1	1	mg/L	



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22607-R1 B13-8111 Grab Matrix: Seawater Sampled: 09-Sep-13 8:30 Received: 10-Sep-13 Method: EPA 245.7 Batch ID: E-6044 Prepared: 13-Nov-13 Analyzed: 13-Nov-13						
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 1640 Batch ID: E-7019 Prepared: 01-Nov-13 Analyzed: 04-Dec-13						
Aluminum (Al)	Total	102.4	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.15	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.14	0.01	0.015	µg/L	
Arsenic (As)	Total	1.409	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.27	0.005	0.015	µg/L	
Beryllium (Be)	Total	0.006	0.005	0.01	µg/L	J
Beryllium (Be)	Dissolved	0.006	0.005	0.01	µg/L	J
Cadmium (Cd)	Total	0.058	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0465	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.3429	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1261	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.067	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.03	0.005	0.01	µg/L	
Copper (Cu)	Total	2.472	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	1.619	0.005	0.01	µg/L	
Iron (Fe)	Total	65.6	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.2226	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0258	0.0025	0.005	µg/L	
Manganese (Mn)	Total	7.16	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	4.04	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.759	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	8.653	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.4936	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.3499	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.015	0.005	0.015	µg/L	



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	Dissolved	0.016	0.005	0.015	µg/L	
Silver (Ag)	Total	0.01	0.01	0.02	µg/L	J
Silver (Ag)	Dissolved	0.01	0.01	0.02	µg/L	J
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.018	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	13.645	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	10.041	0.035	0.07	µg/L	
Vanadium (V)	Total	2.59	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.35	0.02	0.04	µg/L	
Zinc (Zn)	Total	6.0132	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	5.7404	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7019

Prepared: 01-Nov-13

Analyzed: 03-Dec-13

Barium (Ba)	Total	8.4	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	8.83	0.25	0.5	µg/L	

Sample ID: 22608-R1

B13-8112 Grab

Matrix: Seawater

Sampled: 09-Sep-13 9:40

Received: 10-Sep-13

Method: EPA 245.7

Batch ID: E-6044

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Method: EPA 1640

Batch ID: E-7019

Prepared: 01-Nov-13

Analyzed: 04-Dec-13

Aluminum (Al)	Total	133.3	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.14	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.13	0.01	0.015	µg/L	
Arsenic (As)	Total	1.313	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.294	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0602	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0546	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.3769	0.0125	0.025	µg/L	

PHYSIS Project ID: 1307002-017

Client: AMEC

Project: RHMP Bight '13



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	Dissolved	0.1059	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.094	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.026	0.005	0.01	µg/L	
Copper (Cu)	Total	2.659	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	1.921	0.005	0.01	µg/L	
Iron (Fe)	Total	73.8	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.2552	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0354	0.0025	0.005	µg/L	
Manganese (Mn)	Total	7.86	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	3.66	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.399	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.496	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.5229	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.4215	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.018	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.011	0.005	0.015	µg/L	J
Silver (Ag)	Total	0.01	0.01	0.02	µg/L	J
Silver (Ag)	Dissolved	0.02	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.006	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.013	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	13.134	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	8.963	0.035	0.07	µg/L	
Vanadium (V)	Total	2.72	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.43	0.02	0.04	µg/L	
Zinc (Zn)	Total	6.008	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	7.6377	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-7019		Prepared: 01-Nov-13		Analyzed: 03-Dec-13
Barium (Ba)	Total	8.34	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	7.85	0.25	0.5	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22609-R1 B13-8500 Grab Matrix: Seawater Sampled: 09-Sep-13 10:45 Received: 10-Sep-13 Method: EPA 245.7 Batch ID: E-6044 Prepared: 13-Nov-13 Analyzed: 13-Nov-13						
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 1640 Batch ID: E-7019 Prepared: 01-Nov-13 Analyzed: 04-Dec-13						
Aluminum (Al)	Total	141.6	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.13	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.13	0.01	0.015	µg/L	
Arsenic (As)	Total	1.33	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.289	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0559	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0508	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.4249	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1273	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.089	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.029	0.005	0.01	µg/L	
Copper (Cu)	Total	2.778	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.019	0.005	0.01	µg/L	
Iron (Fe)	Total	78	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.3006	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0325	0.0025	0.005	µg/L	
Manganese (Mn)	Total	8.25	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	3.44	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.161	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.357	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.5095	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.4033	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.006	0.005	0.015	µg/L	J



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	Dissolved	0.013	0.005	0.015	µg/L	J
Silver (Ag)	Total	0.02	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.01	0.01	0.02	µg/L	J
Thallium (Tl)	Total	0.008	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.013	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	13.862	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	10.492	0.035	0.07	µg/L	
Vanadium (V)	Total	2.68	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.37	0.02	0.04	µg/L	
Zinc (Zn)	Total	6.2549	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	5.0891	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7019

Prepared: 01-Nov-13

Analyzed: 03-Dec-13

Barium (Ba)	Total	8.39	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	9.4	0.25	0.5	µg/L	

Sample ID: 22610-R1

B13-8123 Grab

Matrix: Seawater

Sampled: 09-Sep-13 11:45

Received: 10-Sep-13

Method: EPA 245.7

Batch ID: E-6044

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Method: EPA 1640

Batch ID: E-7019

Prepared: 01-Nov-13

Analyzed: 04-Dec-13

Aluminum (Al)	Total	137.2	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.13	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.13	0.01	0.015	µg/L	
Arsenic (As)	Total	1.301	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.301	0.005	0.015	µg/L	
Beryllium (Be)	Total	0.006	0.005	0.01	µg/L	J
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0607	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0551	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.3694	0.0125	0.025	µg/L	

PHYSIS Project ID: 1307002-017

Client: AMEC

Project: RHMP Bight '13



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	Dissolved	0.1031	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.082	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.018	0.005	0.01	µg/L	
Copper (Cu)	Total	2.604	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.052	0.005	0.01	µg/L	
Iron (Fe)	Total	76.7	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.2612	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0307	0.0025	0.005	µg/L	
Manganese (Mn)	Total	7.72	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	2.85	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.041	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.332	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.5017	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.4253	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.021	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.022	0.005	0.015	µg/L	
Silver (Ag)	Total	0.01	0.01	0.02	µg/L	J
Silver (Ag)	Dissolved	0.02	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.006	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.006	0.005	0.01	µg/L	J
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	15.024	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	9.503	0.035	0.07	µg/L	
Vanadium (V)	Total	2.69	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.39	0.02	0.04	µg/L	
Zinc (Zn)	Total	5.7558	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	4.7601	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-7019		Prepared: 01-Nov-13		Analyzed: 03-Dec-13
Barium (Ba)	Total	7.74	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	9	0.25	0.5	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22611-R1		B13-8124 Grab		Matrix: Seawater		Sampled: 09-Sep-13 13:10
Method: EPA 245.7		Batch ID: E-6044		Prepared: 13-Nov-13		Received: 10-Sep-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	Analyzed: 13-Nov-13
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 1640		Batch ID: E-7019		Prepared: 01-Nov-13		Analyzed: 04-Dec-13
Aluminum (Al)	Total	152.4	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.15	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.13	0.01	0.015	µg/L	
Arsenic (As)	Total	1.212	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.343	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0634	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0595	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.4596	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1086	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.09	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.027	0.005	0.01	µg/L	
Copper (Cu)	Total	3.643	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	2.65	0.005	0.01	µg/L	
Iron (Fe)	Total	84.3	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.2957	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0331	0.0025	0.005	µg/L	
Manganese (Mn)	Total	8.6	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	4.83	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.43	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.541	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.5343	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.4215	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.02	0.005	0.015	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	Dissolved	0.022	0.005	0.015	µg/L	
Silver (Ag)	Total	0.01	0.01	0.02	µg/L	J
Silver (Ag)	Dissolved	0.01	0.01	0.02	µg/L	J
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.009	0.005	0.01	µg/L	J
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	14.346	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	10.448	0.035	0.07	µg/L	
Vanadium (V)	Total	2.65	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.39	0.02	0.04	µg/L	
Zinc (Zn)	Total	8.267	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	8.341	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7019

Prepared: 01-Nov-13

Analyzed: 03-Dec-13

Barium (Ba)	Total	8.48	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	7.79	0.25	0.5	µg/L	

Sample ID: 22612-R1

B13-8128 Grab

Matrix: Seawater

Sampled: 09-Sep-13 14:15

Received: 10-Sep-13

Method: EPA 245.7

Batch ID: E-6044

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Method: EPA 1640

Batch ID: E-7019

Prepared: 01-Nov-13

Analyzed: 04-Dec-13

Aluminum (Al)	Total	124.1	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.14	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.14	0.01	0.015	µg/L	
Arsenic (As)	Total	1.302	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.296	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0668	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0696	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.4416	0.0125	0.025	µg/L	

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Client: AMEC

Project: RHMP Bight '13



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	Dissolved	0.0874	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.082	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.033	0.005	0.01	µg/L	
Copper (Cu)	Total	6.171	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	4.656	0.005	0.01	µg/L	
Iron (Fe)	Total	66.3	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.2377	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0321	0.0025	0.005	µg/L	
Manganese (Mn)	Total	10.92	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	8.83	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.315	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.625	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.5038	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.4265	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.009	0.005	0.015	µg/L	J
Selenium (Se)	Dissolved	0.018	0.005	0.015	µg/L	
Silver (Ag)	Total	ND	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.006	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.012	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	14.201	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	10.558	0.035	0.07	µg/L	
Vanadium (V)	Total	2.59	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.4	0.02	0.04	µg/L	
Zinc (Zn)	Total	16.1345	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	14.6851	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-7019		Prepared: 01-Nov-13		Analyzed: 03-Dec-13
Barium (Ba)	Total	10.32	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	8.41	0.25	0.5	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22613-R1		B13-8127 Grab	Matrix: Seawater	Sampled: 09-Sep-13	15:40	Received: 10-Sep-13
	Method: EPA 245.7	Batch ID: E-6044		Prepared: 13-Nov-13		Analyzed: 13-Nov-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 1640		Batch ID: E-7019		Prepared: 01-Nov-13		Analyzed: 04-Dec-13
Aluminum (Al)	Total	68.3	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.14	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.13	0.01	0.015	µg/L	
Arsenic (As)	Total	1.22	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.245	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0587	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0561	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2652	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1175	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.07	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.016	0.005	0.01	µg/L	
Copper (Cu)	Total	7.974	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	7.162	0.005	0.01	µg/L	
Iron (Fe)	Total	35.6	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1264	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0247	0.0025	0.005	µg/L	
Manganese (Mn)	Total	5.3	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	3.85	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.215	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.277	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.3776	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.373	0.0025	0.005	µg/L	
Selenium (Se)	Total	ND	0.005	0.015	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	Dissolved	0.022	0.005	0.015	µg/L	
Silver (Ag)	Total	ND	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L	
Thallium (Tl)	Total	ND	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.008	0.005	0.01	µg/L	J
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	10.402	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	10.857	0.035	0.07	µg/L	
Vanadium (V)	Total	2.34	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.24	0.02	0.04	µg/L	
Zinc (Zn)	Total	21.6737	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	21.3888	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7019

Prepared: 01-Nov-13

Analyzed: 03-Dec-13

Barium (Ba)	Total	8.46	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	8.29	0.25	0.5	µg/L	

Sample ID: 22614-R1

B13-8121 Grab

Matrix: Seawater

Sampled: 09-Sep-13 17:00

Received: 10-Sep-13

Method: EPA 245.7

Batch ID: E-6044

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Total	0.01	0.01	0.02	µg/L	J
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Method: EPA 1640

Batch ID: E-7019

Prepared: 01-Nov-13

Analyzed: 04-Dec-13

Aluminum (Al)	Total	189.5	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.14	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.13	0.01	0.015	µg/L	
Arsenic (As)	Total	1.324	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.257	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0504	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0514	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.5049	0.0125	0.025	µg/L	

PHYSIS Project ID: 1307002-017

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Project: RHMP Bight '13



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	Dissolved	0.1187	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.078	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.021	0.005	0.01	µg/L	
Copper (Cu)	Total	5.437	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	3.848	0.005	0.01	µg/L	
Iron (Fe)	Total	105.7	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.4379	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.048	0.0025	0.005	µg/L	
Manganese (Mn)	Total	6.99	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	3.86	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	8.653	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.538	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.4177	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.3619	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.006	0.005	0.015	µg/L	J
Selenium (Se)	Dissolved	0.014	0.005	0.015	µg/L	J
Silver (Ag)	Total	ND	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.01	0.01	0.02	µg/L	J
Thallium (Tl)	Total	0.007	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L	
Tin (Sn)	Total	0.019	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	16.124	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	9.98	0.035	0.07	µg/L	
Vanadium (V)	Total	2.59	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.24	0.02	0.04	µg/L	
Zinc (Zn)	Total	13.3302	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	11.4594	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-7019		Prepared: 01-Nov-13		Analyzed: 03-Dec-13
Barium (Ba)	Total	8.75	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	7.91	0.25	0.5	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22615-R1		B13-8085 Grab		Matrix: Seawater		Sampled: 10-Sep-13 8:10
Method: EPA 245.7		Batch ID: E-6044		Prepared: 13-Nov-13		Received: 10-Sep-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 1640		Batch ID: E-7020		Prepared: 01-Nov-13		Analyzed: 04-Dec-13
Aluminum (Al)	Total	64.2	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.14	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.12	0.01	0.015	µg/L	
Arsenic (As)	Total	1.276	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.162	0.005	0.015	µg/L	
Beryllium (Be)	Total	0.005	0.005	0.01	µg/L	J
Beryllium (Be)	Dissolved	0.007	0.005	0.01	µg/L	J
Cadmium (Cd)	Total	0.0445	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0405	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2547	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1158	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.042	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.01	0.005	0.01	µg/L	
Copper (Cu)	Total	2.063	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	1.357	0.005	0.01	µg/L	
Iron (Fe)	Total	41.6	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1437	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0125	0.0025	0.005	µg/L	
Manganese (Mn)	Total	4.57	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	1.34	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.512	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	8.539	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.4111	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.3088	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.013	0.005	0.015	µg/L	J

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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	Dissolved	ND	0.005	0.015	µg/L	
Silver (Ag)	Total	0.02	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.02	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.01	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	0.007	0.005	0.01	µg/L	J
Tin (Sn)	Total	0.009	0.005	0.01	µg/L	J
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	13.52	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	9.563	0.035	0.07	µg/L	
Vanadium (V)	Total	2.22	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.09	0.02	0.04	µg/L	
Zinc (Zn)	Total	4.307	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	3.329	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7020

Prepared: 01-Nov-13

Analyzed: 03-Dec-13

Barium (Ba)	Total	8.05	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	7.27	0.25	0.5	µg/L	

Sample ID: 22616-R1

B13-8105 Grab

Matrix: Seawater

Sampled: 10-Sep-13

9:30

Received: 10-Sep-13

Method: EPA 245.7

Batch ID: E-6044

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Method: EPA 1640

Batch ID: E-7020

Prepared: 01-Nov-13

Analyzed: 04-Dec-13

Aluminum (Al)	Total	223.6	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.13	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.15	0.01	0.015	µg/L	
Arsenic (As)	Total	1.369	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.338	0.005	0.015	µg/L	
Beryllium (Be)	Total	0.006	0.005	0.01	µg/L	J
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0505	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0468	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.5088	0.0125	0.025	µg/L	

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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	Dissolved	0.1292	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.089	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.015	0.005	0.01	µg/L	
Copper (Cu)	Total	2.383	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	1.254	0.005	0.01	µg/L	
Iron (Fe)	Total	134.6	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.3952	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.046	0.0025	0.005	µg/L	
Manganese (Mn)	Total	7.17	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	2.46	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	8.754	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.62	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.5057	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.3395	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.021	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	ND	0.005	0.015	µg/L	
Silver (Ag)	Total	0.02	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.02	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.012	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	0.008	0.005	0.01	µg/L	J
Tin (Sn)	Total	ND	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	19.201	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	10.705	0.035	0.07	µg/L	
Vanadium (V)	Total	2.66	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.17	0.02	0.04	µg/L	
Zinc (Zn)	Total	7.2544	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	3.4782	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-7020		Prepared: 01-Nov-13		Analyzed: 03-Dec-13
Barium (Ba)	Total	8.54	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	7.12	0.25	0.5	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22617-R1		B13-8117 Grab	Matrix: Seawater		Sampled: 10-Sep-13 11:00	Received: 10-Sep-13
	Method: EPA 245.7	Batch ID: E-6044	Prepared: 13-Nov-13		Analyzed: 13-Nov-13	
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 1640		Batch ID: E-7020	Prepared: 01-Nov-13		Analyzed: 04-Dec-13	
Aluminum (Al)	Total	53.2	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.12	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.12	0.01	0.015	µg/L	
Arsenic (As)	Total	1.251	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.223	0.005	0.015	µg/L	
Beryllium (Be)	Total	0.007	0.005	0.01	µg/L	J
Beryllium (Be)	Dissolved	0.005	0.005	0.01	µg/L	J
Cadmium (Cd)	Total	0.053	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0458	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2501	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1207	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.064	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.024	0.005	0.01	µg/L	
Copper (Cu)	Total	9.889	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	8.246	0.005	0.01	µg/L	
Iron (Fe)	Total	24.7	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1002	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0245	0.0025	0.005	µg/L	
Manganese (Mn)	Total	4.34	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	2.9	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.55	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.305	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.3306	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.3305	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.006	0.005	0.015	µg/L	J

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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	Dissolved	0.008	0.005	0.015	µg/L	J
Silver (Ag)	Total	0.02	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.02	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.014	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	0.008	0.005	0.01	µg/L	J
Tin (Sn)	Total	ND	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	13.527	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	12.738	0.035	0.07	µg/L	
Vanadium (V)	Total	2.21	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.04	0.02	0.04	µg/L	
Zinc (Zn)	Total	23.7625	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	18.5711	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7020

Prepared: 01-Nov-13

Analyzed: 03-Dec-13

Barium (Ba)	Total	6.72	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	6.44	0.25	0.5	µg/L	

Sample ID: 22618-R1

B13-8113 Grab

Matrix: Seawater

Sampled: 10-Sep-13

12:00

Received: 10-Sep-13

Method: EPA 245.7

Batch ID: E-6044

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Method: EPA 1640

Batch ID: E-7019

Prepared: 01-Nov-13

Analyzed: 04-Dec-13

Aluminum (Al)	Total	70.4	3	6	µg/L	
Antimony (Sb)	Total	0.13	0.01	0.015	µg/L	
Arsenic (As)	Total	1.328	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0472	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2428	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.044	0.005	0.01	µg/L	
Copper (Cu)	Total	11.384	0.005	0.01	µg/L	
Iron (Fe)	Total	31.2	0.5	1	µg/L	
Lead (Pb)	Total	0.1039	0.0025	0.005	µg/L	
Manganese (Mn)	Total	4.48	0.01	0.02	µg/L	

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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Molybdenum (Mo)	Total	9.17	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.3368	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.015	0.005	0.015	µg/L	
Silver (Ag)	Total	ND	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.005	0.005	0.01	µg/L	J
Tin (Sn)	Total	0.011	0.005	0.01	µg/L	
Titanium (Ti)	Total	13.226	0.035	0.07	µg/L	
Vanadium (V)	Total	2.21	0.02	0.04	µg/L	
Zinc (Zn)	Total	23.2037	0.0025	0.005	µg/L	
Method: EPA 200.8		Batch ID: E-7019		Prepared: 01-Nov-13		Analyzed: 03-Dec-13
Barium (Ba)	Total	8.36	0.25	0.5	µg/L	
Method: EPA 1640		Batch ID: E-7020		Prepared: 01-Nov-13		Analyzed: 04-Dec-13
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Dissolved	0.11	0.01	0.015	µg/L	
Arsenic (As)	Dissolved	1.255	0.005	0.015	µg/L	
Beryllium (Be)	Dissolved	0.01	0.005	0.01	µg/L	
Cadmium (Cd)	Dissolved	0.0412	0.0025	0.005	µg/L	
Chromium (Cr)	Dissolved	0.1119	0.0125	0.025	µg/L	
Cobalt (Co)	Dissolved	0.028	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	10.235	0.005	0.01	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Dissolved	0.0303	0.0025	0.005	µg/L	
Manganese (Mn)	Dissolved	3.09	0.01	0.02	µg/L	
Molybdenum (Mo)	Dissolved	9.382	0.005	0.01	µg/L	
Nickel (Ni)	Dissolved	0.323	0.0025	0.005	µg/L	
Selenium (Se)	Dissolved	0.01	0.005	0.015	µg/L	J
Silver (Ag)	Dissolved	0.02	0.01	0.02	µg/L	
Thallium (Tl)	Dissolved	0.013	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Dissolved	12.799	0.035	0.07	µg/L	
Vanadium (V)	Dissolved	2.08	0.02	0.04	µg/L	
Zinc (Zn)	Dissolved	20.9634	0.0025	0.005	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Method: EPA 200.8		Batch ID: E-7020		Prepared: 01-Nov-13		Analyzed: 03-Dec-13
Barium (Ba)	Dissolved	7.35	0.25	0.5	µg/L	
Sample ID: 22619-R1		B13-8116 Grab		Matrix: Seawater		Sampled: 10-Sep-13 13:30
Method: EPA 245.7		Batch ID: E-6044		Prepared: 13-Nov-13		Received: 10-Sep-13
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 1640		Batch ID: E-7020		Prepared: 01-Nov-13		Analyzed: 04-Dec-13
Aluminum (Al)	Total	86.8	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.12	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.12	0.01	0.015	µg/L	
Arsenic (As)	Total	1.385	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.138	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0529	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0532	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.3057	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.166	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.063	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.026	0.005	0.01	µg/L	
Copper (Cu)	Total	9.583	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	8.097	0.005	0.01	µg/L	
Iron (Fe)	Total	39.6	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1789	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0385	0.0025	0.005	µg/L	
Manganese (Mn)	Total	5.59	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	3.87	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.244	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.45	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.3823	0.0025	0.005	µg/L	

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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Nickel (Ni)	Dissolved	0.3314	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.019	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	0.011	0.005	0.015	µg/L	J
Silver (Ag)	Total	0.02	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.02	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.011	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	0.007	0.005	0.01	µg/L	J
Tin (Sn)	Total	ND	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	12.775	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	11.609	0.035	0.07	µg/L	
Vanadium (V)	Total	2.31	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.04	0.02	0.04	µg/L	
Zinc (Zn)	Total	25.4264	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	18.9354	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7020

Prepared: 01-Nov-13

Analyzed: 03-Dec-13

Barium (Ba)	Total	9.66	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	8.25	0.25	0.5	µg/L	

Sample ID: 22620-R1

B13-8108 Grab

Matrix: Seawater

Sampled: 10-Sep-13

14:35

Received: 10-Sep-13

Method: EPA 245.7

Batch ID: E-6044

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Method: EPA 1640

Batch ID: E-7020

Prepared: 01-Nov-13

Analyzed: 04-Dec-13

Aluminum (Al)	Total	64	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.12	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.12	0.01	0.015	µg/L	
Arsenic (As)	Total	1.355	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.232	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0453	0.0025	0.005	µg/L	

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ANALYTICAL REPORT

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Cadmium (Cd)	Dissolved	0.045	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2468	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1122	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.046	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.016	0.005	0.01	µg/L	
Copper (Cu)	Total	7.162	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	5.963	0.005	0.01	µg/L	
Iron (Fe)	Total	30.1	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1084	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0241	0.0025	0.005	µg/L	
Manganese (Mn)	Total	4.47	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	2.68	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.492	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.7	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.3671	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.3309	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.008	0.005	0.015	µg/L	J
Selenium (Se)	Dissolved	ND	0.005	0.015	µg/L	
Silver (Ag)	Total	0.01	0.01	0.02	µg/L	J
Silver (Ag)	Dissolved	0.02	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.01	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	0.008	0.005	0.01	µg/L	J
Tin (Sn)	Total	ND	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	14.152	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	9.703	0.035	0.07	µg/L	
Vanadium (V)	Total	2.15	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.04	0.02	0.04	µg/L	
Zinc (Zn)	Total	17.4035	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	12.4571	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7020

Prepared: 01-Nov-13

Analyzed: 03-Dec-13



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Barium (Ba)	Total	8.3	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	7.12	0.25	0.5	µg/L	
Sample ID: 22621-R1 B13-8106 Grab Matrix: Seawater Sampled: 10-Sep-13 15:30 Received: 10-Sep-13 Method: EPA 245.7 Batch ID: E-6044 Prepared: 13-Nov-13 Analyzed: 13-Nov-13						
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	
Method: EPA 1640 Batch ID: E-7020 Prepared: 01-Nov-13 Analyzed: 04-Dec-13						
Aluminum (Al)	Total	64.6	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.13	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.11	0.01	0.015	µg/L	
Arsenic (As)	Total	1.233	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.287	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	0.006	0.005	0.01	µg/L	J
Cadmium (Cd)	Total	0.0389	0.0025	0.005	µg/L	
Cadmium (Cd)	Dissolved	0.0409	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2525	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1132	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.044	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.015	0.005	0.01	µg/L	
Copper (Cu)	Total	4.632	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	3.778	0.005	0.01	µg/L	
Iron (Fe)	Total	31.7	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.1044	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0189	0.0025	0.005	µg/L	
Manganese (Mn)	Total	4.17	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	2.39	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.401	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.466	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.3535	0.0025	0.005	µg/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Nickel (Ni)	Dissolved	0.3062	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.011	0.005	0.015	µg/L	J
Selenium (Se)	Dissolved	0.011	0.005	0.015	µg/L	J
Silver (Ag)	Total	0.01	0.01	0.02	µg/L	J
Silver (Ag)	Dissolved	0.02	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.008	0.005	0.01	µg/L	J
Thallium (Tl)	Dissolved	0.006	0.005	0.01	µg/L	J
Tin (Sn)	Total	ND	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	12.699	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	14.177	0.035	0.07	µg/L	
Vanadium (V)	Total	2.19	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.06	0.02	0.04	µg/L	
Zinc (Zn)	Total	11.625	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	8.3955	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7020

Prepared: 01-Nov-13

Analyzed: 03-Dec-13

Barium (Ba)	Total	7.11	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	6.91	0.25	0.5	µg/L	

Sample ID: 22622-R1

B13-8102 Grab

Matrix: Seawater

Sampled: 10-Sep-13

16:30

Received: 10-Sep-13

Method: EPA 245.7

Batch ID: E-6044

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L	

Method: EPA 1640

Batch ID: E-7020

Prepared: 01-Nov-13

Analyzed: 04-Dec-13

Aluminum (Al)	Total	40.6	3	6	µg/L	
Aluminum (Al)	Dissolved	ND	3	6	µg/L	
Antimony (Sb)	Total	0.13	0.01	0.015	µg/L	
Antimony (Sb)	Dissolved	0.11	0.01	0.015	µg/L	
Arsenic (As)	Total	1.31	0.005	0.015	µg/L	
Arsenic (As)	Dissolved	1.188	0.005	0.015	µg/L	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L	
Cadmium (Cd)	Total	0.0488	0.0025	0.005	µg/L	

PHYSIS Project ID: 1307002-017

Client: AMEC

Project: RHMP Bight '13



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Cadmium (Cd)	Dissolved	0.0458	0.0025	0.005	µg/L	
Chromium (Cr)	Total	0.2057	0.0125	0.025	µg/L	
Chromium (Cr)	Dissolved	0.1102	0.0125	0.025	µg/L	
Cobalt (Co)	Total	0.048	0.005	0.01	µg/L	
Cobalt (Co)	Dissolved	0.017	0.005	0.01	µg/L	
Copper (Cu)	Total	7.986	0.005	0.01	µg/L	
Copper (Cu)	Dissolved	6.67	0.005	0.01	µg/L	
Iron (Fe)	Total	17.1	0.5	1	µg/L	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L	
Lead (Pb)	Total	0.0712	0.0025	0.005	µg/L	
Lead (Pb)	Dissolved	0.0223	0.0025	0.005	µg/L	
Manganese (Mn)	Total	4.01	0.01	0.02	µg/L	
Manganese (Mn)	Dissolved	2.74	0.01	0.02	µg/L	
Molybdenum (Mo)	Total	9.393	0.005	0.01	µg/L	
Molybdenum (Mo)	Dissolved	9.166	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.3511	0.0025	0.005	µg/L	
Nickel (Ni)	Dissolved	0.3118	0.0025	0.005	µg/L	
Selenium (Se)	Total	0.022	0.005	0.015	µg/L	
Selenium (Se)	Dissolved	ND	0.005	0.015	µg/L	
Silver (Ag)	Total	0.02	0.01	0.02	µg/L	
Silver (Ag)	Dissolved	0.02	0.01	0.02	µg/L	
Thallium (Tl)	Total	0.011	0.005	0.01	µg/L	
Thallium (Tl)	Dissolved	0.007	0.005	0.01	µg/L	J
Tin (Sn)	Total	ND	0.005	0.01	µg/L	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L	
Titanium (Ti)	Total	13.347	0.035	0.07	µg/L	
Titanium (Ti)	Dissolved	11.7	0.035	0.07	µg/L	
Vanadium (V)	Total	2.19	0.02	0.04	µg/L	
Vanadium (V)	Dissolved	2.09	0.02	0.04	µg/L	
Zinc (Zn)	Total	19.8098	0.0025	0.005	µg/L	
Zinc (Zn)	Dissolved	15.6237	0.0025	0.005	µg/L	

Method: EPA 200.8

Batch ID: E-7020

Prepared: 01-Nov-13

Analyzed: 03-Dec-13



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Barium (Ba)	Total	6.97	0.25	0.5	µg/L	
Barium (Ba)	Dissolved	7.93	0.25	0.5	µg/L	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22607-R1	B13-8111 Grab Method: EPA 625	Matrix: Seawater Batch ID: O-5004		Sampled: 09-Sep-13 8:30 Prepared: 13-Sep-13		Received: 10-Sep-13 Analyzed: 21-Oct-13
(d10-Acenaphthene)	Total	85			% Recovery	
(d10-Phenanthrene)	Total	96			% Recovery	
(d12-Chrysene)	Total	105			% Recovery	
(d8-Naphthalene)	Total	73			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	9.3	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	3.4	1	5	ng/L	J
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	12.3	1	5	ng/L	
Fluorene	Total	3.1	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.5	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	4.4	1	5	ng/L	J
Pyrene	Total	6	1	5	ng/L	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22608-R1 B13-8112 Grab Method: EPA 625		Matrix: Seawater Batch ID: O-5004		Sampled: 09-Sep-13 9:40 Prepared: 13-Sep-13		Received: 10-Sep-13 Analyzed: 21-Oct-13
(d10-Acenaphthene)	Total	81			% Recovery	
(d10-Phenanthrene)	Total	94			% Recovery	
(d12-Chrysene)	Total	109			% Recovery	
(d8-Naphthalene)	Total	70			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	4.3	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	3.3	1	5	ng/L	J
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	1.3	1	5	ng/L	J
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	2	1	5	ng/L	J
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	9.9	1	5	ng/L	
Fluorene	Total	1.5	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.5	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	3.6	1	5	ng/L	J
Pyrene	Total	5.5	1	5	ng/L	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22609-R1		Matrix: Seawater		Sampled: 09-Sep-13 10:45		Received: 10-Sep-13
Method: EPA 625		Batch ID: O-5004		Prepared: 13-Sep-13		Analyzed: 21-Oct-13
(d10-Acenaphthene)	Total	82			% Recovery	
(d10-Phenanthrene)	Total	89			% Recovery	
(d12-Chrysene)	Total	98			% Recovery	
(d8-Naphthalene)	Total	73			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	3.4	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	1.5	1	5	ng/L	J
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	2.3	1	5	ng/L	J
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	5.9	1	5	ng/L	
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	3.3	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.9	1	5	ng/L	J
Pyrene	Total	2	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22610-R1 B13-8123 Grab Method: EPA 625		Matrix: Seawater Batch ID: O-5004		Sampled: 09-Sep-13 11:45 Prepared: 13-Sep-13		Received: 10-Sep-13 Analyzed: 21-Oct-13
(d10-Acenaphthene)	Total	74			% Recovery	
(d10-Phenanthrene)	Total	87			% Recovery	
(d12-Chrysene)	Total	101			% Recovery	
(d8-Naphthalene)	Total	62			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	2.1	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	1.3	1	5	ng/L	J
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	4.1	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.4	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.6	1	5	ng/L	J
Pyrene	Total	1.9	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22611-R1		Matrix: Seawater		Sampled: 09-Sep-13 13:10		Received: 10-Sep-13
B13-8124 Grab		Batch ID: O-5004		Prepared: 13-Sep-13		Analyzed: 21-Oct-13
(d10-Acenaphthene)	Total	77			% Recovery	
(d10-Phenanthrene)	Total	92			% Recovery	
(d12-Chrysene)	Total	106			% Recovery	
(d8-Naphthalene)	Total	63			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	1.8	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	1.1	1	5	ng/L	J
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	1.7	1	5	ng/L	J
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	4.1	1	5	ng/L	J
Fluorene	Total	1	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.7	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.9	1	5	ng/L	J
Pyrene	Total	1.9	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22612-R1		Matrix: Seawater		Sampled: 09-Sep-13 14:15		Received: 10-Sep-13
B13-8128 Grab		Batch ID: O-5004		Prepared: 13-Sep-13		Analyzed: 21-Oct-13
(d10-Acenaphthene)	Total	62			% Recovery	
(d10-Phenanthrene)	Total	93			% Recovery	
(d12-Chrysene)	Total	100			% Recovery	
(d8-Naphthalene)	Total	48			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	1.3	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	1.1	1	5	ng/L	J
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	1	1	5	ng/L	J
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	3.3	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.2	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.5	1	5	ng/L	J
Pyrene	Total	1.9	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22613-R1</div> <div>B13-8127 Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Seawater</div> <div>Batch ID: O-5004</div> </div> <div> <div>Sampled: 09-Sep-13 15:40</div> <div>Prepared: 13-Sep-13</div> </div> <div> <div>Received: 10-Sep-13</div> <div>Analyzed: 21-Oct-13</div> </div>						
(d10-Acenaphthene)	Total	79			% Recovery	
(d10-Phenanthrene)	Total	94			% Recovery	
(d12-Chrysene)	Total	104			% Recovery	
(d8-Naphthalene)	Total	68			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	1	1	5	ng/L	J
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	2.6	1	5	ng/L	J
Fluorene	Total	1	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.8	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	2	1	5	ng/L	J
Pyrene	Total	ND	1	5	ng/L	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22614-R1 B13-8121 Grab Method: EPA 625		Matrix: Seawater Batch ID: O-5004		Sampled: 09-Sep-13 17:00 Prepared: 13-Sep-13		Received: 10-Sep-13 Analyzed: 21-Oct-13
(d10-Acenaphthene)	Total	78			% Recovery	
(d10-Phenanthrene)	Total	90			% Recovery	
(d12-Chrysene)	Total	104			% Recovery	
(d8-Naphthalene)	Total	69			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	2.7	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	1.4	1	5	ng/L	J
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	1.4	1	5	ng/L	J
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	2	1	5	ng/L	J
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	4.6	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.5	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.5	1	5	ng/L	J
Pyrene	Total	2.8	1	5	ng/L	J



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22615-R1	B13-8085 Grab Method: EPA 625	Matrix: Seawater Batch ID: O-5005		Sampled: 10-Sep-13 Prepared: 13-Sep-13	8:10	Received: 10-Sep-13 Analyzed: 23-Oct-13
(d10-Acenaphthene)	Total	83			% Recovery	
(d10-Phenanthrene)	Total	95			% Recovery	
(d12-Chrysene)	Total	113			% Recovery	
(d8-Naphthalene)	Total	69			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	2.5	1	5	ng/L	J
Fluorene	Total	1.3	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.2	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.5	1	5	ng/L	J
Pyrene	Total	1.3	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22616-R1		Matrix: Seawater		Sampled: 10-Sep-13 9:30		Received: 10-Sep-13
B13-8105 Grab		Batch ID: O-5005		Prepared: 13-Sep-13		Analyzed: 23-Oct-13
(d10-Acenaphthene)	Total	86			% Recovery	
(d10-Phenanthrene)	Total	97			% Recovery	
(d12-Chrysene)	Total	135			% Recovery	
(d8-Naphthalene)	Total	73			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	3.8	1	5	ng/L	J
Fluorene	Total	1.1	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.3	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.7	1	5	ng/L	J
Pyrene	Total	1.9	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22617-R1 B13-8117 Grab Method: EPA 625		Matrix: Seawater Batch ID: O-5005		Sampled: 10-Sep-13 11:00 Prepared: 13-Sep-13		Received: 10-Sep-13 Analyzed: 23-Oct-13
(d10-Acenaphthene)	Total	71			% Recovery	
(d10-Phenanthrene)	Total	92			% Recovery	
(d12-Chrysene)	Total	115			% Recovery	
(d8-Naphthalene)	Total	59			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	2	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.2	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	1.7	1	5	ng/L	J
Pyrene	Total	1	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22618-R1 B13-8113 Grab Method: EPA 625		Matrix: Seawater Batch ID: O-5005		Sampled: 10-Sep-13 12:00 Prepared: 13-Sep-13		Received: 10-Sep-13 Analyzed: 23-Oct-13
(d10-Acenaphthene)	Total	77			% Recovery	
(d10-Phenanthrene)	Total	96			% Recovery	
(d12-Chrysene)	Total	110			% Recovery	
(d8-Naphthalene)	Total	65			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	1.3	1	5	ng/L	J
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	3	1	5	ng/L	J
Fluorene	Total	1.3	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.9	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	2.4	1	5	ng/L	J
Pyrene	Total	ND	1	5	ng/L	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22619-R1 B13-8116 Grab Method: EPA 625		Matrix: Seawater Batch ID: O-5005		Sampled: 10-Sep-13 13:30 Prepared: 13-Sep-13		Received: 10-Sep-13 Analyzed: 23-Oct-13
(d10-Acenaphthene)	Total	74			% Recovery	
(d10-Phenanthrene)	Total	86			% Recovery	
(d12-Chrysene)	Total	102			% Recovery	
(d8-Naphthalene)	Total	64			% Recovery	
1-Methylnaphthalene	Total	1.2	1	5	ng/L	J
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	1.6	1	5	ng/L	J
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	2.1	1	5	ng/L	J
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.8	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	2.3	1	5	ng/L	J
Pyrene	Total	1.1	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22620-R1	B13-8108 Grab Method: EPA 625	Matrix: Seawater Batch ID: O-5005		Sampled: 10-Sep-13 Prepared: 13-Sep-13	14:35	Received: 10-Sep-13 Analyzed: 23-Oct-13
(d10-Acenaphthene)	Total	67			% Recovery	
(d10-Phenanthrene)	Total	95			% Recovery	
(d12-Chrysene)	Total	111			% Recovery	
(d8-Naphthalene)	Total	54			% Recovery	
1-Methylnaphthalene	Total	1	1	5	ng/L	J
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	1.6	1	5	ng/L	J
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	3.2	1	5	ng/L	J
Fluorene	Total	1	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.7	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	2.3	1	5	ng/L	J
Pyrene	Total	ND	1	5	ng/L	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22621-R1		Matrix: Seawater		Sampled: 10-Sep-13 15:30		Received: 10-Sep-13
B13-8106 Grab		Batch ID: O-5005		Prepared: 13-Sep-13		Analyzed: 23-Oct-13
	Method: EPA 625					
(d10-Acenaphthene)	Total	62			% Recovery	
(d10-Phenanthrene)	Total	90			% Recovery	
(d12-Chrysene)	Total	99			% Recovery	
(d8-Naphthalene)	Total	50			% Recovery	
1-Methylnaphthalene	Total	1.3	1	5	ng/L	J
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	2.3	1	5	ng/L	J
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	3.6	1	5	ng/L	J
Fluorene	Total	1.1	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.7	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	2.6	1	5	ng/L	J
Pyrene	Total	1.2	1	5	ng/L	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22622-R1		Matrix: Seawater		Sampled: 10-Sep-13 16:30		Received: 10-Sep-13
Method: EPA 625		Batch ID: O-5005		Prepared: 13-Sep-13		Analyzed: 23-Oct-13
(d10-Acenaphthene)	Total	88			% Recovery	
(d10-Phenanthrene)	Total	95			% Recovery	
(d12-Chrysene)	Total	109			% Recovery	
(d8-Naphthalene)	Total	80			% Recovery	
1-Methylnaphthalene	Total	3.5	1	5	ng/L	J
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	5.5	1	5	ng/L	
Acenaphthene	Total	2.2	1	5	ng/L	J
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	3.1	1	5	ng/L	J
Fluorene	Total	2.1	1	5	ng/L	J
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	5.6	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	2.3	1	5	ng/L	J
Pyrene	Total	1.1	1	5	ng/L	J

QUALITY CONTROL REPORT

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CA ELAP #2769

Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Ammonia as N		Method: SM 4500-NH₃ D		Fraction: NA		Prepared: 07-Oct-13			Analyzed: 07-Oct-13			
22605-B1	QAQC Procedural Blank	C-14052	ND	0.02	0.05	mg/L						
22605-BS1	QAQC Procedural Blank	C-14052	0.24	0.02	0.05	mg/L	0.25	0	96	70 - 130%	PASS	
22605-BS2	QAQC Procedural Blank	C-14052	0.24	0.02	0.05	mg/L	0.25	0	96	70 - 130%	PASS	0 30 PASS
22613-MS1	B13-8127	C-14052	0.24	0.02	0.05	mg/L	0.25	0	96	70 - 130%	PASS	
22613-MS2	B13-8127	C-14052	0.22	0.02	0.05	mg/L	0.25	0	88	70 - 130%	PASS	9 30 PASS
22615-MS1	B13-8085	C-14052	0.21	0.02	0.05	mg/L	0.25	0	84	70 - 130%	PASS	
22615-MS2	B13-8085	C-14052	0.2	0.02	0.05	mg/L	0.25	0	80	70 - 130%	PASS	5 30 PASS
22615-R2	B13-8085	C-14052	ND	0.02	0.05	mg/L						0 30 PASS
MBAS		Method: SM 5540-C		Fraction: NA		Prepared: 11-Sep-13			Analyzed: 11-Sep-13			
22605-B1	QAQC Procedural Blank	C-13149	ND	0.005	0.025	mg/L						
22605-BS1	QAQC Procedural Blank	C-13149	0.082	0.005	0.025	mg/L	0.1	0	82	70 - 130%	PASS	
22605-BS2	QAQC Procedural Blank	C-13149	0.121	0.005	0.025	mg/L	0.1	0	121	70 - 130%	PASS	38 30 FAIL R
22607-MS1	B13-8111	C-13149	0.146	0.005	0.025	mg/L	0.1	0.046	100	70 - 130%	PASS	
22607-MS2	B13-8111	C-13149	0.136	0.005	0.025	mg/L	0.1	0.046	90	70 - 130%	PASS	11 30 PASS
22607-R2	B13-8111	C-13149	0.047	0.005	0.025	mg/L						4 30 PASS
Nitrate as N		Method: SM 4500-NO₃ E		Fraction: NA		Prepared: 11-Sep-13			Analyzed: 07-Oct-13			
22605-B1	QAQC Procedural Blank	C-14053	ND	0.01	0.05	mg/L						
22605-BS1	QAQC Procedural Blank	C-14053	0.12	0.01	0.05	mg/L	0.11	0	109	70 - 130%	PASS	
22605-BS2	QAQC Procedural Blank	C-14053	0.12	0.01	0.05	mg/L	0.11	0	109	70 - 130%	PASS	0 30 PASS
22613-MS1	B13-8127	C-14053	0.14	0.01	0.05	mg/L	0.11	0	127	70 - 130%	PASS	
22613-MS2	B13-8127	C-14053	0.14	0.01	0.05	mg/L	0.11	0	127	70 - 130%	PASS	0 30 PASS
22613-R2	B13-8127	C-14053	ND	0.01	0.05	mg/L						0 30 PASS
22615-MS1	B13-8085	C-14053	0.14	0.01	0.05	mg/L	0.11	0	127	70 - 130%	PASS	
22615-MS2	B13-8085	C-14053	0.14	0.01	0.05	mg/L	0.11	0	127	70 - 130%	PASS	0 30 PASS
22615-R2	B13-8085	C-14053	ND	0.01	0.05	mg/L						0 30 PASS
Oil & Grease		Method: EPA 1664A		Fraction: NA		Prepared: 24-Sep-13			Analyzed: 24-Sep-13			
22605-B1	QAQC Procedural Blank	C-14069	ND	1	1	mg/L						
22605-BS1	QAQC Procedural Blank	C-14069	17.2	1	1	mg/L	20.1	0	86	70 - 130%	PASS	



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CA ELAP #2769

Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
22605-BS2	QAQC Procedural Blank	C-14069	16.5	1	1	mg/L	20.1	0	82	70 - 130%	PASS	5 30 PASS
22613-MS1	B13-8127	C-14069	17.2	1	1	mg/L	20.1	0	86	70 - 130%	PASS	
22613-MS2	B13-8127	C-14069	19.5	1	1	mg/L	20.1	0	97	70 - 130%	PASS	12 30 PASS
22613-R2	B13-8127	C-14069	ND	1	1	mg/L				0	30	PASS
22615-MS1	B13-8085	C-14069	16.3	1	1	mg/L	20.1	0	81	70 - 130%	PASS	
22615-MS2	B13-8085	C-14069	15.2	1	1	mg/L	20.1	0	76	70 - 130%	PASS	6 30 PASS
22615-R2	B13-8085	C-14069	ND	1	1	mg/L				0	30	PASS

Total Orthophosphate as P			Method: SM 4500-P E			Fraction: NA		Prepared: 11-Sep-13			Analyzed: 11-Sep-13		
22605-B1	QAQC Procedural Blank	C-14004	ND	0.01	0.02	mg/L							
22605-BS1	QAQC Procedural Blank	C-14004	0.18	0.01	0.02	mg/L	0.2	0	90	70 - 130%	PASS		
22605-BS2	QAQC Procedural Blank	C-14004	0.19	0.01	0.02	mg/L	0.2	0	95	70 - 130%	PASS	5 30	PASS
22607-MS1	B13-8111	C-14004	0.22	0.01	0.02	mg/L	0.2	0.02	100	70 - 130%	PASS		
22607-MS2	B13-8111	C-14004	0.22	0.01	0.02	mg/L	0.2	0.02	100	70 - 130%	PASS	0 30	PASS
22607-R2	B13-8111	C-14004	0.03	0.01	0.02	mg/L						40 30	FAIL SL



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22605-B1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 245.7			Batch ID: E-6044		Prepared: 13-Nov-13		Analyzed: 13-Nov-13	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L					
Mercury (Hg)	Total	ND	0.01	0.02	µg/L					
		Method: EPA 1640			Batch ID: E-7019		Prepared: 01-Nov-13		Analyzed: 04-Dec-13	
Aluminum (Al)	Dissolved	ND	3	6	µg/L					
Aluminum (Al)	Total	ND	3	6	µg/L					
Antimony (Sb)	Dissolved	ND	0.01	0.015	µg/L					
Antimony (Sb)	Total	ND	0.01	0.015	µg/L					
Arsenic (As)	Dissolved	ND	0.005	0.015	µg/L					
Arsenic (As)	Total	ND	0.005	0.015	µg/L					
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L					
Beryllium (Be)	Total	ND	0.005	0.01	µg/L					
Cadmium (Cd)	Dissolved	ND	0.0025	0.005	µg/L					
Cadmium (Cd)	Total	ND	0.0025	0.005	µg/L					
Chromium (Cr)	Dissolved	ND	0.0125	0.025	µg/L					
Chromium (Cr)	Total	ND	0.0125	0.025	µg/L					
Cobalt (Co)	Dissolved	ND	0.005	0.01	µg/L					
Cobalt (Co)	Total	ND	0.005	0.01	µg/L					
Copper (Cu)	Dissolved	ND	0.005	0.01	µg/L					
Copper (Cu)	Total	ND	0.005	0.01	µg/L					
Iron (Fe)	Dissolved	ND	0.5	1	µg/L					
Iron (Fe)	Total	ND	0.5	1	µg/L					
Lead (Pb)	Dissolved	ND	0.0025	0.005	µg/L					
Lead (Pb)	Total	ND	0.0025	0.005	µg/L					
Manganese (Mn)	Dissolved	ND	0.01	0.02	µg/L					
Manganese (Mn)	Total	ND	0.01	0.02	µg/L					
Molybdenum (Mo)	Dissolved	ND	0.005	0.01	µg/L					
Molybdenum (Mo)	Total	ND	0.005	0.01	µg/L					
Nickel (Ni)	Dissolved	ND	0.0025	0.005	µg/L					
Nickel (Ni)	Total	ND	0.0025	0.005	µg/L					

PHYSIS Project ID: 1307002-017

Client: AMEC

Project: RHMP Bight '13



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Selenium (Se)	Dissolved	ND	0.005	0.015	µg/L					
Selenium (Se)	Total	ND	0.005	0.015	µg/L					
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L					
Silver (Ag)	Total	ND	0.01	0.02	µg/L					
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L					
Thallium (Tl)	Total	ND	0.005	0.01	µg/L					
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L					
Tin (Sn)	Total	ND	0.005	0.01	µg/L					
Titanium (Ti)	Dissolved	ND	0.035	0.07	µg/L					
Titanium (Ti)	Total	ND	0.035	0.07	µg/L					
Vanadium (V)	Dissolved	ND	0.02	0.04	µg/L					
Vanadium (V)	Total	ND	0.02	0.04	µg/L					
Zinc (Zn)	Dissolved	ND	0.0025	0.005	µg/L					
Zinc (Zn)	Total	ND	0.0025	0.005	µg/L					

Method: EPA 200.8

Batch ID: E-7019

Prepared: 01-Nov-13

Analyzed: 03-Dec-13

Barium (Ba)	Dissolved	ND	0.25	0.5	µg/L					
Barium (Ba)	Total	ND	0.25	0.5	µg/L					

Sample ID: 22605-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6044

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Dissolved	0.1	0.01	0.02	µg/L	0.1	0	100	80 - 120% PASS	
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Sample ID: 22605-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6044

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Dissolved	0.09	0.01	0.02	µg/L	0.1	0	90	80 - 120% PASS	11 30 PASS
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Sample ID: 22606-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6044

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L					
Mercury (Hg)	Total	ND	0.01	0.02	µg/L					

Method: EPA 1640

Batch ID: E-7020

Prepared: 01-Nov-13

Analyzed: 04-Dec-13

Aluminum (Al)	Dissolved	ND	3	6	µg/L					
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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Aluminum (Al)	Total	ND	3	6	µg/L					
Antimony (Sb)	Dissolved	ND	0.01	0.015	µg/L					
Antimony (Sb)	Total	ND	0.01	0.015	µg/L					
Arsenic (As)	Dissolved	ND	0.005	0.015	µg/L					
Arsenic (As)	Total	ND	0.005	0.015	µg/L					
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L					
Beryllium (Be)	Total	ND	0.005	0.01	µg/L					
Cadmium (Cd)	Dissolved	ND	0.0025	0.005	µg/L					
Cadmium (Cd)	Total	ND	0.0025	0.005	µg/L					
Chromium (Cr)	Dissolved	ND	0.0125	0.025	µg/L					
Chromium (Cr)	Total	ND	0.0125	0.025	µg/L					
Cobalt (Co)	Dissolved	ND	0.005	0.01	µg/L					
Cobalt (Co)	Total	ND	0.005	0.01	µg/L					
Copper (Cu)	Dissolved	ND	0.005	0.01	µg/L					
Copper (Cu)	Total	ND	0.005	0.01	µg/L					
Iron (Fe)	Dissolved	ND	0.5	1	µg/L					
Iron (Fe)	Total	ND	0.5	1	µg/L					
Lead (Pb)	Dissolved	ND	0.0025	0.005	µg/L					
Lead (Pb)	Total	ND	0.0025	0.005	µg/L					
Manganese (Mn)	Dissolved	ND	0.01	0.02	µg/L					
Manganese (Mn)	Total	ND	0.01	0.02	µg/L					
Molybdenum (Mo)	Dissolved	ND	0.005	0.01	µg/L					
Molybdenum (Mo)	Total	ND	0.005	0.01	µg/L					
Nickel (Ni)	Dissolved	ND	0.0025	0.005	µg/L					
Nickel (Ni)	Total	ND	0.0025	0.005	µg/L					
Selenium (Se)	Dissolved	ND	0.005	0.015	µg/L					
Selenium (Se)	Total	ND	0.005	0.015	µg/L					
Silver (Ag)	Dissolved	ND	0.01	0.02	µg/L					
Silver (Ag)	Total	ND	0.01	0.02	µg/L					
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L					
Thallium (Tl)	Total	ND	0.005	0.01	µg/L					



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L					
Tin (Sn)	Total	ND	0.005	0.01	µg/L					
Titanium (Ti)	Dissolved	ND	0.035	0.07	µg/L					
Titanium (Ti)	Total	ND	0.035	0.07	µg/L					
Vanadium (V)	Dissolved	ND	0.02	0.04	µg/L					
Vanadium (V)	Total	ND	0.02	0.04	µg/L					
Zinc (Zn)	Dissolved	ND	0.0025	0.005	µg/L					
Zinc (Zn)	Total	ND	0.0025	0.005	µg/L					

Method: EPA 200.8

Batch ID: E-7020

Prepared: 01-Nov-13

Analyzed: 03-Dec-13

Barium (Ba)	Dissolved	ND	0.25	0.5	µg/L					
Barium (Ba)	Total	ND	0.25	0.5	µg/L					

Sample ID: 22606-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6044

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Dissolved	0.1	0.01	0.02	µg/L	0.1	0	100	80 - 120% PASS	
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Method: EPA 200.8

Batch ID: E-7020

Prepared: 01-Nov-13

Analyzed: 03-Dec-13

Barium (Ba)	Dissolved	1067.25	0.25	0.5	µg/L	1000	0	107	75 - 125% PASS	
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Sample ID: 22606-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6044

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Dissolved	0.1	0.01	0.02	µg/L	0.1	0	100	80 - 120% PASS	0 30 PASS
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Method: EPA 200.8

Batch ID: E-7020

Prepared: 01-Nov-13

Analyzed: 03-Dec-13

Barium (Ba)	Dissolved	1056.27	0.25	0.5	µg/L	1000	0	106	75 - 125% PASS	1 30 PASS
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Sample ID: 22607-MS1

B13-8111 Grab

Matrix: Seawater

Sampled: 09-Sep-13 8:30

Received: 10-Sep-13

Method: EPA 245.7

Batch ID: E-6044

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Total	0.12	0.01	0.02	µg/L	0.1	0	120	80 - 120% PASS	
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Method: EPA 200.8

Batch ID: E-7019

Prepared: 01-Nov-13

Analyzed: 03-Dec-13

Barium (Ba)	Dissolved	1055.47	0.25	0.5	µg/L	1000	8.33	105	75 - 125% PASS	
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Sample ID: 22607-MS2

B13-8111 Grab

Matrix: Seawater

Sampled: 09-Sep-13 8:30

Received: 10-Sep-13

Method: EPA 245.7

Batch ID: E-6044

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Total	0.12	0.01	0.02	µg/L	0.1	0	120	80 - 120% PASS	0 30 PASS
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PHYSIS Project ID: 1307002-017

Client: AMEC

Project: RHMP Bight '13



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS			PRECISION % LIMITS			QA CODE			
Method: EPA 200.8			Batch ID: E-7019			Prepared: 01-Nov-13			Analyzed: 03-Dec-13								
Barium (Ba)	Dissolved	1058	0.25	0.5	µg/L	1000	8.33	105	75 - 125%	PASS	0	30	PASS				
Sample ID: 22607-R2		B13-8111 Grab		Matrix: Seawater			Sampled: 09-Sep-13 8:30		Received: 10-Sep-13								
Method: EPA 245.7		Batch ID: E-6044			Prepared: 13-Nov-13			Analyzed: 13-Nov-13									
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L									0	30	PASS	
Mercury (Hg)	Total	ND	0.01	0.02	µg/L									0	30	PASS	
Method: EPA 1640			Batch ID: E-7019			Prepared: 01-Nov-13			Analyzed: 04-Dec-13								
Aluminum (Al)	Dissolved	ND	3	6	µg/L									0	30	PASS	
Aluminum (Al)	Total	114.5	3	6	µg/L									11	30	PASS	
Antimony (Sb)	Dissolved	0.14	0.01	0.015	µg/L									0	30	PASS	
Antimony (Sb)	Total	0.15	0.01	0.015	µg/L									0	30	PASS	
Arsenic (As)	Dissolved	1.179	0.005	0.015	µg/L									7	30	PASS	
Arsenic (As)	Total	1.361	0.005	0.015	µg/L									3	30	PASS	
Beryllium (Be)	Dissolved	ND	0.005	0.01	µg/L									18	30	PASS	
Beryllium (Be)	Total	ND	0.005	0.01	µg/L									18	30	PASS	J
Cadmium (Cd)	Dissolved	0.051	0.0025	0.005	µg/L									9	30	PASS	
Cadmium (Cd)	Total	0.0565	0.0025	0.005	µg/L									3	30	PASS	
Chromium (Cr)	Dissolved	0.1413	0.0125	0.025	µg/L									11	30	PASS	
Chromium (Cr)	Total	0.338	0.0125	0.025	µg/L									1	30	PASS	
Cobalt (Co)	Dissolved	0.028	0.005	0.01	µg/L									7	30	PASS	
Cobalt (Co)	Total	0.07	0.005	0.01	µg/L									4	30	PASS	
Copper (Cu)	Dissolved	1.777	0.005	0.01	µg/L									9	30	PASS	
Copper (Cu)	Total	2.371	0.005	0.01	µg/L									4	30	PASS	
Iron (Fe)	Dissolved	ND	0.5	1	µg/L									0	30	PASS	
Iron (Fe)	Total	63	0.5	1	µg/L									4	30	PASS	
Lead (Pb)	Dissolved	0.0266	0.0025	0.005	µg/L									3	30	PASS	
Lead (Pb)	Total	0.1896	0.0025	0.005	µg/L									16	30	PASS	
Manganese (Mn)	Dissolved	4.23	0.01	0.02	µg/L									5	30	PASS	
Manganese (Mn)	Total	7.05	0.01	0.02	µg/L									2	30	PASS	
Molybdenum (Mo)	Dissolved	9.378	0.005	0.01	µg/L									8	30	PASS	
Molybdenum (Mo)	Total	9.403	0.005	0.01	µg/L									4	30	PASS	



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Nickel (Ni)	Dissolved	0.3672	0.0025	0.005	µg/L				5 30 PASS	
Nickel (Ni)	Total	0.5118	0.0025	0.005	µg/L				4 30 PASS	
Selenium (Se)	Dissolved	0.008	0.005	0.015	µg/L				67 30 FAIL	J,SL
Selenium (Se)	Total	0.013	0.005	0.015	µg/L				14 30 PASS	J
Silver (Ag)	Dissolved	0.02	0.01	0.02	µg/L				67 30 FAIL	SL
Silver (Ag)	Total	ND	0.01	0.02	µg/L				0 30 PASS	
Thallium (Tl)	Dissolved	ND	0.005	0.01	µg/L				0 30 PASS	
Thallium (Tl)	Total	0.007	0.005	0.01	µg/L				33 30 FAIL	J,SL
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L				0 30 PASS	
Tin (Sn)	Total	0.016	0.005	0.01	µg/L				12 30 PASS	
Titanium (Ti)	Dissolved	11.399	0.035	0.07	µg/L				13 30 PASS	
Titanium (Ti)	Total	14.11	0.035	0.07	µg/L				3 30 PASS	
Vanadium (V)	Dissolved	2.41	0.02	0.04	µg/L				3 30 PASS	
Vanadium (V)	Total	2.56	0.02	0.04	µg/L				1 30 PASS	
Zinc (Zn)	Dissolved	5.7202	0.0025	0.005	µg/L				0 30 PASS	
Zinc (Zn)	Total	6.1479	0.0025	0.005	µg/L				2 30 PASS	
Method: EPA 200.8					Batch ID: E-7019		Prepared: 01-Nov-13		Analyzed: 03-Dec-13	
Barium (Ba)	Dissolved	7.82	0.25	0.5	µg/L				12 30 PASS	
Barium (Ba)	Total	8.94	0.25	0.5	µg/L				6 30 PASS	

Sample ID: 22615-MS1

B13-8085 Grab

Matrix: Seawater

Sampled: 10-Sep-13 8:10

Received: 10-Sep-13

Method: EPA 245.7

Batch ID: E-6044

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Total	0.12	0.01	0.02	µg/L	0.1	0	120	80 - 120%	PASS
Method: EPA 200.8					Batch ID: E-7020			Prepared: 01-Nov-13		Analyzed: 03-Dec-13
Barium (Ba)	Dissolved	1087.94	0.25	0.5	µg/L	1000	7.65	108	75 - 125%	PASS

Sample ID: 22615-MS2

B13-8085 Grab

Matrix: Seawater

Sampled: 10-Sep-13 8:10

Received: 10-Sep-13

Method: EPA 245.7

Batch ID: E-6044

Prepared: 13-Nov-13

Analyzed: 13-Nov-13

Mercury (Hg)	Total	0.12	0.01	0.02	µg/L	0.1	0	120	80 - 120%	PASS	0	30	PASS
Method: EPA 200.8					Batch ID: E-7020			Prepared: 01-Nov-13			Analyzed: 03-Dec-13		
Barium (Ba)	Dissolved	1093.62	0.25	0.5	µg/L	1000	7.65	109	75 - 125%	PASS	1	30	PASS



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22615-R2		B13-8085 Grab		Matrix: Seawater		Sampled: 10-Sep-13 8:10		Received: 10-Sep-13		
		Method: EPA 245.7			Batch ID: E-6044		Prepared: 13-Nov-13		Analyzed: 13-Nov-13	
Mercury (Hg)	Dissolved	ND	0.01	0.02	µg/L			0	30	PASS
Mercury (Hg)	Total	ND	0.01	0.02	µg/L			0	30	PASS
		Method: EPA 1640			Batch ID: E-7020		Prepared: 01-Nov-13		Analyzed: 04-Dec-13	
Aluminum (Al)	Dissolved	ND	3	6	µg/L			0	30	PASS
Aluminum (Al)	Total	59.6	3	6	µg/L			7	30	PASS
Antimony (Sb)	Dissolved	0.13	0.01	0.015	µg/L			8	30	PASS
Antimony (Sb)	Total	0.15	0.01	0.015	µg/L			7	30	PASS
Arsenic (As)	Dissolved	1.172	0.005	0.015	µg/L			1	30	PASS
Arsenic (As)	Total	1.317	0.005	0.015	µg/L			3	30	PASS
Beryllium (Be)	Dissolved	0.005	0.005	0.01	µg/L			33	30	FAIL
Beryllium (Be)	Total	ND	0.005	0.01	µg/L			0	30	PASS
Cadmium (Cd)	Dissolved	0.0425	0.0025	0.005	µg/L			5	30	PASS
Cadmium (Cd)	Total	0.044	0.0025	0.005	µg/L			1	30	PASS
Chromium (Cr)	Dissolved	0.1026	0.0125	0.025	µg/L			12	30	PASS
Chromium (Cr)	Total	0.2524	0.0125	0.025	µg/L			1	30	PASS
Cobalt (Co)	Dissolved	0.03	0.005	0.01	µg/L			100	30	FAIL
Cobalt (Co)	Total	0.043	0.005	0.01	µg/L			2	30	PASS
Copper (Cu)	Dissolved	1.487	0.005	0.01	µg/L			9	30	PASS
Copper (Cu)	Total	2.053	0.005	0.01	µg/L			0	30	PASS
Iron (Fe)	Dissolved	ND	0.5	1	µg/L			0	30	PASS
Iron (Fe)	Total	40.6	0.5	1	µg/L			2	30	PASS
Lead (Pb)	Dissolved	0.0142	0.0025	0.005	µg/L			13	30	PASS
Lead (Pb)	Total	0.1468	0.0025	0.005	µg/L			2	30	PASS
Manganese (Mn)	Dissolved	1.25	0.01	0.02	µg/L			7	30	PASS
Manganese (Mn)	Total	4.69	0.01	0.02	µg/L			3	30	PASS
Molybdenum (Mo)	Dissolved	9.032	0.005	0.01	µg/L			6	30	PASS
Molybdenum (Mo)	Total	9.387	0.005	0.01	µg/L			1	30	PASS
Nickel (Ni)	Dissolved	0.3042	0.0025	0.005	µg/L			2	30	PASS
Nickel (Ni)	Total	0.4046	0.0025	0.005	µg/L			2	30	PASS

PHYSIS Project ID: 1307002-017

Client: AMEC

Project: RHMP Bight '13



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Selenium (Se)	Dissolved	0.012	0.005	0.015	µg/L				82 30 FAIL	J,SL
Selenium (Se)	Total	0.007	0.005	0.015	µg/L				60 30 FAIL	J,SL
Silver (Ag)	Dissolved	0.02	0.01	0.02	µg/L				0 30 PASS	
Silver (Ag)	Total	0.02	0.01	0.02	µg/L				0 30 PASS	
Thallium (Tl)	Dissolved	0.008	0.005	0.01	µg/L				13 30 PASS	J
Thallium (Tl)	Total	0.011	0.005	0.01	µg/L				10 30 PASS	
Tin (Sn)	Dissolved	ND	0.005	0.01	µg/L				0 30 PASS	
Tin (Sn)	Total	ND	0.005	0.01	µg/L				57 30 FAIL	SL
Titanium (Ti)	Dissolved	10.343	0.035	0.07	µg/L				8 30 PASS	
Titanium (Ti)	Total	12.592	0.035	0.07	µg/L				7 30 PASS	
Vanadium (V)	Dissolved	2.07	0.02	0.04	µg/L				1 30 PASS	
Vanadium (V)	Total	2.3	0.02	0.04	µg/L				4 30 PASS	
Zinc (Zn)	Dissolved	3.4666	0.0025	0.005	µg/L				4 30 PASS	
Zinc (Zn)	Total	4.5429	0.0025	0.005	µg/L				5 30 PASS	

Method: EPA 200.8

Batch ID: E-7020

Prepared: 01-Nov-13

Analyzed: 03-Dec-13

Barium (Ba)	Dissolved	8.03	0.25	0.5	µg/L				10 30 PASS	
Barium (Ba)	Total	8.27	0.25	0.5	µg/L				3 30 PASS	

Sample ID: 22624-LCM1

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-7019

Prepared: 01-Nov-13

Analyzed: 04-Dec-13

Aluminum (Al)	Total	ND	3	6	µg/L					
Antimony (Sb)	Total	0.08	0.01	0.015	µg/L					
Arsenic (As)	Total	1.795	0.005	0.015	µg/L					
Beryllium (Be)	Total	ND	0.005	0.01	µg/L					
Cadmium (Cd)	Total	0.0973	0.0025	0.005	µg/L					
Chromium (Cr)	Total	0.251	0.0125	0.025	µg/L					
Cobalt (Co)	Total	ND	0.005	0.01	µg/L					
Copper (Cu)	Total	0.111	0.005	0.01	µg/L					
Iron (Fe)	Total	3.1	0.5	1	µg/L					
Lead (Pb)	Total	ND	0.0025	0.005	µg/L					
Manganese (Mn)	Total	0.21	0.01	0.02	µg/L					
Molybdenum (Mo)	Total	8.569	0.005	0.01	µg/L					

PHYSIS Project ID: 1307002-017

Client: AMEC

Project: RHMP Bight '13



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Nickel (Ni)	Total	0.3794	0.0025	0.005	µg/L					
Selenium (Se)	Total	0.048	0.005	0.015	µg/L					
Silver (Ag)	Total	ND	0.01	0.02	µg/L					
Thallium (Tl)	Total	0.008	0.005	0.01	µg/L					
Tin (Sn)	Total	0.008	0.005	0.01	µg/L					
Titanium (Ti)	Total	15.034	0.035	0.07	µg/L					
Vanadium (V)	Total	2.09	0.02	0.04	µg/L					
Zinc (Zn)	Total	0.5146	0.0025	0.005	µg/L					

Sample ID: 22624-LCS1

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-7019

Prepared: 01-Nov-13

Analyzed: 04-Dec-13

Aluminum (Al)	Total	22.4	3	6	µg/L	20	0	112	0 - 191%	PASS
Antimony (Sb)	Total	2.98	0.01	0.015	µg/L	20	0.08	15	10 - 110%	PASS
Arsenic (As)	Total	22.072	0.005	0.015	µg/L	20	1.795	101	74 - 128%	PASS
Beryllium (Be)	Total	15.254	0.005	0.01	µg/L	20	0	76	60 - 118%	PASS
Cadmium (Cd)	Total	19.1596	0.0025	0.005	µg/L	20	0.0973	95	68 - 131%	PASS
Chromium (Cr)	Total	21.4608	0.0125	0.025	µg/L	20	0.251	106	32 - 173%	PASS
Cobalt (Co)	Total	20.116	0.005	0.01	µg/L	20	0	101	87 - 119%	PASS
Copper (Cu)	Total	18.538	0.005	0.01	µg/L	20	0.111	92	61 - 119%	PASS
Iron (Fe)	Total	17.7	0.5	1	µg/L	20	3.1	73	22 - 129%	PASS
Lead (Pb)	Total	19.6649	0.0025	0.005	µg/L	20	0	98	75 - 120%	PASS
Manganese (Mn)	Total	15.88	0.01	0.02	µg/L	20	0.21	78	32 - 131%	PASS
Molybdenum (Mo)	Total	28.973	0.005	0.01	µg/L	20	8.569	102	54 - 131%	PASS
Nickel (Ni)	Total	18.7028	0.0025	0.005	µg/L	20	0.3794	92	60 - 113%	PASS
Selenium (Se)	Total	12.743	0.005	0.015	µg/L	20	0.048	63	0 - 183%	PASS
Silver (Ag)	Total	7.98	0.01	0.02	µg/L	8	0	100	64 - 133%	PASS
Thallium (Tl)	Total	18.206	0.005	0.01	µg/L	20	0.008	91	70 - 125%	PASS
Tin (Sn)	Total	17.879	0.005	0.01	µg/L	20	0.008	89	69 - 118%	PASS
Titanium (Ti)	Total	31.342	0.035	0.07	µg/L	20	15.034	82	72 - 129%	PASS
Vanadium (V)	Total	24.12	0.02	0.04	µg/L	20	2.09	110	72 - 137%	PASS
Zinc (Zn)	Total	17.0233	0.0025	0.005	µg/L	20	0.5146	83	61 - 128%	PASS



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Sample ID: 22624-LCS2		QAQC LCM - Physis Seawater			Matrix: Seawater		Sampled:		Received:			
		Method: EPA 1640			Batch ID: E-7019		Prepared: 01-Nov-13		Analyzed: 04-Dec-13			
Aluminum (Al)	Total	23.1	3	6	µg/L	20	0	115	0 - 191% PASS	0	30	PASS
Antimony (Sb)	Total	2.89	0.01	0.015	µg/L	20	0.08	14	10 - 110% PASS	7	30	PASS
Arsenic (As)	Total	21.469	0.005	0.015	µg/L	20	1.795	98	74 - 128% PASS	3	30	PASS
Beryllium (Be)	Total	15.06	0.005	0.01	µg/L	20	0	75	60 - 118% PASS	0	30	PASS
Cadmium (Cd)	Total	19.2669	0.0025	0.005	µg/L	20	0.0973	96	68 - 131% PASS	1	30	PASS
Chromium (Cr)	Total	21.5271	0.0125	0.025	µg/L	20	0.251	106	32 - 173% PASS	0	30	PASS
Cobalt (Co)	Total	20.035	0.005	0.01	µg/L	20	0	100	87 - 119% PASS	0	30	PASS
Copper (Cu)	Total	18.484	0.005	0.01	µg/L	20	0.111	92	61 - 119% PASS	0	30	PASS
Iron (Fe)	Total	19.1	0.5	1	µg/L	20	3.1	80	22 - 129% PASS	9	30	PASS
Lead (Pb)	Total	19.5754	0.0025	0.005	µg/L	20	0	98	75 - 120% PASS	0	30	PASS
Manganese (Mn)	Total	14.32	0.01	0.02	µg/L	20	0.21	71	32 - 131% PASS	9	30	PASS
Molybdenum (Mo)	Total	29.144	0.005	0.01	µg/L	20	8.569	103	54 - 131% PASS	1	30	PASS
Nickel (Ni)	Total	18.73	0.0025	0.005	µg/L	20	0.3794	92	60 - 113% PASS	0	30	PASS
Selenium (Se)	Total	18.209	0.005	0.015	µg/L	20	0.048	91	0 - 183% PASS	36	30	FAIL
Silver (Ag)	Total	8.55	0.01	0.02	µg/L	8	0	107	64 - 133% PASS	0	30	PASS
Thallium (Tl)	Total	18.272	0.005	0.01	µg/L	20	0.008	91	70 - 125% PASS	0	30	PASS
Tin (Sn)	Total	17.962	0.005	0.01	µg/L	20	0.008	90	69 - 118% PASS	1	30	PASS
Titanium (Ti)	Total	31.214	0.035	0.07	µg/L	20	15.034	81	72 - 129% PASS	1	30	PASS
Vanadium (V)	Total	24.02	0.02	0.04	µg/L	20	2.09	110	72 - 137% PASS	0	30	PASS
Zinc (Zn)	Total	17.3471	0.0025	0.005	µg/L	20	0.5146	84	61 - 128% PASS	1	30	PASS

Sample ID: 22625-LCM1		QAQC LCM - Physis Seawater			Matrix: Seawater		Sampled:		Received:			
		Method: EPA 1640			Batch ID: E-7020		Prepared: 01-Nov-13		Analyzed: 04-Dec-13			
Aluminum (Al)	Total	ND	3	6	µg/L							
Antimony (Sb)	Total	0.09	0.01	0.015	µg/L							
Arsenic (As)	Total	1.781	0.005	0.015	µg/L							
Beryllium (Be)	Total	ND	0.005	0.01	µg/L							
Cadmium (Cd)	Total	0.0899	0.0025	0.005	µg/L							
Chromium (Cr)	Total	0.2102	0.0125	0.025	µg/L							



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Cobalt (Co)	Total	ND	0.005	0.01	µg/L					
Copper (Cu)	Total	0.102	0.005	0.01	µg/L					
Iron (Fe)	Total	3.3	0.5	1	µg/L					
Lead (Pb)	Total	ND	0.0025	0.005	µg/L					
Manganese (Mn)	Total	0.21	0.01	0.02	µg/L					
Molybdenum (Mo)	Total	8.529	0.005	0.01	µg/L					
Nickel (Ni)	Total	0.3708	0.0025	0.005	µg/L					
Selenium (Se)	Total	0.037	0.005	0.015	µg/L					
Silver (Ag)	Total	0.01	0.01	0.02	µg/L					
Thallium (Tl)	Total	0.01	0.005	0.01	µg/L					
Tin (Sn)	Total	ND	0.005	0.01	µg/L					
Titanium (Ti)	Total	14.688	0.035	0.07	µg/L					
Vanadium (V)	Total	1.82	0.02	0.04	µg/L					
Zinc (Zn)	Total	0.5985	0.0025	0.005	µg/L					

Sample ID: 22625-LCS1

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-7020

Prepared: 01-Nov-13

Analyzed: 04-Dec-13

Aluminum (Al)	Total	22.1	3	6	µg/L	20	0	111	0 - 191%	PASS
Antimony (Sb)	Total	2.96	0.01	0.015	µg/L	20	0.09	14	10 - 110%	PASS
Arsenic (As)	Total	21.021	0.005	0.015	µg/L	20	1.781	96	74 - 128%	PASS
Beryllium (Be)	Total	14.776	0.005	0.01	µg/L	20	0	74	60 - 118%	PASS
Cadmium (Cd)	Total	19.2508	0.0025	0.005	µg/L	20	0.0899	96	68 - 131%	PASS
Chromium (Cr)	Total	20.2937	0.0125	0.025	µg/L	20	0.2102	100	32 - 173%	PASS
Cobalt (Co)	Total	18.895	0.005	0.01	µg/L	20	0	94	87 - 119%	PASS
Copper (Cu)	Total	18.475	0.005	0.01	µg/L	20	0.102	92	61 - 119%	PASS
Iron (Fe)	Total	17.9	0.5	1	µg/L	20	3.3	73	22 - 129%	PASS
Lead (Pb)	Total	19.5305	0.0025	0.005	µg/L	20	0	98	75 - 120%	PASS
Manganese (Mn)	Total	15.66	0.01	0.02	µg/L	20	0.21	77	32 - 131%	PASS
Molybdenum (Mo)	Total	28.129	0.005	0.01	µg/L	20	8.529	98	54 - 131%	PASS
Nickel (Ni)	Total	18.6645	0.0025	0.005	µg/L	20	0.3708	91	60 - 113%	PASS
Selenium (Se)	Total	12.586	0.005	0.015	µg/L	20	0.037	63	0 - 183%	PASS
Silver (Ag)	Total	7.93	0.01	0.02	µg/L	8	0.01	99	64 - 133%	PASS

PHYSIS Project ID: 1307002-017

Client: AMEC

Project: RHMP Bight '13



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Thallium (Tl)	Total	18.378	0.005	0.01	µg/L	20	0.01	92	70 - 125% PASS	
Tin (Sn)	Total	17.386	0.005	0.01	µg/L	20	0	87	69 - 118% PASS	
Titanium (Ti)	Total	32.122	0.035	0.07	µg/L	20	14.688	87	72 - 129% PASS	
Vanadium (V)	Total	22.92	0.02	0.04	µg/L	20	1.82	106	72 - 137% PASS	
Zinc (Zn)	Total	17.2352	0.0025	0.005	µg/L	20	0.5985	83	61 - 128% PASS	

Sample ID: 22625-LCS2

QAQC LCM - Physis Seawater

Matrix: Seawater

Sampled:

Received:

Method: EPA 1640

Batch ID: E-7020

Prepared: 01-Nov-13

Analyzed: 05-Dec-13

Aluminum (Al)	Total	22.3	3	6	µg/L	20	0	112	0 - 191% PASS	0	30	PASS	
Antimony (Sb)	Total	2.84	0.01	0.015	µg/L	20	0.09	14	10 - 110% PASS	0	30	PASS	
Arsenic (As)	Total	21.11	0.005	0.015	µg/L	20	1.781	97	74 - 128% PASS	1	30	PASS	
Beryllium (Be)	Total	14.483	0.005	0.01	µg/L	20	0	72	60 - 118% PASS	0	30	PASS	
Cadmium (Cd)	Total	19.2234	0.0025	0.005	µg/L	20	0.0899	96	68 - 131% PASS	0	30	PASS	
Chromium (Cr)	Total	20.3118	0.0125	0.025	µg/L	20	0.2102	101	32 - 173% PASS	1	30	PASS	
Cobalt (Co)	Total	18.859	0.005	0.01	µg/L	20	0	94	87 - 119% PASS	0	30	PASS	
Copper (Cu)	Total	18.544	0.005	0.01	µg/L	20	0.102	92	61 - 119% PASS	0	30	PASS	
Iron (Fe)	Total	18.5	0.5	1	µg/L	20	3.3	76	22 - 129% PASS	4	30	PASS	
Lead (Pb)	Total	19.4427	0.0025	0.005	µg/L	20	0	97	75 - 120% PASS	0	30	PASS	
Manganese (Mn)	Total	14.05	0.01	0.02	µg/L	20	0.21	69	32 - 131% PASS	11	30	PASS	
Molybdenum (Mo)	Total	28.435	0.005	0.01	µg/L	20	8.529	100	54 - 131% PASS	2	30	PASS	
Nickel (Ni)	Total	18.7602	0.0025	0.005	µg/L	20	0.3708	92	60 - 113% PASS	1	30	PASS	
Selenium (Se)	Total	17.424	0.005	0.015	µg/L	20	0.037	87	0 - 183% PASS	32	30	FAIL	R
Silver (Ag)	Total	8.48	0.01	0.02	µg/L	8	0.01	106	64 - 133% PASS	7	30	PASS	
Thallium (Tl)	Total	18.462	0.005	0.01	µg/L	20	0.01	92	70 - 125% PASS	0	30	PASS	
Tin (Sn)	Total	17.873	0.005	0.01	µg/L	20	0	89	69 - 118% PASS	0	30	PASS	
Titanium (Ti)	Total	31.924	0.035	0.07	µg/L	20	14.688	86	72 - 129% PASS	1	30	PASS	
Vanadium (V)	Total	22.73	0.02	0.04	µg/L	20	1.82	105	72 - 137% PASS	1	30	PASS	
Zinc (Zn)	Total	17.4155	0.0025	0.005	µg/L	20	0.5985	84	61 - 128% PASS	1	30	PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22605-B1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 625			Batch ID: O-5004		Prepared: 13-Sep-13		Analyzed: 21-Oct-13	
(d10-Acenaphthene)	Total	73			% Recovery	100	73	50 - 150% PASS		
(d10-Phenanthrene)	Total	88			% Recovery	100	88	50 - 150% PASS		
(d12-Chrysene)	Total	100			% Recovery	100	100	50 - 150% PASS		
(d8-Naphthalene)	Total	63			% Recovery	100	63	25 - 125% PASS		
1-Methylnaphthalene	Total	ND	1	5	ng/L					
1-Methylphenanthrene	Total	ND	1	5	ng/L					
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L					
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L					
2-Methylnaphthalene	Total	ND	1	5	ng/L					
Acenaphthene	Total	ND	1	5	ng/L					
Acenaphthylene	Total	ND	1	5	ng/L					
Anthracene	Total	ND	1	5	ng/L					
Benz[a]anthracene	Total	ND	1	5	ng/L					
Benzo[a]pyrene	Total	ND	1	5	ng/L					
Benzo[b]fluoranthene	Total	ND	1	5	ng/L					
Benzo[e]pyrene	Total	ND	1	5	ng/L					
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L					
Benzo[k]fluoranthene	Total	ND	1	5	ng/L					
Biphenyl	Total	ND	1	5	ng/L					
Chrysene	Total	ND	1	5	ng/L					
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L					
Dibenzothiophene	Total	ND	1	5	ng/L					
Fluoranthene	Total	ND	1	5	ng/L					
Fluorene	Total	ND	1	5	ng/L					
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L					
Naphthalene	Total	ND	1	5	ng/L					
Perylene	Total	ND	1	5	ng/L					
Phenanthrene	Total	ND	1	5	ng/L					
Pyrene	Total	ND	1	5	ng/L					



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22605-BS1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 625			Batch ID: O-5004		Prepared: 13-Sep-13		Analyzed: 21-Oct-13	
(d10-Acenaphthene)	Total	101			% Recovery	100	0	101	50 - 150% PASS	
(d10-Phenanthrene)	Total	97			% Recovery	100	0	97	50 - 150% PASS	
(d12-Chrysene)	Total	107			% Recovery	100	0	107	50 - 150% PASS	
(d8-Naphthalene)	Total	96			% Recovery	100	0	96	25 - 125% PASS	
1-Methylnaphthalene	Total	959.2	1	5	ng/L	1000	0	96	50 - 150% PASS	
1-Methylphenanthrene	Total	966.7	1	5	ng/L	1000	0	97	50 - 150% PASS	
2,3,5-Trimethylnaphthalene	Total	1014.8	1	5	ng/L	1000	0	101	50 - 150% PASS	
2,6-Dimethylnaphthalene	Total	994.6	1	5	ng/L	1000	0	99	50 - 150% PASS	
2-Methylnaphthalene	Total	976.4	1	5	ng/L	1000	0	98	50 - 150% PASS	
Acenaphthene	Total	1000.2	1	5	ng/L	1000	0	100	50 - 150% PASS	
Acenaphthylene	Total	951.8	1	5	ng/L	1000	0	95	50 - 150% PASS	
Anthracene	Total	915.6	1	5	ng/L	1000	0	92	50 - 150% PASS	
Benz[a]anthracene	Total	1073.8	1	5	ng/L	1000	0	107	50 - 150% PASS	
Benzo[a]pyrene	Total	1014.4	1	5	ng/L	1000	0	101	50 - 150% PASS	
Benzo[b]fluoranthene	Total	1098.5	1	5	ng/L	1000	0	110	50 - 150% PASS	
Benzo[e]pyrene	Total	1039.1	1	5	ng/L	1000	0	104	50 - 150% PASS	
Benzo[g,h,i]perylene	Total	1008.9	1	5	ng/L	1000	0	101	50 - 150% PASS	
Benzo[k]fluoranthene	Total	1016.4	1	5	ng/L	1000	0	102	50 - 150% PASS	
Biphenyl	Total	990.5	1	5	ng/L	1000	0	99	50 - 150% PASS	
Chrysene	Total	1045	1	5	ng/L	1000	0	104	50 - 150% PASS	
Dibenz[a,h]anthracene	Total	1002.9	1	5	ng/L	1000	0	100	50 - 150% PASS	
Dibenzothiophene	Total	958.9	1	5	ng/L	1000	0	96	50 - 150% PASS	
Fluoranthene	Total	934	1	5	ng/L	1000	0	93	50 - 150% PASS	
Fluorene	Total	1002.1	1	5	ng/L	1000	0	100	50 - 150% PASS	
Indeno[1,2,3-c,d]pyrene	Total	1028	1	5	ng/L	1000	0	103	50 - 150% PASS	
Naphthalene	Total	947.6	1	5	ng/L	1000	0	95	25 - 125% PASS	
Perylene	Total	1018	1	5	ng/L	1000	0	102	50 - 150% PASS	
Phenanthrene	Total	966	1	5	ng/L	1000	0	97	50 - 150% PASS	
Pyrene	Total	946.4	1	5	ng/L	1000	0	95	50 - 150% PASS	



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22605-BS2		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 625			Batch ID: O-5004		Prepared: 13-Sep-13		Analyzed: 21-Oct-13	
(d10-Acenaphthene)	Total	86			% Recovery	100	0	86 50 - 150% PASS	16 30 PASS	
(d10-Phenanthrene)	Total	96			% Recovery	100	0	96 50 - 150% PASS	1 30 PASS	
(d12-Chrysene)	Total	103			% Recovery	100	0	103 50 - 150% PASS	4 30 PASS	
(d8-Naphthalene)	Total	81			% Recovery	100	0	81 25 - 125% PASS	17 30 PASS	
1-Methylnaphthalene	Total	822	1	5	ng/L	1000	0	82 50 - 150% PASS	16 30 PASS	
1-Methylphenanthrene	Total	995.9	1	5	ng/L	1000	0	100 50 - 150% PASS	3 30 PASS	
2,3,5-Trimethylnaphthalene	Total	883.6	1	5	ng/L	1000	0	88 50 - 150% PASS	14 30 PASS	
2,6-Dimethylnaphthalene	Total	862.6	1	5	ng/L	1000	0	86 50 - 150% PASS	14 30 PASS	
2-Methylnaphthalene	Total	844.1	1	5	ng/L	1000	0	84 50 - 150% PASS	15 30 PASS	
Acenaphthene	Total	856.4	1	5	ng/L	1000	0	86 50 - 150% PASS	15 30 PASS	
Acenaphthylene	Total	831.6	1	5	ng/L	1000	0	83 50 - 150% PASS	13 30 PASS	
Anthracene	Total	943.2	1	5	ng/L	1000	0	94 50 - 150% PASS	2 30 PASS	
Benz[a]anthracene	Total	1058.8	1	5	ng/L	1000	0	106 50 - 150% PASS	1 30 PASS	
Benzo[a]pyrene	Total	975.7	1	5	ng/L	1000	0	98 50 - 150% PASS	3 30 PASS	
Benzo[b]fluoranthene	Total	1085.3	1	5	ng/L	1000	0	109 50 - 150% PASS	1 30 PASS	
Benzo[e]pyrene	Total	1016.5	1	5	ng/L	1000	0	102 50 - 150% PASS	2 30 PASS	
Benzo[g,h,i]perylene	Total	1012.5	1	5	ng/L	1000	0	101 50 - 150% PASS	0 30 PASS	
Benzo[k]fluoranthene	Total	968	1	5	ng/L	1000	0	97 50 - 150% PASS	5 30 PASS	
Biphenyl	Total	857.1	1	5	ng/L	1000	0	86 50 - 150% PASS	14 30 PASS	
Chrysene	Total	1015	1	5	ng/L	1000	0	101 50 - 150% PASS	2 30 PASS	
Dibenz[a,h]anthracene	Total	1031.8	1	5	ng/L	1000	0	103 50 - 150% PASS	3 30 PASS	
Dibenzothiophene	Total	942	1	5	ng/L	1000	0	94 50 - 150% PASS	2 30 PASS	
Fluoranthene	Total	1014.9	1	5	ng/L	1000	0	101 50 - 150% PASS	8 30 PASS	
Fluorene	Total	909.4	1	5	ng/L	1000	0	91 50 - 150% PASS	9 30 PASS	
Indeno[1,2,3-c,d]pyrene	Total	1051.9	1	5	ng/L	1000	0	105 50 - 150% PASS	2 30 PASS	
Naphthalene	Total	814.9	1	5	ng/L	1000	0	81 25 - 125% PASS	16 30 PASS	
Perylene	Total	995.2	1	5	ng/L	1000	0	100 50 - 150% PASS	2 30 PASS	
Phenanthrene	Total	967.5	1	5	ng/L	1000	0	97 50 - 150% PASS	0 30 PASS	
Pyrene	Total	1037.6	1	5	ng/L	1000	0	104 50 - 150% PASS	9 30 PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22606-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 625

Batch ID: O-5005

Prepared: 13-Sep-13

Analyzed: 23-Oct-13

(d10-Acenaphthene)	Total	94			% Recovery	100		94	50 - 150%	PASS
(d10-Phenanthrene)	Total	92			% Recovery	100		92	50 - 150%	PASS
(d12-Chrysene)	Total	100			% Recovery	100		100	50 - 150%	PASS
(d8-Naphthalene)	Total	89			% Recovery	100		89	25 - 125%	PASS
1-Methylnaphthalene	Total	ND	1	5	ng/L					
1-Methylphenanthrene	Total	ND	1	5	ng/L					
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L					
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L					
2-Methylnaphthalene	Total	ND	1	5	ng/L					
Acenaphthene	Total	ND	1	5	ng/L					
Acenaphthylene	Total	ND	1	5	ng/L					
Anthracene	Total	ND	1	5	ng/L					
Benz[a]anthracene	Total	ND	1	5	ng/L					
Benzo[a]pyrene	Total	ND	1	5	ng/L					
Benzo[b]fluoranthene	Total	ND	1	5	ng/L					
Benzo[e]pyrene	Total	ND	1	5	ng/L					
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L					
Benzo[k]fluoranthene	Total	ND	1	5	ng/L					
Biphenyl	Total	ND	1	5	ng/L					
Chrysene	Total	ND	1	5	ng/L					
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L					
Dibenzothiophene	Total	ND	1	5	ng/L					
Fluoranthene	Total	ND	1	5	ng/L					
Fluorene	Total	ND	1	5	ng/L					
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L					
Naphthalene	Total	ND	1	5	ng/L					
Perylene	Total	ND	1	5	ng/L					
Phenanthrene	Total	ND	1	5	ng/L					
Pyrene	Total	ND	1	5	ng/L					

PHYSIS Project ID: 1307002-017

Client: AMEC

Project: RHMP Bight '13



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22606-BS1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 625			Batch ID: O-5005		Prepared: 13-Sep-13		Analyzed: 23-Oct-13	
(d10-Acenaphthene)	Total	94			% Recovery	100	0	94	50 - 150% PASS	
(d10-Phenanthrene)	Total	96			% Recovery	100	0	96	50 - 150% PASS	
(d12-Chrysene)	Total	107			% Recovery	100	0	107	50 - 150% PASS	
(d8-Naphthalene)	Total	90			% Recovery	100	0	90	25 - 125% PASS	
1-Methylnaphthalene	Total	921.9	1	5	ng/L	1000	0	92	50 - 150% PASS	
1-Methylphenanthrene	Total	994.4	1	5	ng/L	1000	0	99	50 - 150% PASS	
2,3,5-Trimethylnaphthalene	Total	973	1	5	ng/L	1000	0	97	50 - 150% PASS	
2,6-Dimethylnaphthalene	Total	948.8	1	5	ng/L	1000	0	95	50 - 150% PASS	
2-Methylnaphthalene	Total	933.1	1	5	ng/L	1000	0	93	50 - 150% PASS	
Acenaphthene	Total	944.9	1	5	ng/L	1000	0	94	50 - 150% PASS	
Acenaphthylene	Total	912.7	1	5	ng/L	1000	0	91	50 - 150% PASS	
Anthracene	Total	951	1	5	ng/L	1000	0	95	50 - 150% PASS	
Benz[a]anthracene	Total	1098.7	1	5	ng/L	1000	0	110	50 - 150% PASS	
Benzo[a]pyrene	Total	1038.9	1	5	ng/L	1000	0	104	50 - 150% PASS	
Benzo[b]fluoranthene	Total	1128.1	1	5	ng/L	1000	0	113	50 - 150% PASS	
Benzo[e]pyrene	Total	1067.1	1	5	ng/L	1000	0	107	50 - 150% PASS	
Benzo[g,h,i]perylene	Total	1029.7	1	5	ng/L	1000	0	103	50 - 150% PASS	
Benzo[k]fluoranthene	Total	1033.4	1	5	ng/L	1000	0	103	50 - 150% PASS	
Biphenyl	Total	952.2	1	5	ng/L	1000	0	95	50 - 150% PASS	
Chrysene	Total	1075.5	1	5	ng/L	1000	0	108	50 - 150% PASS	
Dibenz[a,h]anthracene	Total	1033.2	1	5	ng/L	1000	0	103	50 - 150% PASS	
Dibenzothiophene	Total	970.6	1	5	ng/L	1000	0	97	50 - 150% PASS	
Fluoranthene	Total	991.8	1	5	ng/L	1000	0	99	50 - 150% PASS	
Fluorene	Total	974.8	1	5	ng/L	1000	0	97	50 - 150% PASS	
Indeno[1,2,3-c,d]pyrene	Total	1054.2	1	5	ng/L	1000	0	105	50 - 150% PASS	
Naphthalene	Total	909.6	1	5	ng/L	1000	0	91	25 - 125% PASS	
Perylene	Total	1057.8	1	5	ng/L	1000	0	106	50 - 150% PASS	
Phenanthrene	Total	980.2	1	5	ng/L	1000	0	98	50 - 150% PASS	
Pyrene	Total	1006	1	5	ng/L	1000	0	101	50 - 150% PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22606-BS2		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 625			Batch ID: O-5005		Prepared: 13-Sep-13		Analyzed: 23-Oct-13	
(d10-Acenaphthene)	Total	84			% Recovery	100	0	84 50 - 150% PASS	11 30 PASS	
(d10-Phenanthrene)	Total	95			% Recovery	100	0	95 50 - 150% PASS	1 30 PASS	
(d12-Chrysene)	Total	104			% Recovery	100	0	104 50 - 150% PASS	3 30 PASS	
(d8-Naphthalene)	Total	75			% Recovery	100	0	75 25 - 125% PASS	18 30 PASS	
1-Methylnaphthalene	Total	787.4	1	5	ng/L	1000	0	79 50 - 150% PASS	15 30 PASS	
1-Methylphenanthrene	Total	1005	1	5	ng/L	1000	0	100 50 - 150% PASS	1 30 PASS	
2,3,5-Trimethylnaphthalene	Total	883	1	5	ng/L	1000	0	88 50 - 150% PASS	10 30 PASS	
2,6-Dimethylnaphthalene	Total	839	1	5	ng/L	1000	0	84 50 - 150% PASS	12 30 PASS	
2-Methylnaphthalene	Total	801.1	1	5	ng/L	1000	0	80 50 - 150% PASS	15 30 PASS	
Acenaphthene	Total	846.1	1	5	ng/L	1000	0	85 50 - 150% PASS	10 30 PASS	
Acenaphthylene	Total	813.2	1	5	ng/L	1000	0	81 50 - 150% PASS	12 30 PASS	
Anthracene	Total	956.9	1	5	ng/L	1000	0	96 50 - 150% PASS	1 30 PASS	
Benz[a]anthracene	Total	1069.6	1	5	ng/L	1000	0	107 50 - 150% PASS	3 30 PASS	
Benzo[a]pyrene	Total	1010.4	1	5	ng/L	1000	0	101 50 - 150% PASS	3 30 PASS	
Benzo[b]fluoranthene	Total	1107.1	1	5	ng/L	1000	0	111 50 - 150% PASS	2 30 PASS	
Benzo[e]pyrene	Total	1034.3	1	5	ng/L	1000	0	103 50 - 150% PASS	4 30 PASS	
Benzo[g,h,i]perylene	Total	1024.7	1	5	ng/L	1000	0	102 50 - 150% PASS	1 30 PASS	
Benzo[k]fluoranthene	Total	983.9	1	5	ng/L	1000	0	98 50 - 150% PASS	5 30 PASS	
Biphenyl	Total	822.3	1	5	ng/L	1000	0	82 50 - 150% PASS	15 30 PASS	
Chrysene	Total	1041.1	1	5	ng/L	1000	0	104 50 - 150% PASS	4 30 PASS	
Dibenz[a,h]anthracene	Total	1033.7	1	5	ng/L	1000	0	103 50 - 150% PASS	0 30 PASS	
Dibenzothiophene	Total	956.5	1	5	ng/L	1000	0	96 50 - 150% PASS	1 30 PASS	
Fluoranthene	Total	1038.3	1	5	ng/L	1000	0	104 50 - 150% PASS	5 30 PASS	
Fluorene	Total	904.8	1	5	ng/L	1000	0	90 50 - 150% PASS	7 30 PASS	
Indeno[1,2,3-c,d]pyrene	Total	1065.7	1	5	ng/L	1000	0	107 50 - 150% PASS	2 30 PASS	
Naphthalene	Total	759.8	1	5	ng/L	1000	0	76 25 - 125% PASS	18 30 PASS	
Perylene	Total	1028.6	1	5	ng/L	1000	0	103 50 - 150% PASS	3 30 PASS	
Phenanthrene	Total	971.4	1	5	ng/L	1000	0	97 50 - 150% PASS	1 30 PASS	
Pyrene	Total	1062.8	1	5	ng/L	1000	0	106 50 - 150% PASS	5 30 PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22613-MS1		B13-8127 Grab		Matrix: Seawater		Sampled: 09-Sep-13 15:40		Received: 10-Sep-13		
		Method: EPA 625		Batch ID: O-5004		Prepared: 13-Sep-13		Analyzed: 21-Oct-13		
(d10-Acenaphthene)	Total	96			% Recovery	100	0	96	50 - 150%	PASS
(d10-Phenanthrene)	Total	86			% Recovery	100	0	86	50 - 150%	PASS
(d12-Chrysene)	Total	93			% Recovery	100	0	93	50 - 150%	PASS
(d8-Naphthalene)	Total	94			% Recovery	100	0	94	25 - 125%	PASS
1-Methylnaphthalene	Total	803.8	1	5	ng/L	1000	0.5	80	50 - 150%	PASS
1-Methylphenanthrene	Total	722.5	1	5	ng/L	1000	0	72	50 - 150%	PASS
2,3,5-Trimethylnaphthalene	Total	775.4	1	5	ng/L	1000	0	78	50 - 150%	PASS
2,6-Dimethylnaphthalene	Total	759.4	1	5	ng/L	1000	0	76	50 - 150%	PASS
2-Methylnaphthalene	Total	774.7	1	5	ng/L	1000	0.5	77	50 - 150%	PASS
Acenaphthene	Total	841.3	1	5	ng/L	1000	0	84	50 - 150%	PASS
Acenaphthylene	Total	805.5	1	5	ng/L	1000	0	81	50 - 150%	PASS
Anthracene	Total	772	1	5	ng/L	1000	0	77	50 - 150%	PASS
Benz[a]anthracene	Total	740.9	1	5	ng/L	1000	0	74	50 - 150%	PASS
Benzo[a]pyrene	Total	923.1	1	5	ng/L	1000	0	92	50 - 150%	PASS
Benzo[b]fluoranthene	Total	1026.1	1	5	ng/L	1000	0	103	50 - 150%	PASS
Benzo[e]pyrene	Total	1115.4	1	5	ng/L	1000	0	112	50 - 150%	PASS
Benzo[g,h,i]perylene	Total	717.2	1	5	ng/L	1000	0	72	50 - 150%	PASS
Benzo[k]fluoranthene	Total	1118.3	1	5	ng/L	1000	0	112	50 - 150%	PASS
Biphenyl	Total	794.2	1	5	ng/L	1000	0	79	50 - 150%	PASS
Chrysene	Total	792.3	1	5	ng/L	1000	0	79	50 - 150%	PASS
Dibenz[a,h]anthracene	Total	847.5	1	5	ng/L	1000	0	85	50 - 150%	PASS
Dibenzothiophene	Total	705.6	1	5	ng/L	1000	0	71	50 - 150%	PASS
Fluoranthene	Total	737.3	1	5	ng/L	1000	2.3	74	50 - 150%	PASS
Fluorene	Total	748.8	1	5	ng/L	1000	0.5	75	50 - 150%	PASS
Indeno[1,2,3-c,d]pyrene	Total	509.9	1	5	ng/L	1000	0	51	50 - 150%	PASS
Naphthalene	Total	807.8	1	5	ng/L	1000	1.8	81	25 - 125%	PASS
Perylene	Total	956.6	1	5	ng/L	1000	0	96	50 - 150%	PASS
Phenanthrene	Total	719	1	5	ng/L	1000	1.7	72	50 - 150%	PASS
Pyrene	Total	755	1	5	ng/L	1000	0	75	50 - 150%	PASS



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22613-MS2		B13-8127 Grab		Matrix: Seawater		Sampled: 09-Sep-13 15:40		Received: 10-Sep-13		
		Method: EPA 625		Batch ID: O-5004		Prepared: 13-Sep-13		Analyzed: 21-Oct-13		
(d10-Acenaphthene)	Total	81			% Recovery	100	0	81 50 - 150% PASS	17 30 PASS	
(d10-Phenanthrene)	Total	95			% Recovery	100	0	95 50 - 150% PASS	10 30 PASS	
(d12-Chrysene)	Total	110			% Recovery	100	0	110 50 - 150% PASS	17 30 PASS	
(d8-Naphthalene)	Total	72			% Recovery	100	0	72 25 - 125% PASS	27 30 PASS	
1-Methylnaphthalene	Total	757.1	1	5	ng/L	1000	0.5	76 50 - 150% PASS	5 30 PASS	
1-Methylphenanthrene	Total	989.2	1	5	ng/L	1000	0	99 50 - 150% PASS	32 30 FAIL	M
2,3,5-Trimethylnaphthalene	Total	827.1	1	5	ng/L	1000	0	83 50 - 150% PASS	6 30 PASS	
2,6-Dimethylnaphthalene	Total	774	1	5	ng/L	1000	0	77 50 - 150% PASS	1 30 PASS	
2-Methylnaphthalene	Total	751.4	1	5	ng/L	1000	0.5	75 50 - 150% PASS	3 30 PASS	
Acenaphthene	Total	826	1	5	ng/L	1000	0	83 50 - 150% PASS	1 30 PASS	
Acenaphthylene	Total	816.9	1	5	ng/L	1000	0	82 50 - 150% PASS	1 30 PASS	
Anthracene	Total	918.4	1	5	ng/L	1000	0	92 50 - 150% PASS	18 30 PASS	
Benz[a]anthracene	Total	1130	1	5	ng/L	1000	0	113 50 - 150% PASS	42 30 FAIL	M
Benzo[a]pyrene	Total	993.9	1	5	ng/L	1000	0	99 50 - 150% PASS	7 30 PASS	
Benzo[b]fluoranthene	Total	1088.6	1	5	ng/L	1000	0	109 50 - 150% PASS	6 30 PASS	
Benzo[e]pyrene	Total	1018.2	1	5	ng/L	1000	0	102 50 - 150% PASS	9 30 PASS	
Benzo[g,h,i]perylene	Total	994.6	1	5	ng/L	1000	0	99 50 - 150% PASS	32 30 FAIL	M
Benzo[k]fluoranthene	Total	975	1	5	ng/L	1000	0	98 50 - 150% PASS	13 30 PASS	
Biphenyl	Total	800.7	1	5	ng/L	1000	0	80 50 - 150% PASS	1 30 PASS	
Chrysene	Total	1082.7	1	5	ng/L	1000	0	108 50 - 150% PASS	31 30 FAIL	M
Dibenz[a,h]anthracene	Total	1027.2	1	5	ng/L	1000	0	103 50 - 150% PASS	19 30 PASS	
Dibenzothiophene	Total	945.4	1	5	ng/L	1000	0	95 50 - 150% PASS	29 30 PASS	
Fluoranthene	Total	1003.4	1	5	ng/L	1000	2.3	100 50 - 150% PASS	30 30 PASS	
Fluorene	Total	898.4	1	5	ng/L	1000	0.5	90 50 - 150% PASS	18 30 PASS	
Indeno[1,2,3-c,d]pyrene	Total	1032.1	1	5	ng/L	1000	0	103 50 - 150% PASS	68 30 FAIL	M
Naphthalene	Total	722	1	5	ng/L	1000	1.8	72 25 - 125% PASS	12 30 PASS	
Perylene	Total	1010.6	1	5	ng/L	1000	0	101 50 - 150% PASS	5 30 PASS	
Phenanthrene	Total	970.4	1	5	ng/L	1000	1.7	97 50 - 150% PASS	30 30 PASS	
Pyrene	Total	1007.3	1	5	ng/L	1000	0	101 50 - 150% PASS	28 30 PASS	



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22613-R2		B13-8127 Grab		Matrix: Seawater		Sampled: 09-Sep-13 15:40		Received: 10-Sep-13		
		Method: EPA 625		Batch ID: O-5004		Prepared: 13-Sep-13		Analyzed: 21-Oct-13		
(d10-Acenaphthene)	Total	78			% Recovery	100	78	50 - 150% PASS	1 30	PASS
(d10-Phenanthrene)	Total	94			% Recovery	100	94	50 - 150% PASS	0 30	PASS
(d12-Chrysene)	Total	106			% Recovery	100	106	50 - 150% PASS	2 30	PASS
(d8-Naphthalene)	Total	67			% Recovery	100	67	25 - 125% PASS	1 30	PASS
1-Methylnaphthalene	Total	1	1	5	ng/L				0 30	PASS J
1-Methylphenanthrene	Total	ND	1	5	ng/L				0 30	PASS
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L				0 30	PASS
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L				0 30	PASS
2-Methylnaphthalene	Total	ND	1	5	ng/L				0 30	PASS
Acenaphthene	Total	ND	1	5	ng/L				0 30	PASS
Acenaphthylene	Total	ND	1	5	ng/L				0 30	PASS
Anthracene	Total	ND	1	5	ng/L				0 30	PASS
Benz[a]anthracene	Total	ND	1	5	ng/L				0 30	PASS
Benzo[a]pyrene	Total	ND	1	5	ng/L				0 30	PASS
Benzo[b]fluoranthene	Total	ND	1	5	ng/L				0 30	PASS
Benzo[e]pyrene	Total	ND	1	5	ng/L				0 30	PASS
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L				0 30	PASS
Benzo[k]fluoranthene	Total	ND	1	5	ng/L				0 30	PASS
Biphenyl	Total	ND	1	5	ng/L				0 30	PASS
Chrysene	Total	ND	1	5	ng/L				0 30	PASS
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L				0 30	PASS
Dibenzothiophene	Total	ND	1	5	ng/L				0 30	PASS
Fluoranthene	Total	2	1	5	ng/L				26 30	PASS J
Fluorene	Total	ND	1	5	ng/L				0 30	PASS
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L				0 30	PASS
Naphthalene	Total	1.9	1	5	ng/L				5 30	PASS J
Perylene	Total	ND	1	5	ng/L				0 30	PASS
Phenanthrene	Total	1.4	1	5	ng/L				35 30	FAIL J,SL
Pyrene	Total	ND	1	5	ng/L				0 30	PASS



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22615-MS1		B13-8085 Grab		Matrix: Seawater		Sampled: 10-Sep-13 8:10		Received: 10-Sep-13		
		Method: EPA 625		Batch ID: O-5005		Prepared: 13-Sep-13		Analyzed: 23-Oct-13		
(d10-Acenaphthene)	Total	77			% Recovery	100	0	77 50 - 150%	PASS	
(d10-Phenanthrene)	Total	90			% Recovery	100	0	90 50 - 150%	PASS	
(d12-Chrysene)	Total	104			% Recovery	100	0	104 50 - 150%	PASS	
(d8-Naphthalene)	Total	66			% Recovery	100	0	66 25 - 125%	PASS	
1-Methylnaphthalene	Total	726.4	1	5	ng/L	1000	0	73 50 - 150%	PASS	
1-Methylphenanthrene	Total	968.6	1	5	ng/L	1000	0	97 50 - 150%	PASS	
2,3,5-Trimethylnaphthalene	Total	848	1	5	ng/L	1000	0	85 50 - 150%	PASS	
2,6-Dimethylnaphthalene	Total	792.8	1	5	ng/L	1000	0	79 50 - 150%	PASS	
2-Methylnaphthalene	Total	743	1	5	ng/L	1000	0	74 50 - 150%	PASS	
Acenaphthene	Total	808.9	1	5	ng/L	1000	0	81 50 - 150%	PASS	
Acenaphthylene	Total	799.1	1	5	ng/L	1000	0	80 50 - 150%	PASS	
Anthracene	Total	906.9	1	5	ng/L	1000	0	91 50 - 150%	PASS	
Benz[a]anthracene	Total	1083	1	5	ng/L	1000	0	108 50 - 150%	PASS	
Benzo[a]pyrene	Total	967.1	1	5	ng/L	1000	0	97 50 - 150%	PASS	
Benzo[b]fluoranthene	Total	1051	1	5	ng/L	1000	0	105 50 - 150%	PASS	
Benzo[e]pyrene	Total	986.2	1	5	ng/L	1000	0	99 50 - 150%	PASS	
Benzo[g,h,i]perylene	Total	976.3	1	5	ng/L	1000	0	98 50 - 150%	PASS	
Benzo[k]fluoranthene	Total	950.1	1	5	ng/L	1000	0	95 50 - 150%	PASS	
Biphenyl	Total	788.2	1	5	ng/L	1000	0	79 50 - 150%	PASS	
Chrysene	Total	1054.7	1	5	ng/L	1000	0	105 50 - 150%	PASS	
Dibenz[a,h]anthracene	Total	988.5	1	5	ng/L	1000	0	99 50 - 150%	PASS	
Dibenzothiophene	Total	911.5	1	5	ng/L	1000	0	91 50 - 150%	PASS	
Fluoranthene	Total	975.9	1	5	ng/L	1000	2.7	97 50 - 150%	PASS	
Fluorene	Total	878.8	1	5	ng/L	1000	0.6	88 50 - 150%	PASS	
Indeno[1,2,3-c,d]pyrene	Total	993.2	1	5	ng/L	1000	0	99 50 - 150%	PASS	
Naphthalene	Total	697.2	1	5	ng/L	1000	1.2	70 25 - 125%	PASS	
Perylene	Total	969.8	1	5	ng/L	1000	0	97 50 - 150%	PASS	
Phenanthrene	Total	933.2	1	5	ng/L	1000	1.7	93 50 - 150%	PASS	
Pyrene	Total	991	1	5	ng/L	1000	1.4	99 50 - 150%	PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22615-MS2		B13-8085 Grab		Matrix: Seawater		Sampled: 10-Sep-13 8:10		Received: 10-Sep-13		
		Method: EPA 625		Batch ID: O-5005		Prepared: 13-Sep-13		Analyzed: 23-Oct-13		
(d10-Acenaphthene)	Total	90			% Recovery	100	0	90 50 - 150% PASS	16 30 PASS	
(d10-Phenanthrene)	Total	94			% Recovery	100	0	94 50 - 150% PASS	4 30 PASS	
(d12-Chrysene)	Total	113			% Recovery	100	0	113 50 - 150% PASS	8 30 PASS	
(d8-Naphthalene)	Total	80			% Recovery	100	0	80 25 - 125% PASS	19 30 PASS	
1-Methylnaphthalene	Total	845.8	1	5	ng/L	1000	0	85 50 - 150% PASS	15 30 PASS	
1-Methylphenanthrene	Total	965.6	1	5	ng/L	1000	0	97 50 - 150% PASS	0 30 PASS	
2,3,5-Trimethylnaphthalene	Total	952.6	1	5	ng/L	1000	0	95 50 - 150% PASS	11 30 PASS	
2,6-Dimethylnaphthalene	Total	915.1	1	5	ng/L	1000	0	92 50 - 150% PASS	15 30 PASS	
2-Methylnaphthalene	Total	872.4	1	5	ng/L	1000	0	87 50 - 150% PASS	16 30 PASS	
Acenaphthene	Total	915.3	1	5	ng/L	1000	0	92 50 - 150% PASS	13 30 PASS	
Acenaphthylene	Total	901	1	5	ng/L	1000	0	90 50 - 150% PASS	12 30 PASS	
Anthracene	Total	921.5	1	5	ng/L	1000	0	92 50 - 150% PASS	1 30 PASS	
Benz[a]anthracene	Total	1148.5	1	5	ng/L	1000	0	115 50 - 150% PASS	6 30 PASS	
Benzo[a]pyrene	Total	1013.7	1	5	ng/L	1000	0	101 50 - 150% PASS	4 30 PASS	
Benzo[b]fluoranthene	Total	1097.1	1	5	ng/L	1000	0	110 50 - 150% PASS	5 30 PASS	
Benzo[e]pyrene	Total	1029.7	1	5	ng/L	1000	0	103 50 - 150% PASS	4 30 PASS	
Benzo[g,h,i]perylene	Total	994.8	1	5	ng/L	1000	0	99 50 - 150% PASS	1 30 PASS	
Benzo[k]fluoranthene	Total	997.8	1	5	ng/L	1000	0	100 50 - 150% PASS	5 30 PASS	
Biphenyl	Total	904.4	1	5	ng/L	1000	0	90 50 - 150% PASS	13 30 PASS	
Chrysene	Total	1124.5	1	5	ng/L	1000	0	112 50 - 150% PASS	6 30 PASS	
Dibenz[a,h]anthracene	Total	1015.6	1	5	ng/L	1000	0	102 50 - 150% PASS	3 30 PASS	
Dibenzothiophene	Total	945.2	1	5	ng/L	1000	0	95 50 - 150% PASS	4 30 PASS	
Fluoranthene	Total	922	1	5	ng/L	1000	2.7	92 50 - 150% PASS	5 30 PASS	
Fluorene	Total	955.2	1	5	ng/L	1000	0.6	95 50 - 150% PASS	8 30 PASS	
Indeno[1,2,3-c,d]pyrene	Total	1004.8	1	5	ng/L	1000	0	100 50 - 150% PASS	1 30 PASS	
Naphthalene	Total	831.5	1	5	ng/L	1000	1.2	83 25 - 125% PASS	17 30 PASS	
Perylene	Total	1024.2	1	5	ng/L	1000	0	102 50 - 150% PASS	5 30 PASS	
Phenanthrene	Total	951.8	1	5	ng/L	1000	1.7	95 50 - 150% PASS	2 30 PASS	
Pyrene	Total	932.8	1	5	ng/L	1000	1.4	93 50 - 150% PASS	6 30 PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22615-R2		B13-8085 Grab		Matrix: Seawater		Sampled: 10-Sep-13 8:10		Received: 10-Sep-13		
		Method: EPA 625		Batch ID: O-5005		Prepared: 13-Sep-13		Analyzed: 23-Oct-13		
(d10-Acenaphthene)	Total	80			% Recovery	100	80	50 - 150% PASS	4 30	PASS
(d10-Phenanthrene)	Total	94			% Recovery	100	94	50 - 150% PASS	1 30	PASS
(d12-Chrysene)	Total	120			% Recovery	100	120	50 - 150% PASS	6 30	PASS
(d8-Naphthalene)	Total	66			% Recovery	100	66	25 - 125% PASS	4 30	PASS
1-Methylnaphthalene	Total	ND	1	5	ng/L				0 30	PASS
1-Methylphenanthrene	Total	ND	1	5	ng/L				0 30	PASS
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L				0 30	PASS
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L				0 30	PASS
2-Methylnaphthalene	Total	ND	1	5	ng/L				0 30	PASS
Acenaphthene	Total	ND	1	5	ng/L				0 30	PASS
Acenaphthylene	Total	ND	1	5	ng/L				0 30	PASS
Anthracene	Total	ND	1	5	ng/L				0 30	PASS
Benz[a]anthracene	Total	ND	1	5	ng/L				0 30	PASS
Benzo[a]pyrene	Total	ND	1	5	ng/L				0 30	PASS
Benzo[b]fluoranthene	Total	ND	1	5	ng/L				0 30	PASS
Benzo[e]pyrene	Total	ND	1	5	ng/L				0 30	PASS
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L				0 30	PASS
Benzo[k]fluoranthene	Total	ND	1	5	ng/L				0 30	PASS
Biphenyl	Total	ND	1	5	ng/L				0 30	PASS
Chrysene	Total	ND	1	5	ng/L				0 30	PASS
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L				0 30	PASS
Dibenzothiophene	Total	ND	1	5	ng/L				0 30	PASS
Fluoranthene	Total	3	1	5	ng/L				18 30	PASS J
Fluorene	Total	ND	1	5	ng/L				26 30	PASS
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L				0 30	PASS
Naphthalene	Total	1.3	1	5	ng/L				8 30	PASS J
Perylene	Total	ND	1	5	ng/L				0 30	PASS
Phenanthrene	Total	1.8	1	5	ng/L				18 30	PASS J
Pyrene	Total	1.6	1	5	ng/L				21 30	PASS J

SUBCONTRACT

REPORT

TERRA CONSULTING, INC. AURORA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS

CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

1307002-017

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8111	9/9/13	0830	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8111			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8111			DOC	Grab	40 mL VOA	None	2
B13-8111			MTBE	Grab	40 mL VOA	HCl	3
B13-8111			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8111			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8111			PAHs	Grab	1 L Glass	None	2
B13-8111			TOC	Grab	40 mL VOA	H2SO4	2
B13-8111			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JR*

Relinquished By: *[Signature]*

Date/Time: *9/10/13 1900*

Received By: *[Signature]*

Date/Time: *9/10/13 1900*

Relinquished By: *[Signature]*

Date/Time: *9/10/13 2115*

Received By: *[Signature]*

Date/Time: *9/10/13 2115*

Analysis Request and Chain of Custody

RHMP

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Attn: Chris Stransky
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To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8112	9/9/13	0940	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8112			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8112			DOC	Grab	40 mL VOA	None	2
B13-8112			MTBE	Grab	40 mL VOA	HCl	3
B13-8112			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8112			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8112			PAHs	Grab	1 L Glass	None	2
B13-8112			TOC	Grab	40 mL VOA	H2SO4	2
B13-8112			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JSR*

Relinquished By: *[Signature]*

Date/Time: 9/10/13 1900

Received By: *[Signature]*

Date/Time: 9/10/13 1400

Relinquished By: *[Signature]*

Date/Time: 9/10/13 2115

Received By: *[Signature]*

Date/Time: 9/10/13 2115

Analysis Request and Chain of Custody

RHMP

Bight '13

From:

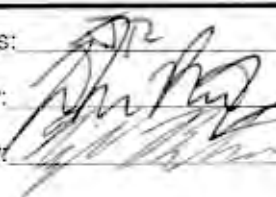
AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

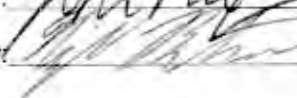
To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321


SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8500	9/9/13	1045	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8500			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8500			DOC	Grab	40 mL VOA	None	2
B13-8500			MTBE	Grab	40 mL VOA	HCl	3
B13-8500			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8500			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8500			PAHs	Grab	1 L Glass	None	2
B13-8500			TOC	Grab	40 mL VOA	H2SO4	2
B13-8500			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

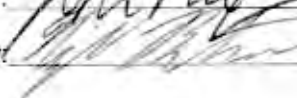
Sampler's Initials: 

Relinquished By: 

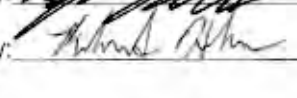
Date/Time: 9/10/13 1500

Received By: 

Date/Time: 9/10/13 1900

Relinquished By: 

Date/Time: 9/10/13 2115

Received By: 

Date/Time: 9/10/13 2115

Analysis Request and Chain of Custody

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To:

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Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8123	9/9/13	1145	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8123			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8123			DOC	Grab	40 mL VOA	None	2
B13-8123			MTBE	Grab	40 mL VOA	HCl	3
B13-8123			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8123			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8123			PAHs	Grab	1 L Glass	None	2
B13-8123			TOC	Grab	40 mL VOA	H2SO4	2
B13-8123			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JSR*

Relinquished By: *[Signature]*

Date/Time: 9/10/13 1900

Received By: *[Signature]*

Date/Time: 9/10/13 1900

Relinquished By: *[Signature]*

Date/Time: 9/10/13 2115

Received By: *[Signature]*

Date/Time: 9/10/13 2115

Analysis Request and Chain of Custody

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To:

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1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8124	9/9/13	1310	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8124			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8124			DOC	Grab	40 mL VOA	None	2
B13-8124			MTBE	Grab	40 mL VOA	HCl	3
B13-8124			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8124			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8124			PAHs	Grab	1 L Glass	None	2
B13-8124			TOC	Grab	40 mL VOA	H2SO4	2
B13-8124			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JSR

Relinquished By: [Signature]

Date/Time: 9/10/13 1900

Received By: [Signature]

Date/Time: 9/10/13 1900

Relinquished By: [Signature]

Date/Time: 9/10/13 2115

Received By: [Signature]

Date/Time: 9/10/13 2115

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

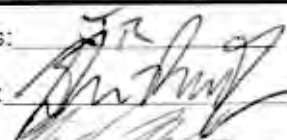
AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301


To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8128	9/9/13	145	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8128			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8128			DOC	Grab	40 mL VOA	None	2
B13-8128			MTBE	Grab	40 mL VOA	HCl	3
B13-8128			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8128			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8128			PAHs	Grab	1 L Glass	None	2
B13-8128			TOC	Grab	40 mL VOA	H2SO4	2
B13-8128			Total Metals	Grab	1 L HDPE	None	1

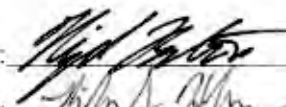
Comments: See attachment for detailed analytical list.

Sampler's Initials: 

Relinquished By: 


Date/Time:

9/10/13 1500

Received By: 

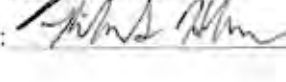
Date/Time:

9/10/13 1900

Relinquished By: 

Date/Time:

9/10/13 2115

Received By: 

Date/Time:

9/10/13 2115

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8127	9/9/13	1540	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8127			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8127			DOC	Grab	40 mL VOA	None	2
B13-8127			MTBE	Grab	40 mL VOA	HCl	3
B13-8127			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8127			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8127			PAHs	Grab	1 L Glass	None	2
B13-8127			TOC	Grab	40 mL VOA	H2SO4	2
B13-8127			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JS*

Relinquished By: *[Signature]*

Date/Time: 9/10/13 1900

Received By: *[Signature]*

Date/Time: 9/10/13 1900

Relinquished By: *[Signature]*

Date/Time: 9/10/13 2115

Received By: *[Signature]*

Date/Time: 9/10/13 2115

Analysis Request and Chain of Custody

RHMP
Bight '13

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AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

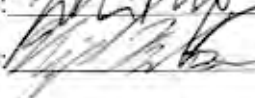
To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8121	9/9/13	1700	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8121			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8121			DOC	Grab	40 mL VOA	None	2
B13-8121			MTBE	Grab	40 mL VOA	HCl	3
B13-8121			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8121			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8121			PAHs	Grab	1 L Glass	None	2
B13-8121			TOC	Grab	40 mL VOA	H2SO4	2
B13-8121			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.


Sampler's Initials: 

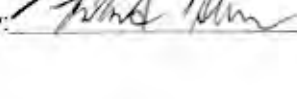
Relinquished By: 

Relinquished By: 

Date/Time: 9/10/13 1900

Date/Time: 9/10/13 2115

Received By: 

Received By: 

Date/Time: 9/10/13 1900

Date/Time: 9/10/13 2115

Analysis Request and Chain of Custody

RHMP

Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8085	9/9/13	1045	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8085			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8085			DOC	Grab	40 mL VOA	None	2
B13-8085			MTBE	Grab	40 mL VOA	HCl	3
B13-8085			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8085			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8085			PAHs	Grab	1 L Glass	None	2
B13-8085			TOC	Grab	40 mL VOA	H2SO4	2
B13-8085			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *SR*

Relinquished By: *[Signature]*

Date/Time: 9/10/13 1900

Received By: *[Signature]* (Nigel Benton)

Date/Time: 9/10/13 1900

Relinquished By: *[Signature]*

Date/Time: 9/10/13 2115

Received By: *[Signature]*

Date/Time: 9/10/13 2115

Analysis Request and Chain of Custody

RHMP

Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8105	9/10/13	0930	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8105			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8105			DOC	Grab	40 mL VOA	None	2
B13-8105			MTBE	Grab	40 mL VOA	HCl	3
B13-8105			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8105			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8105			PAHs	Grab	1 L Glass	None	2
B13-8105			TOC	Grab	40 mL VOA	H2SO4	2
B13-8105			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JS*

Relinquished By: *[Signature]*

Date/Time: 9/10/13 1900

Received By: *[Signature]*

Date/Time: 9/10/13 1900

Relinquished By: *[Signature]*

Date/Time: 9/10/13 2115

Received By: *[Signature]*

Date/Time: 9/10/13 2115

Analysis Request and Chain of Custody

RHMP

Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8117	9/10/13	1100	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8117			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8117			DOC	Grab	40 mL VOA	None	2
B13-8117			MTBE	Grab	40 mL VOA	HCl	3
B13-8117			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8117			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8117			PAHs	Grab	1 L Glass	None	2
B13-8117			TOC	Grab	40 mL VOA	H2SO4	2
B13-8117			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *SR*

Relinquished By: *[Signature]*

Date/Time: 9/10/13 1900

Received By: *[Signature]*

Date/Time: 9/10/13 1900

Relinquished By: *[Signature]*

Date/Time: 9/10/13 2115

Received By: *[Signature]*

Date/Time: 9/10/13 2115

Analysis Request and Chain of Custody

RHMP

Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8113	9/10/13	1200	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8113			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8113			DOC	Grab	40 mL VOA	None	2
B13-8113			MTBE	Grab	40 mL VOA	HCl	3
B13-8113			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8113			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8113			PAHs	Grab	1 L Glass	None	2
B13-8113			TOC	Grab	40 mL VOA	H2SO4	2
B13-8113			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JSR*

Relinquished By: *[Signature]*

Date/Time: 9/10/13 1900

Received By: *[Signature]*

Date/Time: 9/10/13 1900

Relinquished By: *[Signature]*

Date/Time: 9/10/13 2115

Received By: *[Signature]*

Date/Time: 9/10/13 2115

Analysis Request and Chain of Custody

RHMP

Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8116	9/10/13	1330	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8116			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8116			DOC	Grab	40 mL VOA	None	2
B13-8116			MTBE	Grab	40 mL VOA	HCl	3
B13-8116			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8116			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8116			PAHs	Grab	1 L Glass	None	2
B13-8116			TOC	Grab	40 mL VOA	H2SO4	2
B13-8116			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *CS*

Relinquished By: *[Signature]*

Date/Time: 9/10/13 1900

Received By: *[Signature]*

Date/Time: 9/10/13 1900

Relinquished By: *[Signature]*

Date/Time: 9/10/13 2115

Received By: *[Signature]*

Date/Time: 9/10/13 2115

Analysis Request and Chain of Custody

RHMP

Bight '13

From:

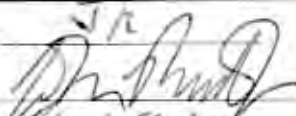
AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

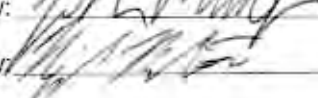
To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8108	9/10/13	1435	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8108			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8108			DOC	Grab	40 mL VOA	None	2
B13-8108			MTBE	Grab	40 mL VOA	HCl	3
B13-8108			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8108			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8108			PAHs	Grab	1 L Glass	None	2
B13-8108			TOC	Grab	40 mL VOA	H2SO4	2
B13-8108			Total Metals	Grab	1 L HDPE	None	1

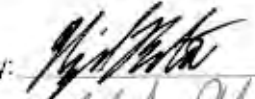
Comments: See attachment for detailed analytical list.

Sampler's Initials: 

Relinquished By: 

Date/Time:

9/10/13 1500

Received By: 

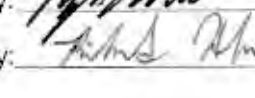
Date/Time:

9/10/13 1900

Relinquished By: 

Date/Time:

9/10/13 2115

Received By: 

Date/Time:

9/10/13 2115

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8106	9/10/13	1530	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8106			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8106			DOC	Grab	40 mL VOA	None	2
B13-8106			MTBE	Grab	40 mL VOA	HCl	3
B13-8106			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8106			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8106			PAHs	Grab	1 L Glass	None	2
B13-8106			TOC	Grab	40 mL VOA	H2SO4	2
B13-8106			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JS*

Relinquished By: *[Signature]*

Date/Time: 9/10/13 1900

Received By: *[Signature]*

Date/Time: 9/10/13 1900

Relinquished By: *[Signature]*

Date/Time: 9/10/13 2115

Received By: *[Signature]*

Date/Time: 9/10/13 2115

Analysis Request and Chain of Custody

RHMP

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Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8102	9/10/13	1630	Ammonia	Grab	250 mL Glass	H2SO4	1
B13-8102			Dissolved Metals	Grab	500 mL HDPE	None	1
B13-8102			DOC	Grab	40 mL VOA	None	2
B13-8102			MTBE	Grab	40 mL VOA	HCl	1
B13-8102			Nitrate, Total Ortho-P, MBAS	Grab	1 L HDPE	None	1
B13-8102			Oil and Grease	Grab	1 L Glass	H2SO4	1
B13-8102			PAHs	Grab	1 L Glass	None	2
B13-8102			TOC	Grab	40 mL VOA	H2SO4	2
B13-8102			Total Metals	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JSR*

Relinquished By: *[Signature]*

Date/Time: 9/10/13 1500

Received By: *[Signature]*

Date/Time: 9/10/13 1900

Relinquished By: *[Signature]*

Date/Time: 9/10/13 2115

Received By: *[Signature]*

Date/Time: 9/10/13 2115

to physis

Table 4-1.
Chemical Analyses of Water Samples

Analyte	Analysis Method	Water Target Reporting Limits ^a	Units
pH	Field Measures	--	--
Specific Conductance	Field Measures	--	µS/cm
Dissolved Oxygen	Field Measures	--	mg/L
Temperature	Field Measures	--	°C
Salinity	Field Measures	--	ppt
Transmissivity	Field Measures	--	%
Ammonia-N	SM 4500-NH3 D	0.05	mg/L
Methylene Blue-Activated Substances (MBAS)	SM 5540 C	0.025	mg/L
Nitrate-N	EPA 300.0/SM 4500-NO3 E	0.05	mg/L
Oil & Grease	EPA 1664A	1.0	mg/L
Dissolved Organic Carbon (DOC)	EPA 415.3	0.5	mg/L
Total Organic Carbon (TOC)	EPA 415.3	0.5	mg/L
Total Orthophosphate as P	SM 4500 P E	0.05	mg/L
Aluminum (Al)	EPA 1640	1.0	µg/L
Antimony (Sb)	EPA 1640	0.015	µg/L
Arsenic (As)	EPA 1640	0.015	µg/L
Barium (Ba)	EPA 200.8	0.5	µg/L
Beryllium (Be)	EPA 1640	0.01	µg/L
Cadmium (Cd)	EPA 1640	0.005	µg/L
Chromium (Cr)	EPA 1640	0.025	µg/L
Cobalt (Co)	EPA 1640	0.01	µg/L
Copper (Cu)	EPA 1640	0.01	µg/L
Iron (Fe)	EPA 1640	1.0	µg/L
Lead (Pb)	EPA 1640	0.005	µg/L
Manganese (Mn)	EPA 1640	0.02	µg/L
Mercury (Hg)	EPA 245.7	0.02	µg/L
Molybdenum (Mo)	EPA 1640	0.01	µg/L
Nickel (Ni)	EPA 1640	0.005	µg/L
Selenium (Se)	EPA 1640	0.015	µg/L
Silver (Ag)	EPA 1640	0.02	µg/L
Thallium (Tl)	EPA 1640	0.01	µg/L
Tin (Sn)	EPA 1640	0.01	µg/L
Titanium (Ti)	EPA 1640	0.07	µg/L
Vanadium (V)	EPA 1640	0.04	µg/L
Zinc (Zn)	EPA 1640	0.005	µg/L
Polycyclic Aromatic Hydrocarbons (PAHs) ^b	EPA 625	5.0	ng/L
Methyl-t-butyl Ether (MTBE)	EPA 8260B	1.0	µg/L

Notes: Metals analysis will consist of both total and dissolved fractions. Filtering for the dissolved fraction will occur in the field immediately after collection.

^a Reporting limits provided by Physis Environmental Laboratories.

^b Includes acenaphthene, acenaphthylene, anthracene, benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[e]pyrene, benzo[g,h,i]perylene, benzo[k]fluoranthene, biphenyl, chrysene, dibenz[a,h]anthracene, di benzo[thiophene, fluoranthene, fluorene, indeno(1,2,3-c,d)pyrene, naphthalene, perylene, phenanthrene, pyrene, 2,6-dimethylnaphthalene, 1-methylnaphthalene, 2-methylnaphthalene, 1-methylphenanthrene, 2,3,5-trimethylnaphthalene, and 1,6,7-trimethylnaphthalene.

µg/L - micrograms per liter (parts per billion) mg/L - milligrams per liter

µS/cm - microSiemens per centimeter ppt - parts per thousand °C - degrees Celsius

SAMPLE RECEIPT SUMMARY

CLIENT: AMEC Date Received: 9/10/13 Received By: RGH Inspected By: RGH

COURIER

☒ PHYSIS ☐ CLIENT ☐ FEDEX ☐ UPS
start 14:00 end 21:15 ☐ OTHER: Nigel Benton

COOLER

☒ COOLER ☐ BOX total #
☐ OTHER: 10

TEMPERATURE

6 °C ☒ WET ICE ☐ BLUE ICE
☐ DRY ICE ☐ NONE

SAMPLE INTEGRITY UPON RECEIPT

1. COC(s) included and completely filled out..... YES
2. All sample containers arrived intact..... YES
3. All samples listed on COC(s) are present..... YES
4. Information on containers consistent with information on COC(s)..... YES
5. Correct containers and volume for all analyses indicated..... YES
6. All samples received within method holding time..... YES
7. Correct preservation used for all analyses indicated..... YES

NOTES

Sediment Chemistry

February 0 , 2014

Chris Stransky
 AMEC
 9210 Sky Park Court
 Suite 200
 San Diego, CA 92123-

Project Name: RHMP B'13
 Physis Project ID: 1307002-002

Dear Chris,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 8/6/2013. A total of 7 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventionals
Percent Solids by SM 2540B
Ammonia as N by SM 4500-NH ₃ D
Acid Volatile Sulfides by Plumb, 1981 and TERL
Elements
Trace Metals by EPA 6020
Trace Mercury by EPA 245.7
Total Phosphorus by EPA 6020
Simultaneously Extracted Metals Analysis by EPA 200.8
Organics
Toxaphene w/ OCPs by EPA 8270C-NCI
Synthetic Pyrethroid Pesticides by EPA 8270C-NCI
Polynuclear Aromatic Hydrocarbons by EPA 8270C
PBDE Congeners by EPA 8270C-NCI
Organochlorine Pesticides & PCB Congeners/Aroclors by EPA 8270C
Fipronil & Degradates by EPA 8270C-NCI
Subcontract
Total Organic Carbon by SM 5310 B
Total Nitrogen by SM 4500-N

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity

to provide you with our analytical and support services.

Regards,

Misty Mercier
Extension 202
714-335-5918 cell
mistymercier@physislabs.com

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and are used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use was assessed through the analysis of procedural blanks at a minimum frequency of one per batch. Physis' QM requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the procedural blanks be flagged in the project sample results with a B qualifier.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS1/MS2, BS1/BS2, LCS1/LCS2, LCM1/LCM2, CRM1/CRM2, surrogate spikes and/or replicate project sample analysis (R1/R2) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

MATRIX SPIKES: MS samples were employed to assess the effect a particular project sample matrix has on the accuracy of a measurement. It is prepared by adding a known amount of the target analyte(s) to an aliquot of the project sample. Matrix spikes indicate the bias of analytical measurements due to chemical interferences inherent in the sample matrix. If the matrix spike recovery does not fall within the specified acceptance limits, it may be an indication of sample matrix interference in the specific project sample used for the MS. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

BLANK SPIKES: BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

CERTIFIED REFERENCE MATERIALS: CRMs are pre-homogenized materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of a preparation and analytical method. CRMs are analyzed to provide evidence that the laboratory method produces results that are comparable to those obtained by an independent organization.

SURROGATES: Where CRMs are unavailable, target analyte recovery can be assessed by monitoring added surrogate compounds/elements. A surrogate is a pure analyte unlikely to be found in any project sample and most often used with organic analytical procedures. Percent recovery is calculated for each surrogate and is used to monitor method performance within each discrete sample and is indicative of the procedure's ability to recover the actual analytes of interest.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's

concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes. Physis' QM requires that all samples analyzed beyond the method recommended holding time be flagged in the sample results with an H qualifier.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
*	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified recovery and/or RPD acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore MS recovery and/or RPD acceptance limits do not apply
SL	analyte results for R1 and/or R2 were lower than 10 times the MDL, therefore RPD acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore MS recovery and/or RPD were outside the specified acceptance limits
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples



CASE NARRATIVE

QUALIFIER NOTES

In addition to the use of analyte specific Physis Qualifier Codes where applicable, the following were also noted.

ELEMENTS CRM: Five elements, Aluminum (Al), Antimony (Sb), Beryllium (Be), Chromium (Cr) and Iron (Fe) were above the specified acceptance limits in one or more CRM - RTC 016-050 and/or CRM - ERA 540. This occurred as a result of a more rigorous digestion employed by Physis, which causes a higher yield for some lithogenous elements. These values are in agreement with past internal results for CRM - RTC 016-050 and CRM - ERA 540.

ELEMENTS: A calibration point in the middle of the curve (50 PPB mix) was not used for the calibration of the instrument. This was due to the calibration solution not being spiked with internal standard.

ORGANICS TUNE: Physis uses the software supplied with its Agilent GCMS systems to tune its instruments. Moreover, with today's technology software algorithms provided by the instrument manufacturer provide a more stable system across a wider mass range than manual tuning to achieve specific tuning targets such as DFTPP. The following quote is from EPA Method 8270D Section 11.3.1.

"The analyst is always free to choose criteria that are tighter than those included in this method or to use other documented criteria provided they are used consistently throughout the initial calibration, calibration verification, and sample analyses."

The key here is that the instrument is tuned and that those tune settings are used for the subsequent analysis of the calibration curve, calibration verification, and samples. Moreover, another key reason for tuning to specific criteria is to insure that the GCMS is generating spectra that match the spectra in the NIST Library for confirming the identification of the target analyte. Physis can provide library search results for our calibration standards indicating a very high match quality with the NIST library spectra.

Physis did analyze the DFTPP tune solution with each batch (except for the first batch where the tune solution was mis-injected) and the passing tune reports have been provided indicating that using the instrument tuning software is closely matched to DFTPP tune requirements.



ORGANICS CALIBRATION: A calibration point in the middle of the curve (250 ng) for DCPA (Dacthal) and Dicofol were not used for the calibration of the instrument. This was an error of the analyst that has since been corrected.

ORGANICS CCVS: CCVs for Fipronils, Pyrethroids, PAHs and Chlorinated Pesticides were done at 1000 ng, while the CCVs for PCBs were done at 500 ng. These values are either at or above the high point of the calibration. This was an error of the analyst that has since been corrected.

Revisions 6/17/2014-

- Aroclors:
 - Updated Aroclor MDLs/RLs from 10/20 to 1/2
 - Added Aroclor 1262 and Aroclor 1268
 - After review of the data, the Technical Director made a decision to revise the data for the Aroclors
- RPDs:
 - Reviewed and updated all RPDs to 25%, per the RHMP QAPP. Revised Passes to Fails and added QA Qualifiers, where needed due to update.
- Acceptance Ranges:
 - Reviewed and updated all Acceptance ranges per the RHMP QAPP. Revised Passes to Fails and added QA Qualifier, where needed due to update.
- Level 3 reports:
 - Toxaphene CCV Drift table was revised.

Revisions 8/18/2014-

- Analytical Report:
 - Revised Date Analyzed for Chlorinated Pesticides, PCBs, and PAHs.
 - Added Time Analyzed to all analysis.
- Level 3 reports:
 - Added instrument tune report.

Performance-Based Chemistry-

The chemistry results provided in this report are derived from “performance-based” chemistry rather than the use of specific EPA published laboratory methods. This does not eliminate our responsibility to use Good Laboratory Practices. It does allow for incorporation of improvements in technology or the use of laboratory preferences for techniques that improve the efficiency and sensitivity of the laboratory and maintain or enhance the quality of the data.



“The Environmental Protection Agency (EPA) is actively working to implement the President’s program for reinventing government and reforming regulatory policy. As part of this program, EPA has been working at breaking down barriers to using new monitoring techniques. One barrier is the requirement to use specific measurement methods or technologies in complying with some of the Agency’s regulations. EPA’s Environmental Monitoring Management Council (EMMC), members of the regulated community, and Congress agree that EPA needs to change the way it specifies monitoring requirements in regulations and permits. There is broad acceptance for Agency-wide use of a nonprescriptive performance-based measurement system (PBMS)”. PBMS conveys "what" needs to be accomplished, but not prescriptively "how" to do it. EPA defines PBMS as a set of processes wherein the data needs, mandates, or limitations of a program or project are specified, and serve as criteria for selecting appropriate methods to meet those needs in a cost-effective manner. The criteria may be published in regulations, technical guidance documents, permits, work plans, or enforcement orders. Under a performance-based approach, EPA would specify:

- Questions to be answered by monitoring.
- Decisions to be supported by the data.
- Level of uncertainty acceptable for making decisions.
- Documentation to be generated to support this approach in the RCRA monitoring program.

(Taken from OSWER PBMS Implementation Plan, October 9, 1998, A Cooperative Effort Among: OSW, OERR, OUST, TIO, FFROL and CEPPO).”

The US EPA has included references to being “performance-based” in many of their newer methods. The use of performance-based methods is even more critical for programs like this study in order to allow the laboratory to adapt methods that optimize the goal of the project in terms of achieving ultra-low sensitivity and analysis of new chemicals of concern. I would also like to quote US EPA Method 8270-

“In addition, SW-846 methods, with the exception of required method use for the analysis of method-defined parameters, are intended to be guidance methods which contain general information on how to perform an analytical procedure or technique which a laboratory can use as a basic starting point for generating its own detailed Standard Operating Procedure (SOP), either for its own general use or for a specific project application.”

Performance-based chemistry was first used for NOAA’s National Status and Trends Program in the early 1980’s which is now operated under the US EPA as the National Coastal Condition Assessment



Program (NCCA). The NS&T program included 3 large well-established laboratories for the analysis of samples from each of 3 regions of the United States. It was concluded at the beginning of this program that a significant improvement in the quality and comparability of the results would be achieved by allowing the participating laboratories to optimize their own individual methods. The key to this approach and any subsequent performance-based chemistry programs is the successful inclusion of an interlaboratory comparison as well as the clear detailed specification of data quality objectives (DQOs) for the project. All the Bight Survey projects from 1994 to 2013 have been performance-based and each of the surveys included interlaboratory comparisons as a key component for ensuring high quality data that is comparable between laboratories over time.

The one area that has not evolved along with the advent of performance-based chemistry is the data validation process. Today's data validation process still relies upon collecting and evaluating laboratory analytical information and comparing it to the details of a specific EPA analytical method such as EPA 8270 for GCMS analysis or EPA 6020 for ICPMS analysis. This can occur even when the requirement in the method is out-dated and based on old technology. Data validation procedures need to be adapted to performance-based chemistry allowing for any individual laboratory to use or not use any method or any part of a method they choose as long as they can demonstrate their ability to successfully pass interlaboratory comparisons, performance evaluation samples, and meet the data quality objectives of the project QA Plan.

EPA Method Modifications-

With reference to performance-based methods, the following information is provided as a basis of comparison between the Physis methods used for this study and the associated EPA Method. Its purpose is solely to provide information and is not intended to highlight errors. Physis has successfully participated in several interlaboratory comparison studies including the Bight 13 Project demonstrating the viability of our analytical process. Physis has included the QAQC data in this report necessary to show that the results comply with the project QA Plan and indicate acceptable accuracy and precision.

1. Internal Laboratory QAQC Frequency for GCMS Analyses- Physis uses GC columns that are longer and narrower and the GC oven is programmed at a very slow rate of 2.5°C per minute both of which are not typically used by most laboratories. The purpose for this is to maximize separation of the 100's to 1000's of compounds present in environmental samples reducing co-elution with interfering compounds, reducing background noise, and enhancing the accuracy of quantitation. At the same time this process extends the run-time for each sample to ca. 90 minutes as compared to the 15-30 minutes with typical conditions. At 90



minutes per run, the maximum number of runs for any 12-hour period is 8. Each batch of samples typically includes the DFTPP tune solution and the initial calibration verification of from 1 to 4 solutions (Depending on the target parameters) for a total of 2-5 runs leaving an opening for 3-6 samples before having to redo the QA samples if the 12-hour constraint is applied. At this rate it's not economically viable to follow the 12-hour rule and complete the analyses of the samples.

Since the 12-hour criteria was established when the state-of-the-art was GCs equipped with packed columns and GCMS systems were not anywhere near as stable as the electronics of today. Physis does follow the criteria's intent by analyzing the calibration verification standards at the beginning, middle, and end of each batch of no more than 20 samples rather than every 12 hours.

2. Calibration and Quantitation- Physis bases its calibration curve on the mass of each compound rather than concentration. Using the internal standard method of quantitation, use of mass rather than concentration eliminates the extract or digestate volume term from the formula used to calculate concentrations in the samples. Therefore there is no need to measure the precise volume of the extract or digestate. For GCMS analysis, extract volumes can be quite low and small volume changes will be reflected in increased variation of the internal standard response from sample to sample due to differences in the extract volume and not due to the instability of the GCMS. Through long-term experience, Physis chemists are trained to take into consideration this change in volume when evaluating whether a change in the internal standard response is caused by a change in the GCMS sensitivity or extract volume.

The "recovery" of the Internal Standard and its variability is reported in Form VII SV-1 for reporting IS peak areas. For the sample IS compared to the ICV/CCV IS peak area, this form has a wide acceptance range at 50-200% which is considerably larger than the variation in the nominal estimate made of our extract volumes. Therefore significant deviations from expected IS responses are clearly obvious to the analyst and would require corrective action and re-analysis. The difficulty is the fact that Form VII SV-1 does not accommodate volumes and therefore does not allow for evaluation of the sample IS as it compares to the ICV/CCV on an even basis.

3. Negative Chemical Ionization- Some target analytes are analyzed using the GCMS in the Negative Chemical Ionization Mode (NCI). This results in non-standard mass spectra that cannot be compared to the EI spectra in the NIST library.



4. Aroclor PCBs- Physis analyzes PCBs using a congener-based calibration standard composed of 52 or more different congeners representing ca. 75-80% of the PCBs discharged into the environment. Physis uses the results from the congener analysis to estimate Aroclor concentrations. To do this, Physis determines the Aroclor mixture present in the sample, sums the results for the congeners present in that Aroclor mixture then corrects the result to account for the missing mass based on a previous comparison of an Aroclor calibration standard to the congener mixture. Physis does not perform blank or matrix spikes using Aroclor mixtures since PCB spiking is done via the congener solution. Aroclor-based quantitation is inherently inaccurate and imprecise and results based on our process are as accurate if not more accurate than the Aroclor-based process since the quantitation is based on individual peaks rather than summing peaks.
5. Pyrethroid/Fipronil Surrogates- Physis spikes all samples with a surrogate solution containing TCMX, PCB030, PCB112, and PCB198 for the Chlorinated Pesticides, Congener PCBs, Pyrethroids, and Fipronils; d8-Naphthalene, d10-Acenaphthene, d10-Phenanthrene, d12-Chrysene, and d12-Perylene for the PAHs; and FBDE-3002, FBDE-5004, and FBDE-8001 for the PBDEs. Since Pyrethroids and Fipronils are quantified using NCI, only the PCB112 and PCB198 surrogates are used as surrogates for these compounds.
6. Sample Preservation - According to the Standard Operating Procedure for Sample Logistics, sediment and tissue samples were placed in a freezer maintained at $-20 \pm 4^{\circ}\text{C}$ until preserved or processed.

ANALYTICAL REPORT

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CA ELAP #2769

Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21957-R1 B13-8233 Oceanside Matrix: Sediment Sampled: 06-Aug-13 8:46 Received: 06-Aug-13 Method: EPA 8270C Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 03-Nov-13 0:00						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	4	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	
Sample ID: 21958-R1 B13-8236 Oceanside Matrix: Sediment Sampled: 06-Aug-13 10:12 Received: 06-Aug-13 Method: EPA 8270C Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 03-Nov-13 0:00						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	ND	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	
Sample ID: 21959-R1 B13-8239 Oceanside Matrix: Sediment Sampled: 06-Aug-13 11:30 Received: 06-Aug-13 Method: EPA 8270C Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 03-Nov-13 0:00						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	



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Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1260	NA	ND	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 21960-R1**B13-8267 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 11:45****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	6.9	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 21961-R1**B13-8265 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 13:01****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	1.9	1	2	ng/dry g	J
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 21962-R1**B13-8263 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 15:25****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	



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Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	ND	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 21963-R1**B13-8259 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 10:02****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	1.3	1	2	ng/dry g	J
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	



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CA ELAP #2769

Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 21957-R1</div> <div>B13-8233 Oceanside</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5024</div> </div> <div> <div>Sampled: 06-Aug-13 8:46</div> <div>Prepared: 16-Oct-13</div> </div> <div> <div>Received: 06-Aug-13</div> <div>Analyzed: 03-Nov-13 14:57</div> </div>						
(PCB030)	NA	81			% Recovery	
(PCB112)	NA	86			% Recovery	
(PCB198)	NA	60			% Recovery	
(TCMX)	NA	75			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	1.73	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 22:53

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
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Sample ID: 21958-R1**B13-8236 Oceanside****Matrix: Sediment****Sampled: 06-Aug-13 10:12****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 16:40

(PCB030)	NA	82			% Recovery	
(PCB112)	NA	85			% Recovery	
(PCB198)	NA	56			% Recovery	
(TCMX)	NA	74			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	0.63	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 23:57

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
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Sample ID: 21959-R1**B13-8239 Oceanside****Matrix: Sediment****Sampled: 06-Aug-13 11:30****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 20:06

(PCB030)	NA	75			% Recovery	
(PCB112)	NA	90			% Recovery	
(PCB198)	NA	67			% Recovery	
(TCMX)	NA	68			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	0.8	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 2:05

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
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Sample ID: 21960-R1**B13-8267 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 11:45****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 21:48

(PCB030)	NA	68			% Recovery	
(PCB112)	NA	82			% Recovery	
(PCB198)	NA	63			% Recovery	
(TCMX)	NA	67			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	2.66	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	0.35	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	0.85	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	0.13	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	0.31	0.05	0.1	ng/dry g	
Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 25-Oct-13 3:10						
Toxaphene	NA	ND	0.1	0.2	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21961-R1		B13-8265 Dana Point		Matrix: Sediment		Sampled: 05-Aug-13 13:01
Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13		Received: 06-Aug-13
(PCB030)	NA	79			% Recovery	Analyzed: 03-Nov-13 23:31
(PCB112)	NA	92			% Recovery	
(PCB198)	NA	63			% Recovery	
(TCMX)	NA	76			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	1.8	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 4:14

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
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Sample ID: 21962-R1**B13-8263 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 15:25****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 1:14

(PCB030)	NA	79			% Recovery	
(PCB112)	NA	85			% Recovery	
(PCB198)	NA	62			% Recovery	
(TCMX)	NA	76			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	1.56	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 5:17

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
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Sample ID: 21963-R1**B13-8259 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 10:02****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 2:57

(PCB030)	NA	77			% Recovery	
(PCB112)	NA	87			% Recovery	
(PCB198)	NA	65			% Recovery	
(TCMX)	NA	71			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	1.07	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
Method: EPA 8270C-NCI		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 25-Oct-13 6:22
Toxaphene	NA	ND	0.1	0.2	ng/dry g	



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Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21957-R1		B13-8233 Oceanside	Matrix: Sediment	Sampled: 06-Aug-13 8:46	Received: 06-Aug-13	
	Method: SM 2540B	Batch ID: C-14028		Prepared: 24-Sep-13	Analyzed: 25-Sep-13 0:00	
Percent Solids	NA	44	0.1	0.1	% Dry Weight	
	Method: Plumb, 1981 and TERL	Batch ID: C-14036		Prepared: 27-Sep-13	Analyzed: 27-Sep-13 0:00	
Acid Volatile Sulfides	NA	174.63	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14038		Prepared: 24-Sep-13	Analyzed: 26-Sep-13 0:00	
Ammonia as N	NA	3.95	0.02	0.03	mg/dry kg	
	Method: EPA 6020	Batch ID: E-5145		Prepared: 25-Sep-13	Analyzed: 02-Oct-13 15:06	
Total Phosphorus	NA	977.412	0.016	0.05	µg/dry g	
Sample ID: 21958-R1		B13-8236 Oceanside	Matrix: Sediment	Sampled: 06-Aug-13 10:12	Received: 06-Aug-13	
	Method: SM 2540B	Batch ID: C-14028		Prepared: 24-Sep-13	Analyzed: 25-Sep-13 0:00	
Percent Solids	NA	49.2	0.1	0.1	% Dry Weight	
	Method: Plumb, 1981 and TERL	Batch ID: C-14036		Prepared: 27-Sep-13	Analyzed: 27-Sep-13 0:00	
Acid Volatile Sulfides	NA	74.85	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14038		Prepared: 24-Sep-13	Analyzed: 26-Sep-13 0:00	
Ammonia as N	NA	4.36	0.02	0.03	mg/dry kg	
	Method: EPA 6020	Batch ID: E-5145		Prepared: 25-Sep-13	Analyzed: 02-Oct-13 15:15	
Total Phosphorus	NA	728.906	0.016	0.05	µg/dry g	
Sample ID: 21959-R1		B13-8239 Oceanside	Matrix: Sediment	Sampled: 06-Aug-13 11:30	Received: 06-Aug-13	
	Method: SM 2540B	Batch ID: C-14028		Prepared: 24-Sep-13	Analyzed: 25-Sep-13 0:00	
Percent Solids	NA	51.5	0.1	0.1	% Dry Weight	
	Method: Plumb, 1981 and TERL	Batch ID: C-14036		Prepared: 27-Sep-13	Analyzed: 27-Sep-13 0:00	
Acid Volatile Sulfides	NA	405.09	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14038		Prepared: 24-Sep-13	Analyzed: 26-Sep-13 0:00	
Ammonia as N	NA	6.26	0.02	0.03	mg/dry kg	
	Method: EPA 6020	Batch ID: E-5145		Prepared: 25-Sep-13	Analyzed: 02-Oct-13 15:20	
Total Phosphorus	NA	574.024	0.016	0.05	µg/dry g	
Sample ID: 21960-R1		B13-8267 Dana Point	Matrix: Sediment	Sampled: 05-Aug-13 11:45	Received: 06-Aug-13	
	Method: SM 2540B	Batch ID: C-14028		Prepared: 24-Sep-13	Analyzed: 25-Sep-13 0:00	
Percent Solids	NA	40.9	0.1	0.1	% Dry Weight	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Acid Volatile Sulfides	Method: Plumb, 1981 and TERL	Batch ID: C-14036		Prepared: 27-Sep-13		Analyzed: 27-Sep-13 0:00
	NA	173.22	0.05	0.1	mg/dry kg	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14038		Prepared: 24-Sep-13		Analyzed: 26-Sep-13 0:00
	NA	4.22	0.02	0.03	mg/dry kg	
Total Phosphorus	Method: EPA 6020	Batch ID: E-5145		Prepared: 25-Sep-13		Analyzed: 02-Oct-13 15:24
	NA	935.481	0.016	0.05	µg/dry g	
Sample ID: 21961-R1		B13-8265 Dana Point	Matrix: Sediment	Sampled: 05-Aug-13 13:01	Received: 06-Aug-13	
Percent Solids	Method: SM 2540B	Batch ID: C-14028		Prepared: 24-Sep-13		Analyzed: 25-Sep-13 0:00
	NA	55.6	0.1	0.1	% Dry Weight	
Acid Volatile Sulfides	Method: Plumb, 1981 and TERL	Batch ID: C-14036		Prepared: 27-Sep-13		Analyzed: 27-Sep-13 0:00
	NA	102.79	0.05	0.1	mg/dry kg	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14038		Prepared: 24-Sep-13		Analyzed: 26-Sep-13 0:00
	NA	1.78	0.02	0.03	mg/dry kg	
Total Phosphorus	Method: EPA 6020	Batch ID: E-5145		Prepared: 25-Sep-13		Analyzed: 02-Oct-13 15:29
	NA	968.251	0.016	0.05	µg/dry g	
Sample ID: 21962-R1		B13-8263 Dana Point	Matrix: Sediment	Sampled: 05-Aug-13 15:25	Received: 06-Aug-13	
Percent Solids	Method: SM 2540B	Batch ID: C-14028		Prepared: 24-Sep-13		Analyzed: 25-Sep-13 0:00
	NA	61.2	0.1	0.1	% Dry Weight	
Acid Volatile Sulfides	Method: Plumb, 1981 and TERL	Batch ID: C-14036		Prepared: 27-Sep-13		Analyzed: 27-Sep-13 0:00
	NA	58.1	0.05	0.1	mg/dry kg	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14038		Prepared: 24-Sep-13		Analyzed: 26-Sep-13 0:00
	NA	3.18	0.02	0.03	mg/dry kg	
Total Phosphorus	Method: EPA 6020	Batch ID: E-5145		Prepared: 25-Sep-13		Analyzed: 02-Oct-13 15:33
	NA	606.013	0.016	0.05	µg/dry g	
Sample ID: 21963-R1		B13-8259 Dana Point	Matrix: Sediment	Sampled: 05-Aug-13 10:02	Received: 06-Aug-13	
Percent Solids	Method: SM 2540B	Batch ID: C-14028		Prepared: 24-Sep-13		Analyzed: 25-Sep-13 0:00
	NA	46.7	0.1	0.1	% Dry Weight	
Acid Volatile Sulfides	Method: Plumb, 1981 and TERL	Batch ID: C-14036		Prepared: 27-Sep-13		Analyzed: 27-Sep-13 0:00
	NA	59.09	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14038		Prepared: 24-Sep-13		Analyzed: 26-Sep-13 0:00



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Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Ammonia as N	NA	2.31	0.02	0.03	mg/dry kg	
Method: EPA 6020		Batch ID: E-5145		Prepared: 25-Sep-13		Analyzed: 02-Oct-13 15:38
Total Phosphorus	NA	762.381	0.016	0.05	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21957-R1 B13-8233 Oceanside Matrix: Sediment Sampled: 06-Aug-13 8:46 Received: 06-Aug-13 Method: EPA 6020 Batch ID: E-5145 Prepared: 25-Sep-13 Analyzed: 02-Oct-13 21:55						
Aluminum (Al)	NA	41528.4	1	5	µg/dry g	
Antimony (Sb)	NA	0.37	0.025	0.05	µg/dry g	
Arsenic (As)	NA	12.354	0.025	0.05	µg/dry g	
Barium (Ba)	NA	164.943	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.767	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2748	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	65.9446	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	364.0016	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	42545.7	1	5	µg/dry g	
Lead (Pb)	NA	22.3711	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	23.89	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.441	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.22	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	317.303	0.025	0.05	µg/dry g	
Method: EPA 245-7 Batch ID: E-6029 Prepared: 04-Oct-13 Analyzed: 04-Oct-13 0:00						
Mercury (Hg)	NA	0.3211	0.00001	0.00002	µg/dry g	
Sample ID: 21958-R1 B13-8236 Oceanside Matrix: Sediment Sampled: 06-Aug-13 10:12 Received: 06-Aug-13 Method: EPA 6020 Batch ID: E-5145 Prepared: 25-Sep-13 Analyzed: 02-Oct-13 22:05						
Aluminum (Al)	NA	35384.5	1	5	µg/dry g	
Antimony (Sb)	NA	0.256	0.025	0.05	µg/dry g	
Arsenic (As)	NA	9.411	0.025	0.05	µg/dry g	
Barium (Ba)	NA	150.1	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.625	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2546	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	54.9885	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	144.5629	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	35802	1	5	µg/dry g	
Lead (Pb)	NA	14.7792	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	20.31	0.01	0.02	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	NA	0.334	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.12	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	185.403	0.025	0.05	µg/dry g	
Method: EPA 245.7		Batch ID: E-6029		Prepared: 04-Oct-13		Analyzed: 04-Oct-13 0:00
Mercury (Hg)	NA	0.1491	0.00001	0.00002	µg/dry g	

Sample ID: 21959-R1**B13-8239 Oceanside****Matrix: Sediment****Sampled: 06-Aug-13 11:30****Received: 06-Aug-13**

Method: EPA 6020

Batch ID: E-5145

Prepared: 25-Sep-13

Analyzed: 02-Oct-13 22:09

Aluminum (Al)	NA	21140.2	1	5	µg/dry g	
Antimony (Sb)	NA	0.184	0.025	0.05	µg/dry g	
Arsenic (As)	NA	6.827	0.025	0.05	µg/dry g	
Barium (Ba)	NA	135.032	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.427	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2708	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	41.6437	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	46.1926	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	26810.9	1	5	µg/dry g	
Lead (Pb)	NA	7.8927	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	16.88	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.325	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.06	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	106.293	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.0255	0.00001	0.00002	µg/dry g	
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Sample ID: 21960-R1**B13-8267 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 11:45****Received: 06-Aug-13**

Method: EPA 6020

Batch ID: E-5145

Prepared: 25-Sep-13

Analyzed: 02-Oct-13 22:14

Aluminum (Al)	NA	32301.8	1	5	µg/dry g	
Antimony (Sb)	NA	0.481	0.025	0.05	µg/dry g	
Arsenic (As)	NA	11.984	0.025	0.05	µg/dry g	
Barium (Ba)	NA	188.252	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.747	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.346	0.0025	0.005	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	NA	67.2514	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	402.0081	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	27688.4	1	5	µg/dry g	
Lead (Pb)	NA	26.9608	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	22.69	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.664	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.22	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	275.439	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.0711	0.00001	0.00002	µg/dry g	
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Sample ID: 21961-R1**B13-8265 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 13:01****Received: 06-Aug-13**

Method: EPA 6020

Batch ID: E-5145

Prepared: 25-Sep-13

Analyzed: 02-Oct-13 22:19

Aluminum (Al)	NA	20312.5	1	5	µg/dry g	
Antimony (Sb)	NA	0.287	0.025	0.05	µg/dry g	
Arsenic (As)	NA	7.756	0.025	0.05	µg/dry g	
Barium (Ba)	NA	140.993	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.474	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2709	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	49.8047	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	113.0255	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	17696.7	1	5	µg/dry g	
Lead (Pb)	NA	10.7257	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	17.35	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.838	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.14	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	120.434	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.0314	0.00001	0.00002	µg/dry g	
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Sample ID: 21962-R1**B13-8263 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 15:25****Received: 06-Aug-13**

Method: EPA 6020

Batch ID: E-5145

Prepared: 25-Sep-13

Analyzed: 02-Oct-13 22:23

Aluminum (Al)	NA	12027.5	1	5	µg/dry g	
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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Antimony (Sb)	NA	0.211	0.025	0.05	µg/dry g	
Arsenic (As)	NA	4.567	0.025	0.05	µg/dry g	
Barium (Ba)	NA	81.102	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.288	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.3847	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	34.3016	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	37.3778	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	12887.2	1	5	µg/dry g	
Lead (Pb)	NA	8.2454	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	14.97	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.347	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.07	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	73.513	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.02	0.00001	0.00002	µg/dry g	
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Sample ID: 21963-R1**B13-8259 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 10:02****Received: 06-Aug-13**

Method: EPA 6020

Batch ID: E-5145

Prepared: 25-Sep-13

Analyzed: 02-Oct-13 22:28

Aluminum (Al)	NA	28163.7	1	5	µg/dry g	
Antimony (Sb)	NA	0.302	0.025	0.05	µg/dry g	
Arsenic (As)	NA	9.731	0.025	0.05	µg/dry g	
Barium (Ba)	NA	219.01	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.656	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2004	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	51.607	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	292.6334	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	24258.2	1	5	µg/dry g	
Lead (Pb)	NA	17.8741	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	16.67	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.631	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.14	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	224.97	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Mercury (Hg)	NA	0.0685	0.00001	0.00002	µg/dry g	



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21957-R1 B13-8233 Oceanside Matrix: Sediment Sampled: 06-Aug-13 8:46 Received: 06-Aug-13 Method: EPA 200.8 Batch ID: E-5152 Prepared: 08-Oct-13 Analyzed: 10-Oct-13 13:52						
Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu)	NA	1.1645	0.0062	0.0124	µmol/dry g	
Lead (Pb)	NA	0.0598	0.0002	0.0004	µmol/dry g	
Nickel (Ni)	NA	0.0165	0.0033	0.0066	µmol/dry g	
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn)	NA	3.0582	0.0015	0.003	µmol/dry g	
Sample ID: 21958-R1 B13-8236 Oceanside Matrix: Sediment Sampled: 06-Aug-13 10:12 Received: 06-Aug-13 Method: EPA 200.8 Batch ID: E-5152 Prepared: 08-Oct-13 Analyzed: 10-Oct-13 14:01						
Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu)	NA	0.5715	0.0062	0.0124	µmol/dry g	
Lead (Pb)	NA	0.0455	0.0002	0.0004	µmol/dry g	
Nickel (Ni)	NA	0.014	0.0033	0.0066	µmol/dry g	
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn)	NA	1.4277	0.0015	0.003	µmol/dry g	
Sample ID: 21959-R1 B13-8239 Oceanside Matrix: Sediment Sampled: 06-Aug-13 11:30 Received: 06-Aug-13 Method: EPA 200.8 Batch ID: E-5152 Prepared: 08-Oct-13 Analyzed: 10-Oct-13 14:06						
Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu)	NA	0.0361	0.0062	0.0124	µmol/dry g	
Lead (Pb)	NA	0.0243	0.0002	0.0004	µmol/dry g	
Nickel (Ni)	NA	0.0162	0.0033	0.0066	µmol/dry g	
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn)	NA	0.4542	0.0015	0.003	µmol/dry g	
Sample ID: 21960-R1 B13-8267 Dana Point Matrix: Sediment Sampled: 05-Aug-13 11:45 Received: 06-Aug-13 Method: EPA 200.8 Batch ID: E-5152 Prepared: 08-Oct-13 Analyzed: 10-Oct-13 14:11						
Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu)	NA	1.074	0.0062	0.0124	µmol/dry g	
Lead (Pb)	NA	0.0634	0.0002	0.0004	µmol/dry g	
Nickel (Ni)	NA	0.0168	0.0033	0.0066	µmol/dry g	



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn)	NA	2.4011	0.0015	0.003	µmol/dry g	

Sample ID: 21961-R1**B13-8265 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 13:01****Received: 06-Aug-13**

Method: EPA 200.8

Batch ID: E-5152

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 14:17

Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu)	NA	0.5888	0.0062	0.0124	µmol/dry g	
Lead (Pb)	NA	0.0314	0.0002	0.0004	µmol/dry g	
Nickel (Ni)	NA	0.0178	0.0033	0.0066	µmol/dry g	
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn)	NA	1.0226	0.0015	0.003	µmol/dry g	

Sample ID: 21962-R1**B13-8263 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 15:25****Received: 06-Aug-13**

Method: EPA 200.8

Batch ID: E-5152

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 14:22

Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu)	NA	0.1252	0.0062	0.0124	µmol/dry g	
Lead (Pb)	NA	0.0205	0.0002	0.0004	µmol/dry g	
Nickel (Ni)	NA	0.0129	0.0033	0.0066	µmol/dry g	
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn)	NA	0.5316	0.0015	0.003	µmol/dry g	

Sample ID: 21963-R1**B13-8259 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 10:02****Received: 06-Aug-13**

Method: EPA 200.8

Batch ID: E-5152

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 14:26

Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu)	NA	1.0581	0.0062	0.0124	µmol/dry g	
Lead (Pb)	NA	0.042	0.0002	0.0004	µmol/dry g	
Nickel (Ni)	NA	0.0132	0.0033	0.0066	µmol/dry g	
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn)	NA	2.1419	0.0015	0.003	µmol/dry g	



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Fipronil & Degradates**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21957-R1 B13-8233 Oceanside Matrix: Sediment Sampled: 06-Aug-13 8:46 Received: 06-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 24-Oct-13 22:53						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 21958-R1 B13-8236 Oceanside Matrix: Sediment Sampled: 06-Aug-13 10:12 Received: 06-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 24-Oct-13 23:57						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 21959-R1 B13-8239 Oceanside Matrix: Sediment Sampled: 06-Aug-13 11:30 Received: 06-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 25-Oct-13 2:05						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 21960-R1 B13-8267 Dana Point Matrix: Sediment Sampled: 05-Aug-13 11:45 Received: 06-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 25-Oct-13 3:10						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 21961-R1 B13-8265 Dana Point Matrix: Sediment Sampled: 05-Aug-13 13:01 Received: 06-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 25-Oct-13 4:14						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

Fipronil & Degradates

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 21962-R1 B13-8263 Dana Point Matrix: Sediment Sampled: 05-Aug-13 15:25 Received: 06-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 25-Oct-13 5:17						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 21963-R1 B13-8259 Dana Point Matrix: Sediment Sampled: 05-Aug-13 10:02 Received: 06-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 25-Oct-13 6:22						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 21957-R1</div> <div>B13-8233 Oceanside</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5024</div> </div> <div> <div>Sampled: 06-Aug-13 8:46</div> <div>Prepared: 16-Oct-13</div> </div> <div> <div>Received: 06-Aug-13</div> <div>Analyzed: 03-Nov-13 14:57</div> </div>						
PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.33	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.53	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.42	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.02	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	0.27	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	0.62	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 21958-R1

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 16:40

PCB003	NA	ND	0.05	0.1	ng/dry g	
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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	ND	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 21959-R1**B13-8239 Oceanside****Matrix: Sediment****Sampled: 06-Aug-13 11:30****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 20:06

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	ND	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 21960-R1**B13-8267 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 11:45****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 21:48

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.3	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.48	0.05	0.1	ng/dry g	
PCB101	NA	0.95	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.75	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.85	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	0.41	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	0.81	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 21961-R1**B13-8265 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 13:01****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 23:31

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.13	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	0.41	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.55	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.45	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	ND	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 21962-R1**B13-8263 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 15:25****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 1:14

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	ND	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 21963-R1**B13-8259 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 10:02****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 2:57

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	0.24	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.34	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	0.3	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	0.2	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21957-R1		B13-8233 Oceanside		Matrix: Sediment		Sampled: 06-Aug-13 8:46
Method: EPA 8270C-NCI		Batch ID: O-5024		Prepared: 16-Oct-13		Received: 06-Aug-13
(DFPBDE)	NA	70			% Recovery	Analyzed: 29-Oct-13 22:25
(FTBDE)	NA	99			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.51	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 21958-R1		B13-8236 Oceanside		Matrix: Sediment		Sampled: 06-Aug-13 10:12
Method: EPA 8270C-NCI		Batch ID: O-5024		Prepared: 16-Oct-13		Received: 06-Aug-13
(DFPBDE)	NA	74			% Recovery	Analyzed: 29-Oct-13 23:04
(FTBDE)	NA	96			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.55	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 21959-R1

B13-8239 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 11:30

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 30-Oct-13 0:22

(DFPBDE)	NA	75			% Recovery	
(FTBDE)	NA	106			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.46	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 21960-R1

B13-8267 Dana Point

Matrix: Sediment

Sampled: 05-Aug-13 11:45

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 30-Oct-13 1:01

(DFPBDE)	NA	73			% Recovery	
(FTBDE)	NA	92			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	0.29	0.05	0.1	ng/dry g	
PBDE154	NA	0.27	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 21961-R1

B13-8265 Dana Point

Matrix: Sediment

Sampled: 05-Aug-13 13:01

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 30-Oct-13 2:50

(DFPBDE)	NA	66			% Recovery
(FTBDE)	NA	98			% Recovery
PBDE017	NA	0.24	0.05	0.1	ng/dry g
PBDE028	NA	0.17	0.05	0.1	ng/dry g
PBDE047	NA	0.42	0.05	0.1	ng/dry g
PBDE049	NA	ND	0.05	0.1	ng/dry g
PBDE066	NA	0.51	0.05	0.1	ng/dry g
PBDE071	NA	0.22	0.05	0.1	ng/dry g
PBDE085	NA	ND	0.05	0.1	ng/dry g
PBDE099	NA	0.19	0.05	0.1	ng/dry g
PBDE100	NA	ND	0.05	0.1	ng/dry g
PBDE138	NA	ND	0.05	0.1	ng/dry g
PBDE153	NA	ND	0.05	0.1	ng/dry g
PBDE154	NA	0.1	0.05	0.1	ng/dry g
PBDE183	NA	ND	0.05	0.1	ng/dry g
PBDE190	NA	ND	0.05	0.1	ng/dry g



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PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE209	NA	ND	0.05	0.1	ng/dry g	
Sample ID: 21962-R1 B13-8263 Dana Point Matrix: Sediment Sampled: 05-Aug-13 15:25 Received: 06-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 30-Oct-13 3:29						
(DFPBDE)	NA	61			% Recovery	
(FTBDE)	NA	92			% Recovery	
PBDE017	NA	0.19	0.05	0.1	ng/dry g	
PBDE028	NA	0.11	0.05	0.1	ng/dry g	
PBDE047	NA	0.15	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.36	0.05	0.1	ng/dry g	
PBDE071	NA	0.3	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	0.17	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	0.05	0.05	0.1	ng/dry g	J
PBDE154	NA	0.08	0.05	0.1	ng/dry g	J
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 21963-R1 B13-8259 Dana Point Matrix: Sediment Sampled: 05-Aug-13 10:02 Received: 06-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 30-Oct-13 4:08						
(DFPBDE)	NA	73			% Recovery	
(FTBDE)	NA	96			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	0.08	0.05	0.1	ng/dry g	J
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.51	0.05	0.1	ng/dry g	
PBDE071	NA	0.21	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE099	NA	0.14	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	0.07	0.05	0.1	ng/dry g	J
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 21957-R1</div> <div>B13-8233 Oceanside</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5024</div> </div> <div> <div>Sampled: 06-Aug-13 8:46</div> <div>Prepared: 16-Oct-13</div> </div> <div> <div>Received: 06-Aug-13</div> <div>Analyzed: 03-Nov-13 14:57</div> </div>						
(d10-Acenaphthene)	NA	50			% Recovery	
(d10-Phenanthrene)	NA	64			% Recovery	
(d12-Chrysene)	NA	70			% Recovery	
(d8-Naphthalene)	NA	25			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	1.7	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	2.7	1	5	ng/dry g	J
Benz[a]anthracene	NA	5.4	1	5	ng/dry g	
Benzo[a]pyrene	NA	6.4	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	5.6	1	5	ng/dry g	
Benzo[e]pyrene	NA	4.4	1	5	ng/dry g	J
Benzo[g,h,i]perylene	NA	9.6	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	3.4	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	6.7	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	3.3	1	5	ng/dry g	J
Dibenzothiophene	NA	ND	1	5	ng/dry g	
Fluoranthene	NA	12.8	1	5	ng/dry g	
Fluorene	NA	1.2	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	9.7	1	5	ng/dry g	
Naphthalene	NA	1	1	5	ng/dry g	J
Perylene	NA	2.3	1	5	ng/dry g	J
Phenanthrene	NA	9.3	1	5	ng/dry g	
Pyrene	NA	11.8	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 21958-R1</div> <div>B13-8236 Oceanside</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5024</div> </div> <div> <div>Sampled: 06-Aug-13 10:12</div> <div>Prepared: 16-Oct-13</div> </div> <div> <div>Received: 06-Aug-13</div> <div>Analyzed: 03-Nov-13 16:40</div> </div>						
(d10-Acenaphthene)	NA	51			% Recovery	
(d10-Phenanthrene)	NA	74			% Recovery	
(d12-Chrysene)	NA	71			% Recovery	
(d8-Naphthalene)	NA	25			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	1	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	2.1	1	5	ng/dry g	J
Benz[a]anthracene	NA	6.2	1	5	ng/dry g	
Benzo[a]pyrene	NA	3.4	1	5	ng/dry g	J
Benzo[b]fluoranthene	NA	3.7	1	5	ng/dry g	J
Benzo[e]pyrene	NA	2.4	1	5	ng/dry g	J
Benzo[g,h,i]perylene	NA	3.6	1	5	ng/dry g	J
Benzo[k]fluoranthene	NA	2	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	7.1	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	1.8	1	5	ng/dry g	J
Dibenzothiophene	NA	1.2	1	5	ng/dry g	J
Fluoranthene	NA	14.6	1	5	ng/dry g	
Fluorene	NA	1.1	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	4.1	1	5	ng/dry g	J
Naphthalene	NA	ND	1	5	ng/dry g	
Perylene	NA	1.2	1	5	ng/dry g	J
Phenanthrene	NA	8.8	1	5	ng/dry g	
Pyrene	NA	13.3	1	5	ng/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 21959-R1</div> <div>B13-8239 Oceanside</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5024</div> </div> <div> <div>Sampled: 06-Aug-13 11:30</div> <div>Prepared: 16-Oct-13</div> </div> <div> <div>Received: 06-Aug-13</div> <div>Analyzed: 03-Nov-13 20:06</div> </div>						
(d10-Acenaphthene)	NA	52			% Recovery	
(d10-Phenanthrene)	NA	73			% Recovery	
(d12-Chrysene)	NA	82			% Recovery	
(d8-Naphthalene)	NA	29			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	1.7	1	5	ng/dry g	J
Benz[a]anthracene	NA	1.7	1	5	ng/dry g	J
Benzo[a]pyrene	NA	1.8	1	5	ng/dry g	J
Benzo[b]fluoranthene	NA	2.1	1	5	ng/dry g	J
Benzo[e]pyrene	NA	1.3	1	5	ng/dry g	J
Benzo[g,h,i]perylene	NA	2.1	1	5	ng/dry g	J
Benzo[k]fluoranthene	NA	1.4	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	3	1	5	ng/dry g	J
Dibenz[a,h]anthracene	NA	1.2	1	5	ng/dry g	J
Dibenzothiophene	NA	ND	1	5	ng/dry g	
Fluoranthene	NA	7.7	1	5	ng/dry g	
Fluorene	NA	ND	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	2.1	1	5	ng/dry g	J
Naphthalene	NA	ND	1	5	ng/dry g	
Perylene	NA	2.5	1	5	ng/dry g	J
Phenanthrene	NA	5.9	1	5	ng/dry g	
Pyrene	NA	5.8	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 21960-R1</div> <div>B13-8267 Dana Point</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5024</div> </div> <div> <div>Sampled: 05-Aug-13 11:45</div> <div>Prepared: 16-Oct-13</div> </div> <div> <div>Received: 06-Aug-13</div> <div>Analyzed: 03-Nov-13 21:48</div> </div>						
(d10-Acenaphthene)	NA	52			% Recovery	
(d10-Phenanthrene)	NA	69			% Recovery	
(d12-Chrysene)	NA	85			% Recovery	
(d8-Naphthalene)	NA	27			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	1	1	5	ng/dry g	J
Acenaphthene	NA	1.1	1	5	ng/dry g	J
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	11.1	1	5	ng/dry g	
Benz[a]anthracene	NA	63.9	1	5	ng/dry g	
Benzo[a]pyrene	NA	68.3	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	55.7	1	5	ng/dry g	
Benzo[e]pyrene	NA	38.4	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	70	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	33.9	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	77.1	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	19.6	1	5	ng/dry g	
Dibenzothiophene	NA	2.2	1	5	ng/dry g	J
Fluoranthene	NA	127.9	1	5	ng/dry g	
Fluorene	NA	2.3	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	93.3	1	5	ng/dry g	
Naphthalene	NA	1.9	1	5	ng/dry g	J
Perylene	NA	22.6	1	5	ng/dry g	
Phenanthrene	NA	36.1	1	5	ng/dry g	
Pyrene	NA	122.7	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21961-R1		B13-8265 Dana Point		Matrix: Sediment		Sampled: 05-Aug-13 13:01
Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13		Received: 06-Aug-13
						Analyzed: 03-Nov-13 23:31
(d10-Acenaphthene)	NA	59			% Recovery	
(d10-Phenanthrene)	NA	76			% Recovery	
(d12-Chrysene)	NA	79			% Recovery	
(d8-Naphthalene)	NA	38			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	1.7	1	5	ng/dry g	J
Benz[a]anthracene	NA	3.8	1	5	ng/dry g	J
Benzo[a]pyrene	NA	4.2	1	5	ng/dry g	J
Benzo[b]fluoranthene	NA	4	1	5	ng/dry g	J
Benzo[e]pyrene	NA	3.4	1	5	ng/dry g	J
Benzo[g,h,i]perylene	NA	5.8	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	2.5	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	5.7	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	1.3	1	5	ng/dry g	J
Dibenzothiophene	NA	ND	1	5	ng/dry g	
Fluoranthene	NA	11.1	1	5	ng/dry g	
Fluorene	NA	1.1	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	5.9	1	5	ng/dry g	
Naphthalene	NA	ND	1	5	ng/dry g	
Perylene	NA	34.2	1	5	ng/dry g	
Phenanthrene	NA	7.1	1	5	ng/dry g	
Pyrene	NA	10.5	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21962-R1		B13-8263 Dana Point		Matrix: Sediment		Sampled: 05-Aug-13 15:25
	Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13	Received: 06-Aug-13
						Analyzed: 04-Nov-13 1:14
(d10-Acenaphthene)	NA	57			% Recovery	
(d10-Phenanthrene)	NA	73			% Recovery	
(d12-Chrysene)	NA	74			% Recovery	
(d8-Naphthalene)	NA	38			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	1.4	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	5.4	1	5	ng/dry g	
Benz[a]anthracene	NA	10.1	1	5	ng/dry g	
Benzo[a]pyrene	NA	9.7	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	7.4	1	5	ng/dry g	
Benzo[e]pyrene	NA	5.3	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	8.1	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	5.3	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	10	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	2.6	1	5	ng/dry g	J
Dibenzothiophene	NA	1.2	1	5	ng/dry g	J
Fluoranthene	NA	23.4	1	5	ng/dry g	
Fluorene	NA	1.6	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	9.4	1	5	ng/dry g	
Naphthalene	NA	ND	1	5	ng/dry g	
Perylene	NA	18.9	1	5	ng/dry g	
Phenanthrene	NA	15.5	1	5	ng/dry g	
Pyrene	NA	20	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21963-R1 B13-8259 Dana Point Matrix: Sediment Sampled: 05-Aug-13 10:02 Received: 06-Aug-13 Method: EPA 8270C Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 04-Nov-13 2:57						
(d10-Acenaphthene)	NA	54			% Recovery	
(d10-Phenanthrene)	NA	76			% Recovery	
(d12-Chrysene)	NA	84			% Recovery	
(d8-Naphthalene)	NA	31			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	2.1	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	1.1	1	5	ng/dry g	J
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	4	1	5	ng/dry g	J
Benz[a]anthracene	NA	8.8	1	5	ng/dry g	
Benzo[a]pyrene	NA	8.9	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	7.7	1	5	ng/dry g	
Benzo[e]pyrene	NA	6.2	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	9.8	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	4.8	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	9.5	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	3.2	1	5	ng/dry g	J
Dibenzothiophene	NA	1.3	1	5	ng/dry g	J
Fluoranthene	NA	23	1	5	ng/dry g	
Fluorene	NA	1.8	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	11.9	1	5	ng/dry g	
Naphthalene	NA	1.2	1	5	ng/dry g	J
Perylene	NA	5.2	1	5	ng/dry g	
Phenanthrene	NA	18.4	1	5	ng/dry g	
Pyrene	NA	19.3	1	5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Sample ID: 21957-R1

B13-8233 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 8:46

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 22:53

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 21958-R1

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 23:57

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Resmethrin	NA	ND	0.25	0.5	ng/dry g	
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Sample ID: 21959-R1

B13-8239 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 11:30

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 2:05

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 21960-R1

B13-8267 Dana Point

Matrix: Sediment

Sampled: 05-Aug-13 11:45

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 3:10

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	1.19	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 21961-R1

B13-8265 Dana Point

Matrix: Sediment

Sampled: 05-Aug-13 13:01

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 4:14

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	0.37	0.25	0.5	ng/dry g	J
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 21962-R1

B13-8263 Dana Point

Matrix: Sediment

Sampled: 05-Aug-13 15:25

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 5:17

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

Pyrethroids**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 21963-R1**B13-8259 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 10:02****Received: 06-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 6:22

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

QUALITY CONTROL REPORT

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CA ELAP #2769

Aroclor PCBs**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 21956-B1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g					
Aroclor 1221	NA	ND	1	2	ng/dry g					
Aroclor 1232	NA	ND	1	2	ng/dry g					
Aroclor 1242	NA	ND	1	2	ng/dry g					
Aroclor 1248	NA	ND	1	2	ng/dry g					
Aroclor 1254	NA	ND	1	2	ng/dry g					
Aroclor 1260	NA	ND	1	2	ng/dry g					
Aroclor 1262	NA	ND	1	2	ng/dry g					
Aroclor 1268	NA	ND	1	2	ng/dry g					

Sample ID: 21958-R2**B13-8236 Oceanside****Matrix: Sediment****Sampled: 06-Aug-13 10:12****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g			0	25	PASS
Aroclor 1221	NA	ND	1	2	ng/dry g			0	25	PASS
Aroclor 1232	NA	ND	1	2	ng/dry g			0	25	PASS
Aroclor 1242	NA	ND	1	2	ng/dry g			0	25	PASS
Aroclor 1248	NA	ND	1	2	ng/dry g			0	25	PASS
Aroclor 1254	NA	ND	1	2	ng/dry g			0	25	PASS
Aroclor 1260	NA	ND	1	2	ng/dry g			0	25	PASS
Aroclor 1262	NA	ND	1	2	ng/dry g			0	25	PASS
Aroclor 1268	NA	ND	1	2	ng/dry g			0	25	PASS



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 21956-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 2:30		
(PCB030)	NA	82			% Recovery	100		82 50 - 150% PASS		
(PCB112)	NA	90			% Recovery	100		90 50 - 150% PASS		
(PCB198)	NA	70			% Recovery	100		70 50 - 150% PASS		
(TCMX)	NA	79			% Recovery	100		79 50 - 150% PASS		
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g					
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g					
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g					
Aldrin	NA	ND	0.05	0.1	ng/dry g					
BHC-alpha	NA	ND	0.05	0.1	ng/dry g					
BHC-beta	NA	ND	0.05	0.1	ng/dry g					
BHC-delta	NA	ND	0.05	0.1	ng/dry g					
BHC-gamma	NA	ND	0.05	0.1	ng/dry g					
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g					
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g					
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g					
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g					
Dicofol	NA	ND	0.05	0.1	ng/dry g					
Dieldrin	NA	ND	0.05	0.1	ng/dry g					
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g					
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g					
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g					
Endrin	NA	ND	0.05	0.1	ng/dry g					
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g					
Endrin ketone	NA	ND	0.05	0.1	ng/dry g					
Heptachlor	NA	ND	0.05	0.1	ng/dry g					



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CA ELAP #2769

Chlorinated Pesticides**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g					
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g					
Methoxychlor	NA	ND	0.05	0.1	ng/dry g					
Mirex	NA	ND	0.05	0.1	ng/dry g					
Oxychlordane	NA	ND	0.05	0.1	ng/dry g					
Perthane	NA	ND	0.05	0.1	ng/dry g					
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g					
Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 24-Oct-13 15:59										
Toxaphene	NA	ND	0.1	0.2	ng/dry g					

Sample ID: 21956-BS1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 4:13

(PCB030)	NA	96			% Recovery	100	0	96	70 - 130%	PASS
(PCB112)	NA	108			% Recovery	100	0	108	70 - 130%	PASS
(PCB198)	NA	85			% Recovery	100	0	85	70 - 130%	PASS
(TCMX)	NA	92			% Recovery	100	0	92	70 - 130%	PASS
2,4'-DDD	NA	1048.21	0.05	0.1	ng/dry g	1000	0	105	70 - 130%	PASS
2,4'-DDE	NA	1078.83	0.05	0.1	ng/dry g	1000	0	108	70 - 130%	PASS
2,4'-DDT	NA	1114.34	0.05	0.1	ng/dry g	1000	0	111	70 - 130%	PASS
4,4'-DDD	NA	1031.02	0.05	0.1	ng/dry g	1000	0	103	70 - 130%	PASS
4,4'-DDE	NA	1033.69	0.05	0.1	ng/dry g	1000	0	103	70 - 130%	PASS
4,4'-DDMU	NA	1166.17	0.05	0.1	ng/dry g	1000	0	117	70 - 130%	PASS
4,4'-DDT	NA	1164.04	0.05	0.1	ng/dry g	1000	0	116	70 - 130%	PASS
Aldrin	NA	966.58	0.05	0.1	ng/dry g	1000	0	97	70 - 130%	PASS
BHC-alpha	NA	914.36	0.05	0.1	ng/dry g	1000	0	91	70 - 130%	PASS
BHC-beta	NA	1011.69	0.05	0.1	ng/dry g	1000	0	101	70 - 130%	PASS
BHC-delta	NA	959.35	0.05	0.1	ng/dry g	1000	0	96	70 - 130%	PASS
BHC-gamma	NA	1036.03	0.05	0.1	ng/dry g	1000	0	104	70 - 130%	PASS
Chlordane-alpha	NA	997.49	0.05	0.1	ng/dry g	1000	0	100	70 - 130%	PASS
Chlordane-gamma	NA	1023.31	0.05	0.1	ng/dry g	1000	0	102	70 - 130%	PASS
cis-Nonachlor	NA	951	0.05	0.1	ng/dry g	1000	0	95	70 - 130%	PASS
DCPA (Dacthal)	NA	1025.69	0.05	0.1	ng/dry g	1000	0	103	70 - 130%	PASS



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Dicofol	NA	1255.93	0.05	0.1	ng/dry g	1000	0	126 70 - 130% PASS		
Dieldrin	NA	1092.57	0.05	0.1	ng/dry g	1000	0	109 70 - 130% PASS		
Endosulfan sulfate	NA	880.09	0.05	0.1	ng/dry g	1000	0	88 70 - 130% PASS		
Endosulfan-I	NA	787.54	0.05	0.1	ng/dry g	1000	0	79 70 - 130% PASS		
Endosulfan-II	NA	737.32	0.05	0.1	ng/dry g	1000	0	74 70 - 130% PASS		
Endrin	NA	1011.9	0.05	0.1	ng/dry g	1000	0	101 70 - 130% PASS		
Endrin aldehyde	NA	784.38	0.05	0.1	ng/dry g	1000	0	78 70 - 130% PASS		
Endrin ketone	NA	915.65	0.05	0.1	ng/dry g	1000	0	92 70 - 130% PASS		
Heptachlor	NA	1082.83	0.05	0.1	ng/dry g	1000	0	108 70 - 130% PASS		
Heptachlor epoxide	NA	997.66	0.05	0.1	ng/dry g	1000	0	100 70 - 130% PASS		
Hexachlorobenzene	NA	926.22	0.05	0.1	ng/dry g	1000	0	93 70 - 130% PASS		
Methoxychlor	NA	1195.58	0.05	0.1	ng/dry g	1000	0	120 70 - 130% PASS		
Mirex	NA	949.93	0.05	0.1	ng/dry g	1000	0	95 70 - 130% PASS		
Oxychlordane	NA	886.54	0.05	0.1	ng/dry g	1000	0	89 70 - 130% PASS		
Perthane	NA	1099.87	0.05	0.1	ng/dry g	1000	0	110 70 - 130% PASS		
trans-Nonachlor	NA	987.91	0.05	0.1	ng/dry g	1000	0	99 70 - 130% PASS		
<div> <div>Method: EPA 8270C-NCI</div> <div>Batch ID: O-5024</div> <div>Prepared: 16-Oct-13</div> <div>Analyzed: 24-Oct-13 17:02</div> </div>										
Toxaphene	NA	9296.6	0.1	0.2	ng/dry g	10000	0	93 70 - 130% PASS		

Sample ID: 21956-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 5:55

(PCB030)	NA	90			% Recovery	100	0	90 70 - 130% PASS	6	25	PASS
(PCB112)	NA	103			% Recovery	100	0	103 70 - 130% PASS	5	25	PASS
(PCB198)	NA	85			% Recovery	100	0	85 70 - 130% PASS	0	25	PASS
(TCMX)	NA	80			% Recovery	100	0	80 70 - 130% PASS	14	25	PASS
2,4'-DDD	NA	1016.64	0.05	0.1	ng/dry g	1000	0	102 70 - 130% PASS	3	25	PASS
2,4'-DDE	NA	1004.07	0.05	0.1	ng/dry g	1000	0	100 70 - 130% PASS	8	25	PASS
2,4'-DDT	NA	1085.16	0.05	0.1	ng/dry g	1000	0	109 70 - 130% PASS	2	25	PASS
4,4'-DDD	NA	1031.19	0.05	0.1	ng/dry g	1000	0	103 70 - 130% PASS	0	25	PASS
4,4'-DDE	NA	1050.6	0.05	0.1	ng/dry g	1000	0	105 70 - 130% PASS	2	25	PASS
4,4'-DDMU	NA	1158.53	0.05	0.1	ng/dry g	1000	0	116 70 - 130% PASS	1	25	PASS
4,4'-DDT	NA	1187.71	0.05	0.1	ng/dry g	1000	0	119 70 - 130% PASS	3	25	PASS



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CA ELAP #2769

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Aldrin	NA	901.82	0.05	0.1	ng/dry g	1000	0	90	70 - 130% PASS	7	25	PASS
BHC-alpha	NA	854.29	0.05	0.1	ng/dry g	1000	0	85	70 - 130% PASS	7	25	PASS
BHC-beta	NA	992.16	0.05	0.1	ng/dry g	1000	0	99	70 - 130% PASS	2	25	PASS
BHC-delta	NA	1005.47	0.05	0.1	ng/dry g	1000	0	101	70 - 130% PASS	5	25	PASS
BHC-gamma	NA	924.91	0.05	0.1	ng/dry g	1000	0	92	70 - 130% PASS	12	25	PASS
Chlordane-alpha	NA	941.04	0.05	0.1	ng/dry g	1000	0	94	70 - 130% PASS	6	25	PASS
Chlordane-gamma	NA	945.53	0.05	0.1	ng/dry g	1000	0	95	70 - 130% PASS	7	25	PASS
cis-Nonachlor	NA	929.35	0.05	0.1	ng/dry g	1000	0	93	70 - 130% PASS	2	25	PASS
DCPA (Dacthal)	NA	996.98	0.05	0.1	ng/dry g	1000	0	100	70 - 130% PASS	3	25	PASS
Dicofol	NA	1268.85	0.05	0.1	ng/dry g	1000	0	127	70 - 130% PASS	1	25	PASS
Dieldrin	NA	1009.46	0.05	0.1	ng/dry g	1000	0	101	70 - 130% PASS	8	25	PASS
Endosulfan sulfate	NA	928.71	0.05	0.1	ng/dry g	1000	0	93	70 - 130% PASS	6	25	PASS
Endosulfan-I	NA	738.31	0.05	0.1	ng/dry g	1000	0	74	70 - 130% PASS	7	25	PASS
Endosulfan-II	NA	738.67	0.05	0.1	ng/dry g	1000	0	74	70 - 130% PASS	0	25	PASS
Endrin	NA	1010.07	0.05	0.1	ng/dry g	1000	0	101	70 - 130% PASS	0	25	PASS
Endrin aldehyde	NA	796.98	0.05	0.1	ng/dry g	1000	0	80	70 - 130% PASS	3	25	PASS
Endrin ketone	NA	927.89	0.05	0.1	ng/dry g	1000	0	93	70 - 130% PASS	1	25	PASS
Heptachlor	NA	973.8	0.05	0.1	ng/dry g	1000	0	97	70 - 130% PASS	11	25	PASS
Heptachlor epoxide	NA	953.52	0.05	0.1	ng/dry g	1000	0	95	70 - 130% PASS	5	25	PASS
Hexachlorobenzene	NA	884.73	0.05	0.1	ng/dry g	1000	0	88	70 - 130% PASS	6	25	PASS
Methoxychlor	NA	1211.94	0.05	0.1	ng/dry g	1000	0	121	70 - 130% PASS	1	25	PASS
Mirex	NA	947.18	0.05	0.1	ng/dry g	1000	0	95	70 - 130% PASS	0	25	PASS
Oxychlordane	NA	869.78	0.05	0.1	ng/dry g	1000	0	87	70 - 130% PASS	2	25	PASS
Perthane	NA	1090.01	0.05	0.1	ng/dry g	1000	0	109	70 - 130% PASS	1	25	PASS
trans-Nonachlor	NA	924.13	0.05	0.1	ng/dry g	1000	0	92	70 - 130% PASS	7	25	PASS

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 18:06

Toxaphene	NA	9665.5	0.1	0.2	ng/dry g	10000	0	97	70 - 130% PASS	4	25	PASS
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Sample ID: 21958-MS1

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 7:38

(PCB030)	NA	88			% Recovery	100	0	88	50 - 150% PASS			
(PCB112)	NA	103			% Recovery	100	0	103	70 - 130% PASS			



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
(PCB198)	NA	78			% Recovery	100	0	78 50 - 150% PASS		
(TCMX)	NA	80			% Recovery	100	0	80 50 - 150% PASS		
2,4'-DDD	NA	141.38	0.05	0.1	ng/dry g	134.6	0	105 50 - 150% PASS		
2,4'-DDE	NA	146.44	0.05	0.1	ng/dry g	134.6	0	109 50 - 150% PASS		
2,4'-DDT	NA	148.72	0.05	0.1	ng/dry g	134.6	0	110 25 - 125% PASS		
4,4'-DDD	NA	139.82	0.05	0.1	ng/dry g	134.6	0	104 50 - 150% PASS		
4,4'-DDE	NA	140.94	0.05	0.1	ng/dry g	134.6	0.89	104 50 - 150% PASS		
4,4'-DDMU	NA	174.41	0.05	0.1	ng/dry g	134.6	0	130 50 - 150% PASS		
4,4'-DDT	NA	155.91	0.05	0.1	ng/dry g	134.6	0	116 25 - 125% PASS		
Aldrin	NA	86.7	0.05	0.1	ng/dry g	134.6	0	64 50 - 150% PASS		
BHC-alpha	NA	118.83	0.05	0.1	ng/dry g	134.6	0	88 50 - 150% PASS		
BHC-beta	NA	131.12	0.05	0.1	ng/dry g	134.6	0	97 50 - 150% PASS		
BHC-delta	NA	131.61	0.05	0.1	ng/dry g	134.6	0	98 50 - 150% PASS		
BHC-gamma	NA	127.64	0.05	0.1	ng/dry g	134.6	0	95 50 - 150% PASS		
Chlordane-alpha	NA	136.2	0.05	0.1	ng/dry g	134.6	0	101 50 - 150% PASS		
Chlordane-gamma	NA	140.35	0.05	0.1	ng/dry g	134.6	0	104 50 - 150% PASS		
cis-Nonachlor	NA	123.5	0.05	0.1	ng/dry g	134.6	0	92 50 - 150% PASS		
DCPA (Dacthal)	NA	128.12	0.05	0.1	ng/dry g	134.6	0	95 50 - 150% PASS		
Dicofol	NA	219.23	0.05	0.1	ng/dry g	134.6	0	163 50 - 150% FAIL		M
Dieldrin	NA	130.16	0.05	0.1	ng/dry g	134.6	0	97 50 - 150% PASS		
Endosulfan sulfate	NA	120.11	0.05	0.1	ng/dry g	134.6	0	89 50 - 150% PASS		
Endosulfan-I	NA	58.77	0.05	0.1	ng/dry g	134.6	0	44 50 - 150% FAIL		M
Endosulfan-II	NA	87.98	0.05	0.1	ng/dry g	134.6	0	65 50 - 150% PASS		
Endrin	NA	147.99	0.05	0.1	ng/dry g	134.6	0	110 25 - 125% PASS		
Endrin aldehyde	NA	8.74	0.05	0.1	ng/dry g	134.6	0	6 0 - 125% PASS		
Endrin ketone	NA	114.38	0.05	0.1	ng/dry g	134.6	0	85 25 - 125% PASS		
Heptachlor	NA	139.03	0.05	0.1	ng/dry g	134.6	0	103 50 - 150% PASS		
Heptachlor epoxide	NA	129.23	0.05	0.1	ng/dry g	134.6	0	96 50 - 150% PASS		
Hexachlorobenzene	NA	119.03	0.05	0.1	ng/dry g	134.6	0	88 50 - 150% PASS		
Methoxychlor	NA	150.75	0.05	0.1	ng/dry g	134.6	0	112 50 - 150% PASS		
Mirex	NA	117.66	0.05	0.1	ng/dry g	134.6	0	87 50 - 150% PASS		



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CA ELAP #2769

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Oxychlorthane	NA	124.35	0.05	0.1	ng/dry g	134.6	0	92	50 - 150%	PASS		
Perthane	NA	149.84	0.05	0.1	ng/dry g	134.6	0	111	50 - 150%	PASS		
trans-Nonachlor	NA	133.37	0.05	0.1	ng/dry g	134.6	0	99	50 - 150%	PASS		
Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 24-Oct-13 19:10												
Toxaphene	NA	9082.1	0.1	0.2	ng/dry g	10000	0	91	50 - 150%	PASS		

Sample ID: 21958-MS2

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 9:21

(PCB030)	NA	84			% Recovery	100	0	84	50 - 150%	PASS	5	25	PASS	
(PCB112)	NA	95			% Recovery	100	0	95	70 - 130%	PASS	8	25	PASS	
(PCB198)	NA	76			% Recovery	100	0	76	50 - 150%	PASS	3	25	PASS	
(TCMX)	NA	77			% Recovery	100	0	77	50 - 150%	PASS	4	25	PASS	
2,4'-DDD	NA	138.5	0.05	0.1	ng/dry g	132.3	0	105	50 - 150%	PASS	0	25	PASS	
2,4'-DDE	NA	137.86	0.05	0.1	ng/dry g	132.3	0	104	50 - 150%	PASS	5	25	PASS	
2,4'-DDT	NA	145.44	0.05	0.1	ng/dry g	132.3	0	110	25 - 125%	PASS	0	25	PASS	
4,4'-DDD	NA	143.2	0.05	0.1	ng/dry g	132.3	0	108	50 - 150%	PASS	4	25	PASS	
4,4'-DDE	NA	139.17	0.05	0.1	ng/dry g	132.3	0.89	105	50 - 150%	PASS	1	25	PASS	
4,4'-DDMU	NA	160.04	0.05	0.1	ng/dry g	132.3	0	121	50 - 150%	PASS	7	25	PASS	
4,4'-DDT	NA	149.87	0.05	0.1	ng/dry g	132.3	0	113	25 - 125%	PASS	3	25	PASS	
Aldrin	NA	99.11	0.05	0.1	ng/dry g	132.3	0	75	50 - 150%	PASS	16	25	PASS	
BHC-alpha	NA	122.31	0.05	0.1	ng/dry g	132.3	0	92	50 - 150%	PASS	4	25	PASS	
BHC-beta	NA	136.67	0.05	0.1	ng/dry g	132.3	0	103	50 - 150%	PASS	6	25	PASS	
BHC-delta	NA	138.52	0.05	0.1	ng/dry g	132.3	0	105	50 - 150%	PASS	7	25	PASS	
BHC-gamma	NA	130.16	0.05	0.1	ng/dry g	132.3	0	98	50 - 150%	PASS	3	25	PASS	
Chlordane-alpha	NA	125.57	0.05	0.1	ng/dry g	132.3	0	95	50 - 150%	PASS	6	25	PASS	
Chlordane-gamma	NA	129	0.05	0.1	ng/dry g	132.3	0	98	50 - 150%	PASS	6	25	PASS	
cis-Nonachlor	NA	126.22	0.05	0.1	ng/dry g	132.3	0	95	50 - 150%	PASS	3	25	PASS	
DCEPA (Dacthal)	NA	136.23	0.05	0.1	ng/dry g	132.3	0	103	50 - 150%	PASS	8	25	PASS	
Dicofol	NA	229.34	0.05	0.1	ng/dry g	132.3	0	173	50 - 150%	FAIL	6	25	PASS	M
Dieldrin	NA	141.92	0.05	0.1	ng/dry g	132.3	0	107	50 - 150%	PASS	10	25	PASS	
Endosulfan sulfate	NA	123.9	0.05	0.1	ng/dry g	132.3	0	94	50 - 150%	PASS	5	25	PASS	
Endosulfan-I	NA	54.91	0.05	0.1	ng/dry g	132.3	0	42	50 - 150%	FAIL	5	25	PASS	M



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Endosulfan-II	NA	94.04	0.05	0.1	ng/dry g	132.3	0	71 50 - 150% PASS	9 25 PASS	
Endrin	NA	147.56	0.05	0.1	ng/dry g	132.3	0	112 25 - 125% PASS	2 25 PASS	
Endrin aldehyde	NA	14.03	0.05	0.1	ng/dry g	132.3	0	11 0 - 125% PASS	59 25 FAIL	M
Endrin ketone	NA	124.04	0.05	0.1	ng/dry g	132.3	0	94 25 - 125% PASS	10 25 PASS	
Heptachlor	NA	132.33	0.05	0.1	ng/dry g	132.3	0	100 50 - 150% PASS	3 25 PASS	
Heptachlor epoxide	NA	131.96	0.05	0.1	ng/dry g	132.3	0	100 50 - 150% PASS	4 25 PASS	
Hexachlorobenzene	NA	120.49	0.05	0.1	ng/dry g	132.3	0	91 50 - 150% PASS	3 25 PASS	
Methoxychlor	NA	151.13	0.05	0.1	ng/dry g	132.3	0	114 50 - 150% PASS	2 25 PASS	
Mirex	NA	126.11	0.05	0.1	ng/dry g	132.3	0	95 50 - 150% PASS	9 25 PASS	
Oxychlorodane	NA	135.76	0.05	0.1	ng/dry g	132.3	0	103 50 - 150% PASS	11 25 PASS	
Perthane	NA	148.6	0.05	0.1	ng/dry g	132.3	0	112 50 - 150% PASS	1 25 PASS	
trans-Nonachlor	NA	125.91	0.05	0.1	ng/dry g	132.3	0	95 50 - 150% PASS	4 25 PASS	
Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 24-Oct-13 20:14										
Toxaphene	NA	9120.2	0.1	0.2	ng/dry g	10000	0	91 50 - 150% PASS	0 25 PASS	

Sample ID: 21958-R2

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 18:23

(PCB030)	NA	79			% Recovery	100	79	50 - 150% PASS	4 25 PASS	
(PCB112)	NA	91			% Recovery	100	91	50 - 150% PASS	7 25 PASS	
(PCB198)	NA	73			% Recovery	100	73	50 - 150% PASS	26 25 FAIL	
(TCMX)	NA	77			% Recovery	100	77	50 - 150% PASS	4 25 PASS	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
4,4'-DDE	NA	1.15	0.05	0.1	ng/dry g				58 25 FAIL	SL
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Aldrin	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
BHC-beta	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
BHC-delta	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	



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Chlorinated Pesticides**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
BHC-gamma	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Dicofol	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Dieldrin	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endrin	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Heptachlor	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Mirex	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Perthane	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 1:01

Toxaphene	NA	ND	0.1	0.2	ng/dry g				0 25 PASS	
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Sample ID: 21964-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 13:15

(PCB030)	NA	91			% Recovery	100	91	60 - 140%	PASS	
(PCB112)	NA	107			% Recovery	100	107	60 - 140%	PASS	
(PCB198)	NA	60			% Recovery	100	60	60 - 140%	PASS	
(TCMX)	NA	88			% Recovery	100	88	60 - 140%	PASS	
2,4'-DDD	NA	39.75	0.05	0.1	ng/dry g	38	105	60 - 140%	PASS	
2,4'-DDE	NA	22.28	0.05	0.1	ng/dry g	19	117	60 - 140%	PASS	



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Chlorinated Pesticides**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
4,4'-DDD	NA	118.53	0.05	0.1	ng/dry g	108		110 60 - 140% PASS		
4,4'-DDE	NA	88.1	0.05	0.1	ng/dry g	86		102 60 - 140% PASS		
4,4'-DDT	NA	129.1	0.05	0.1	ng/dry g	119		108 60 - 140% PASS		
Chlordane-alpha	NA	19.65	0.05	0.1	ng/dry g	16.5		119 60 - 140% PASS		
Chlordane-gamma	NA	10.29	0.05	0.1	ng/dry g	8		129 60 - 140% PASS		
cis-Nonachlor	NA	4.68	0.05	0.1	ng/dry g	3.7		126 60 - 140% PASS		
Hexachlorobenzene	NA	5.44	0.05	0.1	ng/dry g	6		91 60 - 140% PASS		
trans-Nonachlor	NA	10.04	0.05	0.1	ng/dry g	8.2		122 60 - 140% PASS		



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Conventionals

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
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Acid Volatile Sulfides

Method: Plumb, 1981 and TERL

Fraction: NA

21956-B1	QAQC Procedural Blank	C-14036 ND	0.05	0.1	mg/dry kg							
		Prepared: 27-Sep-13			Analyzed: 27-Sep-13 0:00							
21956-BS1	QAQC Procedural Blank	C-14036 18.1	0.05	0.1	mg/dry kg	18.29	0	99	80 - 120% PASS			
		Prepared: 27-Sep-13			Analyzed: 27-Sep-13 0:00							
21956-BS2	QAQC Procedural Blank	C-14036 18.85	0.05	0.1	mg/dry kg	18.29	0	103	80 - 120% PASS	4	25	PASS
		Prepared: 27-Sep-13			Analyzed: 27-Sep-13 0:00							
21957-R2	B13-8233	C-14036 146.7	0.05	0.1	mg/dry kg					17	25	PASS
		Prepared: 27-Sep-13			Analyzed: 27-Sep-13 0:00							

Ammonia as N

Method: SM 4500-NH₃ D

Fraction: NA

21956-B1	QAQC Procedural Blank	C-14038 ND	0.02	0.03	mg/dry kg							
		Prepared: 24-Sep-13			Analyzed: 26-Sep-13 0:00							
21956-BS1	QAQC Procedural Blank	C-14038 4.34	0.02	0.03	mg/dry kg	4.02	0	108	80 - 120% PASS			
		Prepared: 24-Sep-13			Analyzed: 26-Sep-13 0:00							
21956-BS2	QAQC Procedural Blank	C-14038 4.34	0.02	0.03	mg/dry kg	4.02	0	108	80 - 120% PASS	0	25	PASS
		Prepared: 24-Sep-13			Analyzed: 26-Sep-13 0:00							
21957-MS1	B13-8233	C-14038 7.68	0.02	0.03	mg/dry kg	3.89	4.39	85	70 - 130% PASS			
		Prepared: 24-Sep-13			Analyzed: 26-Sep-13 0:00							
21957-MS2	B13-8233	C-14038 6.76	0.02	0.03	mg/dry kg	4.05	4.39	59	70 - 130% FAIL	36	25	FAIL SH
		Prepared: 24-Sep-13			Analyzed: 26-Sep-13 0:00							
21957-R2	B13-8233	C-14038 4.83	0.02	0.03	mg/dry kg					20	25	PASS
		Prepared: 24-Sep-13			Analyzed: 26-Sep-13 0:00							

Percent Solids

Method: SM 2540B

Fraction: NA

21956-B1	QAQC Procedural Blank	C-14028 ND	0.1	0.1	% Dry Weight							
		Prepared: 24-Sep-13			Analyzed: 25-Sep-13 0:00							
21957-R2	B13-8233	C-14028 44.1	0.1	0.1	% Dry Weight					0	25	PASS
		Prepared: 24-Sep-13			Analyzed: 25-Sep-13 0:00							

Total Phosphorus

Method: EPA 6020

Fraction: NA

21956-B1	QAQC Procedural Blank	E-5145 ND	0.016	0.05	µg/dry g							
		Prepared: 25-Sep-13			Analyzed: 02-Oct-13 14:52							



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Conventional

QUALITY CONTROL REPORT

SAMPLE ID		BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
21956-BS1	QAQC Procedural Blank	E-5145	50.015	0.016	0.05	µg/dry g	50	0	100	80 - 120% PASS			
		Prepared: 25-Sep-13				Analyzed: 02-Oct-13 16:02							
21956-BS2	QAQC Procedural Blank	E-5145	48.975	0.016	0.05	µg/dry g	50	0	98	80 - 120% PASS	2	25 PASS	
		Prepared: 25-Sep-13				Analyzed: 02-Oct-13 16:06							
21957-MS1	B13-8233	E-5145	2675.034	0.016	0.05	µg/dry g	1670.5	922.744	105	70 - 130% PASS			
		Prepared: 25-Sep-13				Analyzed: 02-Oct-13 16:20							
21957-MS2	B13-8233	E-5145	2679.812	0.016	0.05	µg/dry g	1670.5	922.744	105	70 - 130% PASS	0	25 PASS	
		Prepared: 25-Sep-13				Analyzed: 02-Oct-13 16:24							
21957-R2	B13-8233	E-5145	868.076	0.016	0.05	µg/dry g					12	25 PASS	
		Prepared: 25-Sep-13				Analyzed: 02-Oct-13 15:10							



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 21956-B1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 6020

Batch ID: E-5145

Prepared: 25-Sep-13

Analyzed: 02-Oct-13 21:41

Aluminum (Al)	NA	ND	1	5	µg/dry g					
Antimony (Sb)	NA	ND	0.025	0.05	µg/dry g					
Arsenic (As)	NA	ND	0.025	0.05	µg/dry g					
Barium (Ba)	NA	ND	0.025	0.05	µg/dry g					
Beryllium (Be)	NA	ND	0.025	0.05	µg/dry g					
Cadmium (Cd)	NA	ND	0.0025	0.005	µg/dry g					
Chromium (Cr)	NA	ND	0.0025	0.005	µg/dry g					
Copper (Cu)	NA	ND	0.0025	0.005	µg/dry g					
Iron (Fe)	NA	ND	1	5	µg/dry g					
Lead (Pb)	NA	ND	0.0025	0.005	µg/dry g					
Nickel (Ni)	NA	ND	0.01	0.02	µg/dry g					
Selenium (Se)	NA	ND	0.025	0.05	µg/dry g					
Silver (Ag)	NA	ND	0.01	0.02	µg/dry g					
Zinc (Zn)	NA	ND	0.025	0.05	µg/dry g					

Method: EPA 245.7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	ND	0.00001	0.00002	µg/dry g					
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Sample ID: 21956-BS1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 6020

Batch ID: E-5145

Prepared: 25-Sep-13

Analyzed: 02-Oct-13 22:52

Aluminum (Al)	NA	2	1	5	µg/dry g	2	0	100	80 - 120%	PASS
Antimony (Sb)	NA	2.04	0.025	0.05	µg/dry g	2	0	102	80 - 120%	PASS
Arsenic (As)	NA	2.053	0.025	0.05	µg/dry g	2	0	103	80 - 120%	PASS
Barium (Ba)	NA	2.036	0.025	0.05	µg/dry g	2	0	102	80 - 120%	PASS
Beryllium (Be)	NA	1.992	0.025	0.05	µg/dry g	2	0	100	80 - 120%	PASS
Cadmium (Cd)	NA	2.0444	0.0025	0.005	µg/dry g	2	0	102	80 - 120%	PASS
Chromium (Cr)	NA	2.0532	0.0025	0.005	µg/dry g	2	0	103	80 - 120%	PASS
Copper (Cu)	NA	2.1713	0.0025	0.005	µg/dry g	2	0	109	80 - 120%	PASS
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS
Lead (Pb)	NA	2.05	0.0025	0.005	µg/dry g	2	0	102	80 - 120%	PASS



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Nickel (Ni)	NA	2.01	0.01	0.02	µg/dry g	2	0	100	80 - 120% PASS	
Selenium (Se)	NA	2.211	0.025	0.05	µg/dry g	2	0	111	80 - 120% PASS	
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	0.2	0	100	80 - 120% PASS	
Zinc (Zn)	NA	2.13	0.025	0.05	µg/dry g	2	0	107	80 - 120% PASS	

Method: EPA 245-7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.994	0.00001	0.00002	µg/dry g	1	0	99	80 - 120% PASS	
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Sample ID: 21956-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 6020

Batch ID: E-5145

Prepared: 25-Sep-13

Analyzed: 02-Oct-13 22:56

Aluminum (Al)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120% PASS	5	25	PASS
Antimony (Sb)	NA	2.001	0.025	0.05	µg/dry g	2	0	100	80 - 120% PASS	2	25	PASS
Arsenic (As)	NA	1.985	0.025	0.05	µg/dry g	2	0	99	80 - 120% PASS	4	25	PASS
Barium (Ba)	NA	2.008	0.025	0.05	µg/dry g	2	0	100	80 - 120% PASS	2	25	PASS
Beryllium (Be)	NA	1.996	0.025	0.05	µg/dry g	2	0	100	80 - 120% PASS	0	25	PASS
Cadmium (Cd)	NA	2.0076	0.0025	0.005	µg/dry g	2	0	100	80 - 120% PASS	2	25	PASS
Chromium (Cr)	NA	2.0224	0.0025	0.005	µg/dry g	2	0	101	80 - 120% PASS	2	25	PASS
Copper (Cu)	NA	2.1213	0.0025	0.005	µg/dry g	2	0	106	80 - 120% PASS	3	25	PASS
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120% PASS	0	25	PASS
Lead (Pb)	NA	2.035	0.0025	0.005	µg/dry g	2	0	102	80 - 120% PASS	0	25	PASS
Nickel (Ni)	NA	1.97	0.01	0.02	µg/dry g	2	0	99	80 - 120% PASS	1	25	PASS
Selenium (Se)	NA	2.194	0.025	0.05	µg/dry g	2	0	110	80 - 120% PASS	1	25	PASS
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	0.2	0	100	80 - 120% PASS	5	25	PASS
Zinc (Zn)	NA	2.098	0.025	0.05	µg/dry g	2	0	105	80 - 120% PASS	2	25	PASS

Method: EPA 245-7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.982	0.00001	0.00002	µg/dry g	1	0	98	80 - 120% PASS	1	25	PASS
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Sample ID: 21957-MS1**B13-8233 Oceanside****Matrix: Sediment****Sampled: 06-Aug-13 8:46****Received: 06-Aug-13**

Method: EPA 6020

Batch ID: E-5145

Prepared: 25-Sep-13

Analyzed: 02-Oct-13 23:01

Aluminum (Al)	NA	44883.4	1	5	µg/dry g	1337	43274	120	75 - 125% PASS			
Antimony (Sb)	NA	65.904	0.025	0.05	µg/dry g	66.82	0.333	98	75 - 125% PASS			
Arsenic (As)	NA	80.225	0.025	0.05	µg/dry g	66.82	12.006	102	75 - 125% PASS			
Barium (Ba)	NA	232.143	0.025	0.05	µg/dry g	66.82	167.765	96	75 - 125% PASS			



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Beryllium (Be)	NA	72.647	0.025	0.05	µg/dry g	66.82	0.773	108	75 - 125% PASS	
Cadmium (Cd)	NA	65.0579	0.0025	0.005	µg/dry g	66.82	0.2979	97	75 - 125% PASS	
Chromium (Cr)	NA	138.6326	0.0025	0.005	µg/dry g	66.82	67.1664	107	75 - 125% PASS	
Copper (Cu)	NA	436.4899	0.0025	0.005	µg/dry g	66.82	363.75	109	75 - 125% PASS	
Iron (Fe)	NA	45198.2	1	5	µg/dry g	1337	43008.2	164	75 - 125% FAIL	SH
Lead (Pb)	NA	84.1467	0.0025	0.005	µg/dry g	66.82	22.2206	93	75 - 125% PASS	
Nickel (Ni)	NA	91.58	0.01	0.02	µg/dry g	66.82	23.96	101	75 - 125% PASS	
Selenium (Se)	NA	78.818	0.025	0.05	µg/dry g	66.82	0.437	117	75 - 125% PASS	
Silver (Ag)	NA	6.67	0.01	0.02	µg/dry g	6.68	0.22	97	75 - 125% PASS	
Zinc (Zn)	NA	370.204	0.025	0.05	µg/dry g	66.82	315.997	81	75 - 125% PASS	

Method: EPA 245-7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.68598	0.00001	0.00002	µg/dry g	0.333	0.31215	112	75 - 125% PASS	
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Sample ID: 21957-MS2**B13-8233 Oceanside****Matrix: Sediment****Sampled: 06-Aug-13 8:46****Received: 06-Aug-13**

Method: EPA 6020

Batch ID: E-5145

Prepared: 25-Sep-13

Analyzed: 02-Oct-13 23:06

Aluminum (Al)	NA	47993.1	1	5	µg/dry g	1337	43274	353	75 - 125% FAIL	99	25	FAIL	SH
Antimony (Sb)	NA	65.258	0.025	0.05	µg/dry g	66.82	0.333	97	75 - 125% PASS	1	25	PASS	
Arsenic (As)	NA	81.023	0.025	0.05	µg/dry g	66.82	12.006	103	75 - 125% PASS	1	25	PASS	
Barium (Ba)	NA	230.37	0.025	0.05	µg/dry g	66.82	167.765	94	75 - 125% PASS	2	25	PASS	
Beryllium (Be)	NA	72.357	0.025	0.05	µg/dry g	66.82	0.773	107	75 - 125% PASS	1	25	PASS	
Cadmium (Cd)	NA	65.0304	0.0025	0.005	µg/dry g	66.82	0.2979	97	75 - 125% PASS	0	25	PASS	
Chromium (Cr)	NA	137.9423	0.0025	0.005	µg/dry g	66.82	67.1664	106	75 - 125% PASS	1	25	PASS	
Copper (Cu)	NA	439.7504	0.0025	0.005	µg/dry g	66.82	363.75	114	75 - 125% PASS	4	25	PASS	
Iron (Fe)	NA	48253.5	1	5	µg/dry g	1337	43008.2	392	75 - 125% FAIL	82	25	FAIL	SH
Lead (Pb)	NA	83.9126	0.0025	0.005	µg/dry g	66.82	22.2206	92	75 - 125% PASS	1	25	PASS	
Nickel (Ni)	NA	92.24	0.01	0.02	µg/dry g	66.82	23.96	102	75 - 125% PASS	1	25	PASS	
Selenium (Se)	NA	79.149	0.025	0.05	µg/dry g	66.82	0.437	118	75 - 125% PASS	1	25	PASS	
Silver (Ag)	NA	6.77	0.01	0.02	µg/dry g	6.68	0.22	98	75 - 125% PASS	1	25	PASS	
Zinc (Zn)	NA	367.832	0.025	0.05	µg/dry g	66.82	315.997	78	75 - 125% PASS	4	25	PASS	

Method: EPA 245-7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.68598	0.00001	0.00002	µg/dry g	0.333	0.31215	112	75 - 125% PASS	0	25	PASS	
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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 21957-R2 B13-8233 Oceanside Matrix: Sediment Sampled: 06-Aug-13 8:46 Received: 06-Aug-13 Method: EPA 6020 Batch ID: E-5145 Prepared: 25-Sep-13 Analyzed: 02-Oct-13 22:00										
Aluminum (Al)	NA	45019.5	1	5	µg/dry g				8 25	PASS
Antimony (Sb)	NA	0.296	0.025	0.05	µg/dry g				22 25	PASS
Arsenic (As)	NA	11.657	0.025	0.05	µg/dry g				6 25	PASS
Barium (Ba)	NA	170.587	0.025	0.05	µg/dry g				3 25	PASS
Beryllium (Be)	NA	0.779	0.025	0.05	µg/dry g				2 25	PASS
Cadmium (Cd)	NA	0.3209	0.0025	0.005	µg/dry g				15 25	PASS
Chromium (Cr)	NA	68.3881	0.0025	0.005	µg/dry g				4 25	PASS
Copper (Cu)	NA	363.4984	0.0025	0.005	µg/dry g				0 25	PASS
Iron (Fe)	NA	43470.8	1	5	µg/dry g				2 25	PASS
Lead (Pb)	NA	22.07	0.0025	0.005	µg/dry g				1 25	PASS
Nickel (Ni)	NA	24.03	0.01	0.02	µg/dry g				1 25	PASS
Selenium (Se)	NA	0.432	0.025	0.05	µg/dry g				2 25	PASS
Silver (Ag)	NA	0.21	0.01	0.02	µg/dry g				5 25	PASS
Zinc (Zn)	NA	314.69	0.025	0.05	µg/dry g				1 25	PASS
Method: EPA 245-7 Batch ID: E-6029 Prepared: 04-Oct-13 Analyzed: 04-Oct-13 0:00										
Mercury (Hg)	NA	0.3032	0.00001	0.00002	µg/dry g				6 25	PASS
Sample ID: 21965-CRM1 QAQC CRM - RTC 016-050 Matrix: Sediment Sampled: Received: Method: EPA 6020 Batch ID: E-5145 Prepared: 25-Sep-13 Analyzed: 02-Oct-13 22:38										
Aluminum (Al)	NA	24142	1	5	µg/dry g	8920	271	80 - 120% FAIL		*
Arsenic (As)	NA	9.028	0.025	0.05	µg/dry g	7.76	116	80 - 120% PASS		
Beryllium (Be)	NA	0.89	0.025	0.05	µg/dry g	0.49	182	80 - 120% FAIL		*
Cadmium (Cd)	NA	0.3829	0.0025	0.005	µg/dry g	0.47	81	80 - 120% PASS		
Chromium (Cr)	NA	38.7038	0.0025	0.005	µg/dry g	14.5	267	80 - 120% FAIL		*
Copper (Cu)	NA	17.0695	0.0025	0.005	µg/dry g	15.5	110	80 - 120% PASS		
Iron (Fe)	NA	19754.6	1	5	µg/dry g	16800	118	80 - 120% PASS		
Lead (Pb)	NA	16.1577	0.0025	0.005	µg/dry g	14.01	115	80 - 120% PASS		
Nickel (Ni)	NA	20.47	0.01	0.02	µg/dry g	16.7	123	80 - 120% FAIL		R
Zinc (Zn)	NA	77.729	0.025	0.05	µg/dry g	69.7	112	80 - 120% PASS		



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
		Method: EPA 245.7			Batch ID: E-6029		Prepared: 04-Oct-13		Analyzed: 04-Oct-13 0:00	
Mercury (Hg)	NA	0.1681	0.00001	0.00002	µg/dry g	0.158		106 80 - 120% PASS		
Sample ID: 21966-CRM1		QAQC CRM - ERA 540			Matrix: Sediment		Sampled:		Received:	
		Method: EPA 6020			Batch ID: E-5145		Prepared: 25-Sep-13		Analyzed: 02-Oct-13 22:42	
Aluminum (Al)	NA	18716.9	1	5	µg/dry g	9060	207	80 - 120% FAIL		*
Antimony (Sb)	NA	184.878	0.025	0.05	µg/dry g	106	174	80 - 120% FAIL		*
Arsenic (As)	NA	184.375	0.025	0.05	µg/dry g	182	101	80 - 120% PASS		
Beryllium (Be)	NA	99.035	0.025	0.05	µg/dry g	98.3	101	80 - 120% PASS		
Cadmium (Cd)	NA	58.7588	0.0025	0.005	µg/dry g	60.4	97	80 - 120% PASS		
Chromium (Cr)	NA	141.9028	0.0025	0.005	µg/dry g	125	114	80 - 120% PASS		
Copper (Cu)	NA	82.2413	0.0025	0.005	µg/dry g	80.1	103	80 - 120% PASS		
Iron (Fe)	NA	17969.8	1	5	µg/dry g	12900	139	80 - 120% FAIL		*
Lead (Pb)	NA	130.4607	0.0025	0.005	µg/dry g	136	96	80 - 120% PASS		
Nickel (Ni)	NA	127.52	0.01	0.02	µg/dry g	128	100	80 - 120% PASS		
Selenium (Se)	NA	99.896	0.025	0.05	µg/dry g	85.9	116	80 - 120% PASS		
Silver (Ag)	NA	60.06	0.01	0.02	µg/dry g	61.3	98	80 - 120% PASS		
Zinc (Zn)	NA	207.751	0.025	0.05	µg/dry g	204	102	80 - 120% PASS		
		Method: EPA 245.7			Batch ID: E-6029		Prepared: 04-Oct-13		Analyzed: 04-Oct-13 0:00	
Mercury (Hg)	NA	9.4949	0.00001	0.00002	µg/dry g	9.25	103	80 - 120% PASS	25	



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Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Sample ID: 21956-B1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 200.8			Batch ID: E-5152		Prepared: 08-Oct-13		Analyzed: 10-Oct-13 13:33	
Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g					
Copper (Cu)	NA	ND	0.0062	0.0124	µmol/dry g					
Lead (Pb)	NA	ND	0.0002	0.0004	µmol/dry g					
Nickel (Ni)	NA	ND	0.0033	0.0066	µmol/dry g					
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g					
Zinc (Zn)	NA	ND	0.0015	0.003	µmol/dry g					
Sample ID: 21956-BS1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 200.8			Batch ID: E-5152		Prepared: 08-Oct-13		Analyzed: 10-Oct-13 14:36	
Cadmium (Cd)	NA	0.0185	0.0018	0.0036	µmol/dry g	0.0178	0	104	75 - 130% PASS	
Copper (Cu)	NA	0.0316	0.0062	0.0124	µmol/dry g	0.0315	0	100	70 - 130% PASS	
Lead (Pb)	NA	0.01	0.0002	0.0004	µmol/dry g	0.0097	0	103	65 - 135% PASS	
Nickel (Ni)	NA	0.0341	0.0033	0.0066	µmol/dry g	0.0341	0	100	70 - 130% PASS	
Silver (Ag)	NA	0.0018	0.0047	0.0094	µmol/dry g	0.0019	0	95	50 - 155% PASS	
Zinc (Zn)	NA	0.0313	0.0015	0.003	µmol/dry g	0.0306	0	102	50 - 150% PASS	
Sample ID: 21956-BS2		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 200.8			Batch ID: E-5152		Prepared: 08-Oct-13		Analyzed: 10-Oct-13 14:41	
Cadmium (Cd)	NA	0.0186	0.0018	0.0036	µmol/dry g	0.0178	0	104	75 - 130% PASS	4 25 PASS
Copper (Cu)	NA	0.0321	0.0062	0.0124	µmol/dry g	0.0315	0	102	70 - 130% PASS	6 25 PASS
Lead (Pb)	NA	0.0099	0.0002	0.0004	µmol/dry g	0.0097	0	102	65 - 135% PASS	1 25 PASS
Nickel (Ni)	NA	0.0346	0.0033	0.0066	µmol/dry g	0.0341	0	101	70 - 130% PASS	1 25 PASS
Silver (Ag)	NA	0.0018	0.0047	0.0094	µmol/dry g	0.0019	0	95	50 - 155% PASS	5 25 PASS
Zinc (Zn)	NA	0.032	0.0015	0.003	µmol/dry g	0.0306	0	105	50 - 150% PASS	3 25 PASS
Sample ID: 21957-MS1		B13-8233 Oceanside			Matrix: Sediment		Sampled: 06-Aug-13 8:46		Received: 06-Aug-13	
		Method: EPA 200.8			Batch ID: E-5152		Prepared: 08-Oct-13		Analyzed: 10-Oct-13 14:45	
Cadmium (Cd)	NA	1.0926	0.0018	0.0036	µmol/dry g	1.0362	0	105	75 - 130% PASS	
Copper (Cu)	NA	3.0593	0.0062	0.0124	µmol/dry g	1.8332	1.1603	104	70 - 130% PASS	
Lead (Pb)	NA	0.6192	0.0002	0.0004	µmol/dry g	0.5622	0.0601	99	65 - 135% PASS	



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Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Nickel (Ni)	NA	2.0554	0.0033	0.0066	µmol/dry g	1.9847	0.0156	103 70 - 130% PASS		
Silver (Ag)	NA	0.1044	0.0047	0.0094	µmol/dry g	0.108	0	97 50 - 155% PASS		
Zinc (Zn)	NA	4.8726	0.0015	0.003	µmol/dry g	1.7816	3.0366	103 50 - 150% PASS		

Sample ID: 21957-MS2**B13-8233 Oceanside****Matrix: Sediment****Sampled: 06-Aug-13 8:46****Received: 06-Aug-13**

Method: EPA 200.8

Batch ID: E-5152

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 14:50

Cadmium (Cd)	NA	1.087	0.0018	0.0036	µmol/dry g	1.0362	0	105 75 - 130% PASS	0 25 PASS	
Copper (Cu)	NA	3.0484	0.0062	0.0124	µmol/dry g	1.8332	1.1603	103 70 - 130% PASS	1 25 PASS	
Lead (Pb)	NA	0.6172	0.0002	0.0004	µmol/dry g	0.5622	0.0601	99 65 - 135% PASS	0 25 PASS	
Nickel (Ni)	NA	2.0314	0.0033	0.0066	µmol/dry g	1.9847	0.0156	102 70 - 130% PASS	1 25 PASS	
Silver (Ag)	NA	0.1037	0.0047	0.0094	µmol/dry g	0.108	0	96 50 - 155% PASS	1 25 PASS	
Zinc (Zn)	NA	4.8463	0.0015	0.003	µmol/dry g	1.7816	3.0366	102 50 - 150% PASS	1 25 PASS	

Sample ID: 21957-R2**B13-8233 Oceanside****Matrix: Sediment****Sampled: 06-Aug-13 8:46****Received: 06-Aug-13**

Method: EPA 200.8

Batch ID: E-5152

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 13:57

Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g				0 25 PASS	
Copper (Cu)	NA	1.1562	0.0062	0.0124	µmol/dry g				1 25 PASS	
Lead (Pb)	NA	0.0604	0.0002	0.0004	µmol/dry g				1 25 PASS	
Nickel (Ni)	NA	0.0147	0.0033	0.0066	µmol/dry g				12 25 PASS	
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g				0 25 PASS	
Zinc (Zn)	NA	3.0149	0.0015	0.003	µmol/dry g				1 25 PASS	



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CA ELAP #2769

Fipronil & Degradates

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 21956-B1

QAQC Procedural Blank

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5024

Sampled:

Prepared: 16-Oct-13

Received:

Analyzed: 24-Oct-13 15:59

Fipronil	NA	ND	0.25	0.5	ng/dry g					
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g					
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g					
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g					

Sample ID: 21956-BS1

QAQC Procedural Blank

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5024

Sampled:

Prepared: 16-Oct-13

Received:

Analyzed: 24-Oct-13 17:02

Fipronil	NA	752.31	0.25	0.5	ng/dry g	1000	0	75	70 - 130%	PASS	
Fipronil Desulfinyl	NA	725.9	0.25	0.5	ng/dry g	1000	0	73	70 - 130%	PASS	
Fipronil Sulfide	NA	779.1	0.25	0.5	ng/dry g	1000	0	78	70 - 130%	PASS	
Fipronil Sulfone	NA	852.24	0.25	0.5	ng/dry g	1000	0	85	70 - 130%	PASS	

Sample ID: 21956-BS2

QAQC Procedural Blank

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5024

Sampled:

Prepared: 16-Oct-13

Received:

Analyzed: 24-Oct-13 18:06

Fipronil	NA	772.62	0.25	0.5	ng/dry g	1000	0	77	70 - 130%	PASS	3	25	PASS	
Fipronil Desulfinyl	NA	736.97	0.25	0.5	ng/dry g	1000	0	74	70 - 130%	PASS	1	25	PASS	
Fipronil Sulfide	NA	683.72	0.25	0.5	ng/dry g	1000	0	68	70 - 130%	FAIL	14	25	PASS	R
Fipronil Sulfone	NA	844.43	0.25	0.5	ng/dry g	1000	0	84	70 - 130%	PASS	1	25	PASS	

Sample ID: 21958-MS1

B13-8236 Oceanside

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5024

Sampled: 06-Aug-13 10:12

Prepared: 16-Oct-13

Received: 06-Aug-13

Analyzed: 24-Oct-13 19:10

Fipronil	NA	93.39	0.25	0.5	ng/dry g	134.6	0	69	70 - 130%	FAIL				M
Fipronil Desulfinyl	NA	65.4	0.25	0.5	ng/dry g	134.6	0	49	70 - 130%	FAIL				M
Fipronil Sulfide	NA	73.87	0.25	0.5	ng/dry g	134.6	0	55	70 - 130%	FAIL				M
Fipronil Sulfone	NA	93.88	0.25	0.5	ng/dry g	134.6	0	70	70 - 130%	PASS				

Sample ID: 21958-MS2

B13-8236 Oceanside

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5024

Sampled: 06-Aug-13 10:12

Prepared: 16-Oct-13

Received: 06-Aug-13

Analyzed: 24-Oct-13 20:14

Fipronil	NA	95.02	0.25	0.5	ng/dry g	132.3	0	72	70 - 130%	PASS	4	25	PASS	
Fipronil Desulfinyl	NA	63.68	0.25	0.5	ng/dry g	132.3	0	48	70 - 130%	FAIL	2	25	PASS	M



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CA ELAP #2769

Fipronil & Degradates

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Fipronil Sulfide	NA	72.92	0.25	0.5	ng/dry g	132.3	0	55	70 - 130% FAIL	0	25 PASS	M
Fipronil Sulfone	NA	98.72	0.25	0.5	ng/dry g	132.3	0	75	70 - 130% PASS	7	25 PASS	

Sample ID: 21958-R2

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 1:01

Fipronil	NA	ND	0.25	0.5	ng/dry g					0	25 PASS	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g					0	25 PASS	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g					0	25 PASS	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g					0	25 PASS	



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 21956-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 2:30		
PCB003	NA	ND	0.05	0.1	ng/dry g					
PCB005	NA	ND	0.05	0.1	ng/dry g					
PCB008	NA	ND	0.05	0.1	ng/dry g					
PCB015	NA	ND	0.05	0.1	ng/dry g					
PCB018	NA	ND	0.05	0.1	ng/dry g					
PCB027	NA	ND	0.05	0.1	ng/dry g					
PCB028	NA	ND	0.05	0.1	ng/dry g					
PCB029	NA	ND	0.05	0.1	ng/dry g					
PCB031	NA	ND	0.05	0.1	ng/dry g					
PCB033	NA	ND	0.05	0.1	ng/dry g					
PCB037	NA	ND	0.05	0.1	ng/dry g					
PCB044	NA	ND	0.05	0.1	ng/dry g					
PCB049	NA	ND	0.05	0.1	ng/dry g					
PCB052	NA	ND	0.05	0.1	ng/dry g					
PCB056(060)	NA	ND	0.1	0.2	ng/dry g					
PCB066	NA	ND	0.05	0.1	ng/dry g					
PCB070	NA	ND	0.05	0.1	ng/dry g					
PCB074	NA	ND	0.05	0.1	ng/dry g					
PCB077	NA	ND	0.05	0.1	ng/dry g					
PCB081	NA	ND	0.05	0.1	ng/dry g					
PCB087	NA	ND	0.05	0.1	ng/dry g					
PCB095	NA	ND	0.05	0.1	ng/dry g					
PCB097	NA	ND	0.05	0.1	ng/dry g					
PCB099	NA	ND	0.05	0.1	ng/dry g					
PCB101	NA	ND	0.05	0.1	ng/dry g					
PCB105	NA	ND	0.05	0.1	ng/dry g					
PCB110	NA	ND	0.05	0.1	ng/dry g					
PCB114	NA	ND	0.05	0.1	ng/dry g					
PCB118	NA	ND	0.05	0.1	ng/dry g					



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB119	NA	ND	0.05	0.1	ng/dry g					
PCB123	NA	ND	0.05	0.1	ng/dry g					
PCB126	NA	ND	0.05	0.1	ng/dry g					
PCB128	NA	ND	0.05	0.1	ng/dry g					
PCB137	NA	ND	0.05	0.1	ng/dry g					
PCB138	NA	ND	0.05	0.1	ng/dry g					
PCB141	NA	ND	0.05	0.1	ng/dry g					
PCB149	NA	ND	0.05	0.1	ng/dry g					
PCB151	NA	ND	0.05	0.1	ng/dry g					
PCB153	NA	ND	0.05	0.1	ng/dry g					
PCB156	NA	ND	0.05	0.1	ng/dry g					
PCB157	NA	ND	0.05	0.1	ng/dry g					
PCB158	NA	ND	0.05	0.1	ng/dry g					
PCB167	NA	ND	0.05	0.1	ng/dry g					
PCB168+132	NA	ND	0.1	0.2	ng/dry g					
PCB169	NA	ND	0.05	0.1	ng/dry g					
PCB170	NA	ND	0.05	0.1	ng/dry g					
PCB174	NA	ND	0.05	0.1	ng/dry g					
PCB177	NA	ND	0.05	0.1	ng/dry g					
PCB180	NA	ND	0.05	0.1	ng/dry g					
PCB183	NA	ND	0.05	0.1	ng/dry g					
PCB187	NA	ND	0.05	0.1	ng/dry g					
PCB189	NA	ND	0.05	0.1	ng/dry g					
PCB194	NA	ND	0.05	0.1	ng/dry g					
PCB195	NA	ND	0.05	0.1	ng/dry g					
PCB199(200)	NA	ND	0.1	0.2	ng/dry g					
PCB201	NA	ND	0.05	0.1	ng/dry g					
PCB203	NA	ND	0.05	0.1	ng/dry g					
PCB206	NA	ND	0.05	0.1	ng/dry g					
PCB209	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 21956-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

PHYSIS Project ID: 1307002-002

Client: AMEC

Project: RHMP Bight '13

qcb - 21 of 48



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 4:13				
PCB003	NA	207.88	0.05	0.1	ng/dry g	200	0	104 70 - 130% PASS		
PCB005	NA	181.12	0.05	0.1	ng/dry g	200	0	91 70 - 130% PASS		
PCB008	NA	210.35	0.05	0.1	ng/dry g	200	0	105 70 - 130% PASS		
PCB015	NA	222.91	0.05	0.1	ng/dry g	200	0	111 70 - 130% PASS		
PCB018	NA	194.51	0.05	0.1	ng/dry g	200	0	97 70 - 130% PASS		
PCB027	NA	197.77	0.05	0.1	ng/dry g	200	0	99 70 - 130% PASS		
PCB028	NA	223.99	0.05	0.1	ng/dry g	200	0	112 70 - 130% PASS		
PCB029	NA	217.42	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS		
PCB031	NA	244.35	0.05	0.1	ng/dry g	200	0	122 70 - 130% PASS		
PCB033	NA	239.69	0.05	0.1	ng/dry g	200	0	120 70 - 130% PASS		
PCB037	NA	232.99	0.05	0.1	ng/dry g	200	0	116 70 - 130% PASS		
PCB044	NA	215.69	0.05	0.1	ng/dry g	200	0	108 70 - 130% PASS		
PCB049	NA	211.01	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS		
PCB052	NA	214.12	0.05	0.1	ng/dry g	200	0	107 70 - 130% PASS		
PCB056(060)	NA	236.1	0.1	0.2	ng/dry g	200	0	118 70 - 130% PASS		
PCB066	NA	209.97	0.05	0.1	ng/dry g	200	0	105 70 - 130% PASS		
PCB070	NA	230.28	0.05	0.1	ng/dry g	200	0	115 70 - 130% PASS		
PCB074	NA	241.2	0.05	0.1	ng/dry g	200	0	121 70 - 130% PASS		
PCB077	NA	218.95	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS		
PCB081	NA	210.78	0.05	0.1	ng/dry g	200	0	105 70 - 130% PASS		
PCB087	NA	191.91	0.05	0.1	ng/dry g	200	0	96 70 - 130% PASS		
PCB095	NA	181.37	0.05	0.1	ng/dry g	200	0	91 70 - 130% PASS		
PCB097	NA	206.05	0.05	0.1	ng/dry g	200	0	103 70 - 130% PASS		
PCB099	NA	215.55	0.05	0.1	ng/dry g	200	0	108 70 - 130% PASS		
PCB101	NA	212.2	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS		
PCB105	NA	196.6	0.05	0.1	ng/dry g	200	0	98 70 - 130% PASS		
PCB110	NA	208.32	0.05	0.1	ng/dry g	200	0	104 70 - 130% PASS		
PCB114	NA	221.47	0.05	0.1	ng/dry g	200	0	111 70 - 130% PASS		
PCB118	NA	205.7	0.05	0.1	ng/dry g	200	0	103 70 - 130% PASS		
PCB119	NA	217.68	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS		



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB123	NA	213.35	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	
PCB126	NA	237.68	0.05	0.1	ng/dry g	200	0	119	70 - 130% PASS	
PCB128	NA	188.63	0.05	0.1	ng/dry g	200	0	94	70 - 130% PASS	
PCB137	NA	217.73	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	
PCB138	NA	213.29	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	
PCB141	NA	180.57	0.05	0.1	ng/dry g	200	0	90	70 - 130% PASS	
PCB149	NA	185.75	0.05	0.1	ng/dry g	200	0	93	70 - 130% PASS	
PCB151	NA	191.38	0.05	0.1	ng/dry g	200	0	96	70 - 130% PASS	
PCB153	NA	223.52	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	
PCB156	NA	227.55	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	
PCB157	NA	203.21	0.05	0.1	ng/dry g	200	0	102	70 - 130% PASS	
PCB158	NA	195.04	0.05	0.1	ng/dry g	200	0	98	70 - 130% PASS	
PCB167	NA	210.77	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	
PCB168+132	NA	377.6	0.1	0.2	ng/dry g	400	0	94	70 - 130% PASS	
PCB169	NA	246.62	0.05	0.1	ng/dry g	200	0	123	70 - 130% PASS	
PCB170	NA	212.45	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	
PCB174	NA	198.12	0.05	0.1	ng/dry g	200	0	99	70 - 130% PASS	
PCB177	NA	203.72	0.05	0.1	ng/dry g	200	0	102	70 - 130% PASS	
PCB180	NA	225.18	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	
PCB183	NA	199.71	0.05	0.1	ng/dry g	200	0	100	70 - 130% PASS	
PCB187	NA	205.13	0.05	0.1	ng/dry g	200	0	103	70 - 130% PASS	
PCB189	NA	231.04	0.05	0.1	ng/dry g	200	0	116	70 - 130% PASS	
PCB194	NA	206.26	0.05	0.1	ng/dry g	200	0	103	70 - 130% PASS	
PCB195	NA	197.36	0.05	0.1	ng/dry g	200	0	99	70 - 130% PASS	
PCB199(200)	NA	171.4	0.1	0.2	ng/dry g	200	0	86	70 - 130% PASS	
PCB201	NA	206.33	0.05	0.1	ng/dry g	200	0	103	70 - 130% PASS	
PCB203	NA	188.47	0.05	0.1	ng/dry g	200	0	94	70 - 130% PASS	
PCB206	NA	184.15	0.05	0.1	ng/dry g	200	0	92	70 - 130% PASS	
PCB209	NA	164.42	0.05	0.1	ng/dry g	200	0	82	70 - 130% PASS	

Sample ID: 21956-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 5:55



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
PCB003	NA	198.27	0.05	0.1	ng/dry g	200	0	99	70 - 130% PASS	5	25	PASS
PCB005	NA	161.62	0.05	0.1	ng/dry g	200	0	81	70 - 130% PASS	12	25	PASS
PCB008	NA	209.16	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	0	25	PASS
PCB015	NA	219.92	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	1	25	PASS
PCB018	NA	190.63	0.05	0.1	ng/dry g	200	0	95	70 - 130% PASS	2	25	PASS
PCB027	NA	182.18	0.05	0.1	ng/dry g	200	0	91	70 - 130% PASS	8	25	PASS
PCB028	NA	209.39	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	6	25	PASS
PCB029	NA	215.35	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	1	25	PASS
PCB031	NA	219.82	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	10	25	PASS
PCB033	NA	218.27	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	10	25	PASS
PCB037	NA	241.26	0.05	0.1	ng/dry g	200	0	121	70 - 130% PASS	4	25	PASS
PCB044	NA	209.56	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	3	25	PASS
PCB049	NA	214.53	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	1	25	PASS
PCB052	NA	210.18	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	2	25	PASS
PCB056(060)	NA	239.4	0.1	0.2	ng/dry g	200	0	120	70 - 130% PASS	2	25	PASS
PCB066	NA	226.94	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	7	25	PASS
PCB070	NA	227.19	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	1	25	PASS
PCB074	NA	248.18	0.05	0.1	ng/dry g	200	0	124	70 - 130% PASS	2	25	PASS
PCB077	NA	232.46	0.05	0.1	ng/dry g	200	0	116	70 - 130% PASS	6	25	PASS
PCB081	NA	234.73	0.05	0.1	ng/dry g	200	0	117	70 - 130% PASS	11	25	PASS
PCB087	NA	206.31	0.05	0.1	ng/dry g	200	0	103	70 - 130% PASS	7	25	PASS
PCB095	NA	184.84	0.05	0.1	ng/dry g	200	0	92	70 - 130% PASS	1	25	PASS
PCB097	NA	227.17	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	10	25	PASS
PCB099	NA	218.37	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	1	25	PASS
PCB101	NA	222.55	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	5	25	PASS
PCB105	NA	206.1	0.05	0.1	ng/dry g	200	0	103	70 - 130% PASS	5	25	PASS
PCB110	NA	214.7	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	3	25	PASS
PCB114	NA	244.28	0.05	0.1	ng/dry g	200	0	122	70 - 130% PASS	9	25	PASS
PCB118	NA	218.21	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	6	25	PASS
PCB119	NA	225.26	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	4	25	PASS
PCB123	NA	237.26	0.05	0.1	ng/dry g	200	0	119	70 - 130% PASS	11	25	PASS



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB126	NA	253.1	0.05	0.1	ng/dry g	200	0	127 70 - 130% PASS	7 25 PASS	
PCB128	NA	202.1	0.05	0.1	ng/dry g	200	0	101 70 - 130% PASS	7 25 PASS	
PCB137	NA	224.08	0.05	0.1	ng/dry g	200	0	112 70 - 130% PASS	3 25 PASS	
PCB138	NA	218.26	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS	2 25 PASS	
PCB141	NA	190.22	0.05	0.1	ng/dry g	200	0	95 70 - 130% PASS	5 25 PASS	
PCB149	NA	198.91	0.05	0.1	ng/dry g	200	0	99 70 - 130% PASS	6 25 PASS	
PCB151	NA	211.23	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS	10 25 PASS	
PCB153	NA	228.46	0.05	0.1	ng/dry g	200	0	114 70 - 130% PASS	2 25 PASS	
PCB156	NA	242.55	0.05	0.1	ng/dry g	200	0	121 70 - 130% PASS	6 25 PASS	
PCB157	NA	219.55	0.05	0.1	ng/dry g	200	0	110 70 - 130% PASS	8 25 PASS	
PCB158	NA	207.7	0.05	0.1	ng/dry g	200	0	104 70 - 130% PASS	6 25 PASS	
PCB167	NA	216.86	0.05	0.1	ng/dry g	200	0	108 70 - 130% PASS	3 25 PASS	
PCB168+132	NA	394.9	0.1	0.2	ng/dry g	400	0	99 70 - 130% PASS	5 25 PASS	
PCB169	NA	261.79	0.05	0.1	ng/dry g	200	0	131 70 - 130% FAIL	6 25 PASS	R
PCB170	NA	217.82	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS	3 25 PASS	
PCB174	NA	209.16	0.05	0.1	ng/dry g	200	0	105 70 - 130% PASS	6 25 PASS	
PCB177	NA	204.6	0.05	0.1	ng/dry g	200	0	102 70 - 130% PASS	0 25 PASS	
PCB180	NA	233.62	0.05	0.1	ng/dry g	200	0	117 70 - 130% PASS	3 25 PASS	
PCB183	NA	207.74	0.05	0.1	ng/dry g	200	0	104 70 - 130% PASS	4 25 PASS	
PCB187	NA	211.52	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS	3 25 PASS	
PCB189	NA	234.41	0.05	0.1	ng/dry g	200	0	117 70 - 130% PASS	1 25 PASS	
PCB194	NA	212.54	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS	3 25 PASS	
PCB195	NA	204.1	0.05	0.1	ng/dry g	200	0	102 70 - 130% PASS	3 25 PASS	
PCB199(200)	NA	188.3	0.1	0.2	ng/dry g	200	0	94 70 - 130% PASS	9 25 PASS	
PCB201	NA	218.85	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS	6 25 PASS	
PCB203	NA	194.78	0.05	0.1	ng/dry g	200	0	97 70 - 130% PASS	3 25 PASS	
PCB206	NA	196.05	0.05	0.1	ng/dry g	200	0	98 70 - 130% PASS	6 25 PASS	
PCB209	NA	172.01	0.05	0.1	ng/dry g	200	0	86 70 - 130% PASS	5 25 PASS	

Sample ID: 21958-MS1

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 7:38

PCB003	NA	26.57	0.05	0.1	ng/dry g	26.92	0	99 50 - 150% PASS		
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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB005	NA	23.5	0.05	0.1	ng/dry g	26.92	0	87	50 - 150% PASS	
PCB008	NA	26.89	0.05	0.1	ng/dry g	26.92	0	100	50 - 150% PASS	
PCB015	NA	29.2	0.05	0.1	ng/dry g	26.92	0	108	50 - 150% PASS	
PCB018	NA	25.28	0.05	0.1	ng/dry g	26.92	0	94	50 - 150% PASS	
PCB027	NA	26.46	0.05	0.1	ng/dry g	26.92	0	98	50 - 150% PASS	
PCB028	NA	29.91	0.05	0.1	ng/dry g	26.92	0	111	50 - 150% PASS	
PCB029	NA	30.48	0.05	0.1	ng/dry g	26.92	0	113	50 - 150% PASS	
PCB031	NA	29.54	0.05	0.1	ng/dry g	26.92	0	110	50 - 150% PASS	
PCB033	NA	28.66	0.05	0.1	ng/dry g	26.92	0	106	50 - 150% PASS	
PCB037	NA	30.27	0.05	0.1	ng/dry g	26.92	0	112	50 - 150% PASS	
PCB044	NA	27.53	0.05	0.1	ng/dry g	26.92	0	102	50 - 150% PASS	
PCB049	NA	26.79	0.05	0.1	ng/dry g	26.92	0	100	50 - 150% PASS	
PCB052	NA	27.62	0.05	0.1	ng/dry g	26.92	0	103	50 - 150% PASS	
PCB056(060)	NA	30.5	0.1	0.2	ng/dry g	26.9	0	113	50 - 150% PASS	
PCB066	NA	28.97	0.05	0.1	ng/dry g	26.92	0	108	50 - 150% PASS	
PCB070	NA	30.21	0.05	0.1	ng/dry g	26.92	0	112	50 - 150% PASS	
PCB074	NA	32.7	0.05	0.1	ng/dry g	26.92	0	121	50 - 150% PASS	
PCB077	NA	27.3	0.05	0.1	ng/dry g	26.92	0	101	50 - 150% PASS	
PCB081	NA	28.36	0.05	0.1	ng/dry g	26.92	0	105	50 - 150% PASS	
PCB087	NA	25.65	0.05	0.1	ng/dry g	26.92	0	95	50 - 150% PASS	
PCB095	NA	24.85	0.05	0.1	ng/dry g	26.92	0	92	50 - 150% PASS	
PCB097	NA	28.17	0.05	0.1	ng/dry g	26.92	0	105	50 - 150% PASS	
PCB099	NA	27.98	0.05	0.1	ng/dry g	26.92	0	104	50 - 150% PASS	
PCB101	NA	28.9	0.05	0.1	ng/dry g	26.92	0	107	50 - 150% PASS	
PCB105	NA	26.52	0.05	0.1	ng/dry g	26.92	0	99	50 - 150% PASS	
PCB110	NA	26.15	0.05	0.1	ng/dry g	26.92	0	97	50 - 150% PASS	
PCB114	NA	28.29	0.05	0.1	ng/dry g	26.92	0	105	50 - 150% PASS	
PCB118	NA	25.95	0.05	0.1	ng/dry g	26.92	0	96	50 - 150% PASS	
PCB119	NA	27.73	0.05	0.1	ng/dry g	26.92	0	103	50 - 150% PASS	
PCB123	NA	27.5	0.05	0.1	ng/dry g	26.92	0	102	50 - 150% PASS	
PCB126	NA	31.09	0.05	0.1	ng/dry g	26.92	0	115	50 - 150% PASS	



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB128	NA	26.88	0.05	0.1	ng/dry g	26.92	0	100	50 - 150% PASS	
PCB137	NA	28.04	0.05	0.1	ng/dry g	26.92	0	104	50 - 150% PASS	
PCB138	NA	28.09	0.05	0.1	ng/dry g	26.92	0	104	50 - 150% PASS	
PCB141	NA	23.95	0.05	0.1	ng/dry g	26.92	0	89	50 - 150% PASS	
PCB149	NA	22.71	0.05	0.1	ng/dry g	26.92	0	84	50 - 150% PASS	
PCB151	NA	24.96	0.05	0.1	ng/dry g	26.92	0	93	50 - 150% PASS	
PCB153	NA	28.62	0.05	0.1	ng/dry g	26.92	0	106	50 - 150% PASS	
PCB156	NA	29.9	0.05	0.1	ng/dry g	26.92	0	111	50 - 150% PASS	
PCB157	NA	26.36	0.05	0.1	ng/dry g	26.92	0	98	50 - 150% PASS	
PCB158	NA	26.13	0.05	0.1	ng/dry g	26.92	0	97	50 - 150% PASS	
PCB167	NA	26.17	0.05	0.1	ng/dry g	26.92	0	97	50 - 150% PASS	
PCB168+132	NA	49.8	0.1	0.2	ng/dry g	53.8	0	93	50 - 150% PASS	
PCB169	NA	32.14	0.05	0.1	ng/dry g	26.92	0	119	50 - 150% PASS	
PCB170	NA	26.48	0.05	0.1	ng/dry g	26.92	0	98	50 - 150% PASS	
PCB174	NA	25.74	0.05	0.1	ng/dry g	26.92	0	96	50 - 150% PASS	
PCB177	NA	25.99	0.05	0.1	ng/dry g	26.92	0	97	50 - 150% PASS	
PCB180	NA	28.58	0.05	0.1	ng/dry g	26.92	0	106	50 - 150% PASS	
PCB183	NA	24.9	0.05	0.1	ng/dry g	26.92	0	92	50 - 150% PASS	
PCB187	NA	26.8	0.05	0.1	ng/dry g	26.92	0	100	50 - 150% PASS	
PCB189	NA	223.4	0.05	0.1	ng/dry g	200	0	112	50 - 150% PASS	
PCB194	NA	190.76	0.05	0.1	ng/dry g	200	0	95	50 - 150% PASS	
PCB195	NA	194.13	0.05	0.1	ng/dry g	200	0	97	50 - 150% PASS	
PCB199(200)	NA	22.1	0.1	0.2	ng/dry g	26.9	0	82	50 - 150% PASS	
PCB201	NA	25.86	0.05	0.1	ng/dry g	26.92	0	96	50 - 150% PASS	
PCB203	NA	24.32	0.05	0.1	ng/dry g	26.92	0	90	50 - 150% PASS	
PCB206	NA	179.1	0.05	0.1	ng/dry g	200	0	90	50 - 150% PASS	
PCB209	NA	149.36	0.05	0.1	ng/dry g	200	0	75	50 - 150% PASS	

Sample ID: 21958-MS2

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 9:21

PCB003	NA	25.63	0.05	0.1	ng/dry g	26.46	0	97	50 - 150% PASS	2	25	PASS
PCB005	NA	24.37	0.05	0.1	ng/dry g	26.46	0	92	50 - 150% PASS	6	25	PASS

PHYSIS Project ID: 1307002-002

Client: AMEC

Project: RHMP Bight '13

qcb - 27 of 48



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB008	NA	26.64	0.05	0.1	ng/dry g	26.46	0	101 50 - 150% PASS	1 25 PASS	
PCB015	NA	28.94	0.05	0.1	ng/dry g	26.46	0	109 50 - 150% PASS	1 25 PASS	
PCB018	NA	25.16	0.05	0.1	ng/dry g	26.46	0	95 50 - 150% PASS	1 25 PASS	
PCB027	NA	26.94	0.05	0.1	ng/dry g	26.46	0	102 50 - 150% PASS	4 25 PASS	
PCB028	NA	28.04	0.05	0.1	ng/dry g	26.46	0	106 50 - 150% PASS	5 25 PASS	
PCB029	NA	29.37	0.05	0.1	ng/dry g	26.46	0	111 50 - 150% PASS	2 25 PASS	
PCB031	NA	29.36	0.05	0.1	ng/dry g	26.46	0	111 50 - 150% PASS	1 25 PASS	
PCB033	NA	33.07	0.05	0.1	ng/dry g	26.46	0	125 50 - 150% PASS	16 25 PASS	
PCB037	NA	28.69	0.05	0.1	ng/dry g	26.46	0	108 50 - 150% PASS	4 25 PASS	
PCB044	NA	27.11	0.05	0.1	ng/dry g	26.46	0	102 50 - 150% PASS	0 25 PASS	
PCB049	NA	27.06	0.05	0.1	ng/dry g	26.46	0	102 50 - 150% PASS	2 25 PASS	
PCB052	NA	27.19	0.05	0.1	ng/dry g	26.46	0	103 50 - 150% PASS	0 25 PASS	
PCB056(060)	NA	31.5	0.1	0.2	ng/dry g	26.5	0	119 50 - 150% PASS	5 25 PASS	
PCB066	NA	28.83	0.05	0.1	ng/dry g	26.46	0	109 50 - 150% PASS	1 25 PASS	
PCB070	NA	30.75	0.05	0.1	ng/dry g	26.46	0	116 50 - 150% PASS	4 25 PASS	
PCB074	NA	32.43	0.05	0.1	ng/dry g	26.46	0	123 50 - 150% PASS	2 25 PASS	
PCB077	NA	29.86	0.05	0.1	ng/dry g	26.46	0	113 50 - 150% PASS	11 25 PASS	
PCB081	NA	30	0.05	0.1	ng/dry g	26.46	0	113 50 - 150% PASS	7 25 PASS	
PCB087	NA	26.64	0.05	0.1	ng/dry g	26.46	0	101 50 - 150% PASS	6 25 PASS	
PCB095	NA	24.25	0.05	0.1	ng/dry g	26.46	0	92 50 - 150% PASS	0 25 PASS	
PCB097	NA	29.08	0.05	0.1	ng/dry g	26.46	0	110 50 - 150% PASS	5 25 PASS	
PCB099	NA	28.98	0.05	0.1	ng/dry g	26.46	0	110 50 - 150% PASS	6 25 PASS	
PCB101	NA	29.57	0.05	0.1	ng/dry g	26.46	0	112 50 - 150% PASS	5 25 PASS	
PCB105	NA	26.53	0.05	0.1	ng/dry g	26.46	0	100 50 - 150% PASS	1 25 PASS	
PCB110	NA	28.27	0.05	0.1	ng/dry g	26.46	0	107 50 - 150% PASS	10 25 PASS	
PCB114	NA	30.28	0.05	0.1	ng/dry g	26.46	0	114 50 - 150% PASS	8 25 PASS	
PCB118	NA	28.79	0.05	0.1	ng/dry g	26.46	0	109 50 - 150% PASS	13 25 PASS	
PCB119	NA	29.26	0.05	0.1	ng/dry g	26.46	0	111 50 - 150% PASS	7 25 PASS	
PCB123	NA	29.73	0.05	0.1	ng/dry g	26.46	0	112 50 - 150% PASS	9 25 PASS	
PCB126	NA	32.71	0.05	0.1	ng/dry g	26.46	0	124 50 - 150% PASS	8 25 PASS	
PCB128	NA	24.83	0.05	0.1	ng/dry g	26.46	0	94 50 - 150% PASS	6 25 PASS	



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
PCB137	NA	30.67	0.05	0.1	ng/dry g	26.46	0	116	50 - 150% PASS	11	25	PASS
PCB138	NA	27.5	0.05	0.1	ng/dry g	26.46	0	104	50 - 150% PASS	0	25	PASS
PCB141	NA	24.64	0.05	0.1	ng/dry g	26.46	0	93	50 - 150% PASS	4	25	PASS
PCB149	NA	25.37	0.05	0.1	ng/dry g	26.46	0	96	50 - 150% PASS	13	25	PASS
PCB151	NA	26.61	0.05	0.1	ng/dry g	26.46	0	101	50 - 150% PASS	8	25	PASS
PCB153	NA	29.15	0.05	0.1	ng/dry g	26.46	0	110	50 - 150% PASS	4	25	PASS
PCB156	NA	31.12	0.05	0.1	ng/dry g	26.46	0	118	50 - 150% PASS	6	25	PASS
PCB157	NA	27.38	0.05	0.1	ng/dry g	26.46	0	103	50 - 150% PASS	5	25	PASS
PCB158	NA	26.84	0.05	0.1	ng/dry g	26.46	0	101	50 - 150% PASS	4	25	PASS
PCB167	NA	27.58	0.05	0.1	ng/dry g	26.46	0	104	50 - 150% PASS	7	25	PASS
PCB168+132	NA	51.7	0.1	0.2	ng/dry g	52.9	0	98	50 - 150% PASS	5	25	PASS
PCB169	NA	33.71	0.05	0.1	ng/dry g	26.46	0	127	50 - 150% PASS	7	25	PASS
PCB170	NA	27.59	0.05	0.1	ng/dry g	26.46	0	104	50 - 150% PASS	6	25	PASS
PCB174	NA	26.34	0.05	0.1	ng/dry g	26.46	0	100	50 - 150% PASS	4	25	PASS
PCB177	NA	26.82	0.05	0.1	ng/dry g	26.46	0	101	50 - 150% PASS	4	25	PASS
PCB180	NA	30.06	0.05	0.1	ng/dry g	26.46	0	114	50 - 150% PASS	7	25	PASS
PCB183	NA	26.98	0.05	0.1	ng/dry g	26.46	0	102	50 - 150% PASS	10	25	PASS
PCB187	NA	26.58	0.05	0.1	ng/dry g	26.46	0	100	50 - 150% PASS	0	25	PASS
PCB189	NA	235.84	0.05	0.1	ng/dry g	200	0	118	50 - 150% PASS	5	25	PASS
PCB194	NA	202.86	0.05	0.1	ng/dry g	200	0	101	50 - 150% PASS	6	25	PASS
PCB195	NA	215.39	0.05	0.1	ng/dry g	200	0	108	50 - 150% PASS	11	25	PASS
PCB199(200)	NA	22.4	0.1	0.2	ng/dry g	26.5	0	85	50 - 150% PASS	4	25	PASS
PCB201	NA	28.03	0.05	0.1	ng/dry g	26.46	0	106	50 - 150% PASS	10	25	PASS
PCB203	NA	26.32	0.05	0.1	ng/dry g	26.46	0	99	50 - 150% PASS	10	25	PASS
PCB206	NA	187.09	0.05	0.1	ng/dry g	200	0	94	50 - 150% PASS	4	25	PASS
PCB209	NA	168.26	0.05	0.1	ng/dry g	200	0	84	50 - 150% PASS	11	25	PASS

Sample ID: 21958-R2

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 18:23

PCB003	NA	ND	0.05	0.1	ng/dry g					0	25	PASS
PCB005	NA	ND	0.05	0.1	ng/dry g					0	25	PASS
PCB008	NA	ND	0.05	0.1	ng/dry g					0	25	PASS



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB015	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB018	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB027	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB028	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB029	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB031	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB033	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB037	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB044	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB049	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB052	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g				0 25 PASS	
PCB066	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB070	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB074	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB077	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB081	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB087	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB095	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB097	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB099	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB101	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB105	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB110	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB114	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB118	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB119	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB123	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB126	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB128	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB137	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB138	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB141	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB149	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB151	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB153	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB156	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB157	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB158	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB167	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB168+132	NA	ND	0.1	0.2	ng/dry g				0 25 PASS	
PCB169	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB170	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB174	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB177	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB180	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB183	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB187	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB189	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB194	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB195	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g				0 25 PASS	
PCB201	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB203	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB206	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB209	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	

Sample ID: 21964-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 13:15

PCB008	NA	17.19	0.05	0.1	ng/dry g	22.3	77	60 - 140%	PASS	
PCB018	NA	42.26	0.05	0.1	ng/dry g	51	83	60 - 140%	PASS	
PCB028	NA	65.76	0.05	0.1	ng/dry g	80.8	81	60 - 140%	PASS	
PCB031	NA	61.59	0.05	0.1	ng/dry g	78.7	78	60 - 140%	PASS	



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB044	NA	53.2	0.05	0.1	ng/dry g	60.2		88 60 - 140% PASS		
PCB049	NA	49.12	0.05	0.1	ng/dry g	53		93 60 - 140% PASS		
PCB052	NA	64.38	0.05	0.1	ng/dry g	79.4		81 60 - 140% PASS		
PCB066	NA	59.74	0.05	0.1	ng/dry g	71.9		83 60 - 140% PASS		
PCB087	NA	29.6	0.05	0.1	ng/dry g	29.9		99 60 - 140% PASS		
PCB095	NA	51.56	0.05	0.1	ng/dry g	65		79 60 - 140% PASS		
PCB099	NA	31.51	0.05	0.1	ng/dry g	37.5		84 60 - 140% PASS		
PCB101	NA	51.09	0.05	0.1	ng/dry g	73.4		70 60 - 140% PASS		
PCB105	NA	23.11	0.05	0.1	ng/dry g	24.5		94 60 - 140% PASS		
PCB110	NA	44.47	0.05	0.1	ng/dry g	63.5		70 60 - 140% PASS		
PCB118	NA	40.32	0.05	0.1	ng/dry g	58		70 60 - 140% PASS		
PCB128	NA	7.09	0.05	0.1	ng/dry g	8.5		83 60 - 140% PASS		
PCB138	NA	44.2	0.05	0.1	ng/dry g	62.1		71 60 - 140% PASS		
PCB149	NA	34.76	0.05	0.1	ng/dry g	49.7		70 60 - 140% PASS		
PCB151	NA	20.57	0.05	0.1	ng/dry g	16.9		122 60 - 140% PASS		
PCB153	NA	56.13	0.05	0.1	ng/dry g	74		76 60 - 140% PASS		
PCB156	NA	8.57	0.05	0.1	ng/dry g	6.5		132 60 - 140% PASS		
PCB170	NA	22.71	0.05	0.1	ng/dry g	22.6		100 60 - 140% PASS		
PCB180	NA	39.75	0.05	0.1	ng/dry g	44.3		90 60 - 140% PASS		
PCB183	NA	9.87	0.05	0.1	ng/dry g	12.2		81 60 - 140% PASS		
PCB187	NA	21.03	0.05	0.1	ng/dry g	24.1		87 60 - 140% PASS		
PCB194	NA	11.9	0.05	0.1	ng/dry g	11.2		106 60 - 140% PASS		
PCB195	NA	9.62	0.05	0.1	ng/dry g	3.8		253 60 - 140% FAIL		R
PCB206	NA	7.01	0.05	0.1	ng/dry g	9.2		76 60 - 140% PASS		
PCB209	NA	5.18	0.05	0.1	ng/dry g	6.8		76 60 - 140% PASS		



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 21956-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 29-Oct-13 18:00

(DFPBDE)	NA	86			% Recovery	100		86	50 - 150%	PASS
(FTBDE)	NA	94			% Recovery	100		94	50 - 150%	PASS
PBDE017	NA	ND	0.05	0.1	ng/dry g					
PBDE028	NA	ND	0.05	0.1	ng/dry g					
PBDE047	NA	ND	0.05	0.1	ng/dry g					
PBDE049	NA	ND	0.05	0.1	ng/dry g					
PBDE066	NA	ND	0.05	0.1	ng/dry g					
PBDE071	NA	ND	0.05	0.1	ng/dry g					
PBDE085	NA	ND	0.05	0.1	ng/dry g					
PBDE099	NA	ND	0.05	0.1	ng/dry g					
PBDE100	NA	ND	0.05	0.1	ng/dry g					
PBDE138	NA	ND	0.05	0.1	ng/dry g					
PBDE153	NA	ND	0.05	0.1	ng/dry g					
PBDE154	NA	ND	0.05	0.1	ng/dry g					
PBDE183	NA	ND	0.05	0.1	ng/dry g					
PBDE190	NA	ND	0.05	0.1	ng/dry g					
PBDE209	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 21956-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 29-Oct-13 18:39

(DFPBDE)	NA	110			% Recovery	100	0	110	70 - 130%	PASS
(FTBDE)	NA	115			% Recovery	100	0	115	70 - 130%	PASS
PBDE017	NA	122.86	0.05	0.1	ng/dry g	100	0	123	70 - 130%	PASS
PBDE028	NA	111.63	0.05	0.1	ng/dry g	100	0	112	70 - 130%	PASS
PBDE047	NA	97.17	0.05	0.1	ng/dry g	100	0	97	70 - 130%	PASS
PBDE049	NA	88.21	0.05	0.1	ng/dry g	100	0	88	70 - 130%	PASS
PBDE066	NA	103.48	0.05	0.1	ng/dry g	100	0	103	70 - 130%	PASS
PBDE071	NA	86.4	0.05	0.1	ng/dry g	100	0	86	70 - 130%	PASS
PBDE085	NA	110.4	0.05	0.1	ng/dry g	100	0	110	70 - 130%	PASS



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PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PBDE099	NA	103.09	0.05	0.1	ng/dry g	100	0	103 70 - 130%	PASS	
PBDE100	NA	105.03	0.05	0.1	ng/dry g	100	0	105 70 - 130%	PASS	
PBDE138	NA	99.94	0.05	0.1	ng/dry g	100	0	100 70 - 130%	PASS	
PBDE153	NA	111.24	0.05	0.1	ng/dry g	100	0	111 70 - 130%	PASS	
PBDE154	NA	104.37	0.05	0.1	ng/dry g	100	0	104 70 - 130%	PASS	
PBDE183	NA	100.01	0.05	0.1	ng/dry g	100	0	100 70 - 130%	PASS	
PBDE190	NA	89.94	0.05	0.1	ng/dry g	100	0	90 70 - 130%	PASS	
PBDE209	NA	603.45	0.05	0.1	ng/dry g	500	0	121 70 - 130%	PASS	

Sample ID: 21956-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 29-Oct-13 19:18

(DFPBDE)	NA	110			% Recovery	100	0	110 70 - 130%	PASS	0	25	PASS	
(FTBDE)	NA	117			% Recovery	100	0	117 70 - 130%	PASS	2	25	PASS	
PBDE017	NA	125.4	0.05	0.1	ng/dry g	100	0	125 70 - 130%	PASS	2	25	PASS	
PBDE028	NA	109.54	0.05	0.1	ng/dry g	100	0	110 70 - 130%	PASS	2	25	PASS	
PBDE047	NA	99.74	0.05	0.1	ng/dry g	100	0	100 70 - 130%	PASS	3	25	PASS	
PBDE049	NA	96.42	0.05	0.1	ng/dry g	100	0	96 70 - 130%	PASS	9	25	PASS	
PBDE066	NA	106.65	0.05	0.1	ng/dry g	100	0	107 70 - 130%	PASS	4	25	PASS	
PBDE071	NA	86.07	0.05	0.1	ng/dry g	100	0	86 70 - 130%	PASS	0	25	PASS	
PBDE085	NA	111.53	0.05	0.1	ng/dry g	100	0	112 70 - 130%	PASS	2	25	PASS	
PBDE099	NA	105.19	0.05	0.1	ng/dry g	100	0	105 70 - 130%	PASS	2	25	PASS	
PBDE100	NA	107.56	0.05	0.1	ng/dry g	100	0	108 70 - 130%	PASS	3	25	PASS	
PBDE138	NA	105.61	0.05	0.1	ng/dry g	100	0	106 70 - 130%	PASS	6	25	PASS	
PBDE153	NA	113.58	0.05	0.1	ng/dry g	100	0	114 70 - 130%	PASS	3	25	PASS	
PBDE154	NA	109.3	0.05	0.1	ng/dry g	100	0	109 70 - 130%	PASS	5	25	PASS	
PBDE183	NA	112.38	0.05	0.1	ng/dry g	100	0	112 70 - 130%	PASS	11	25	PASS	
PBDE190	NA	98.19	0.05	0.1	ng/dry g	100	0	98 70 - 130%	PASS	9	25	PASS	
PBDE209	NA	655.02	0.05	0.1	ng/dry g	500	0	131 70 - 130%	FAIL	8	25	PASS	R

Sample ID: 21958-MS1

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 29-Oct-13 19:57

(DFPBDE)	NA	88			% Recovery	100	0	88 70 - 130%	PASS				
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PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
(FTBDE)	NA	121			% Recovery	100	0	121 70 - 130% PASS		
PBDE017	NA	130.36	0.05	0.1	ng/dry g	100	0	130 70 - 130% PASS		
PBDE028	NA	110.83	0.05	0.1	ng/dry g	100	0	111 70 - 130% PASS		
PBDE047	NA	96.05	0.05	0.1	ng/dry g	100	0	96 70 - 130% PASS		
PBDE049	NA	84.38	0.05	0.1	ng/dry g	100	0	84 70 - 130% PASS		
PBDE066	NA	97.25	0.05	0.1	ng/dry g	100	0.51	97 70 - 130% PASS		
PBDE071	NA	86.59	0.05	0.1	ng/dry g	100	0	87 70 - 130% PASS		
PBDE085	NA	94.1	0.05	0.1	ng/dry g	100	0	94 70 - 130% PASS		
PBDE099	NA	92.19	0.05	0.1	ng/dry g	100	0.06	92 70 - 130% PASS		
PBDE100	NA	95.73	0.05	0.1	ng/dry g	100	0	96 70 - 130% PASS		
PBDE138	NA	86.55	0.05	0.1	ng/dry g	100	0	87 70 - 130% PASS		
PBDE153	NA	91.99	0.05	0.1	ng/dry g	100	0	92 70 - 130% PASS		
PBDE154	NA	92.01	0.05	0.1	ng/dry g	100	0	92 70 - 130% PASS		
PBDE183	NA	93.51	0.05	0.1	ng/dry g	100	0	94 70 - 130% PASS		
PBDE190	NA	90.47	0.05	0.1	ng/dry g	100	0	90 70 - 130% PASS		
PBDE209	NA	334.47	0.05	0.1	ng/dry g	500	0	67 70 - 130% FAIL		M

Sample ID: 21958-MS2

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 29-Oct-13 20:36

(DFPBDE)	NA	82			% Recovery	100	0	82 70 - 130% PASS	7	25	PASS	
(FTBDE)	NA	129			% Recovery	100	0	129 70 - 130% PASS	6	25	PASS	
PBDE017	NA	131.87	0.05	0.1	ng/dry g	100	0	132 70 - 130% FAIL	2	25	PASS	M
PBDE028	NA	116.79	0.05	0.1	ng/dry g	100	0	117 70 - 130% PASS	5	25	PASS	
PBDE047	NA	90.2	0.05	0.1	ng/dry g	100	0	90 70 - 130% PASS	6	25	PASS	
PBDE049	NA	82.26	0.05	0.1	ng/dry g	100	0	82 70 - 130% PASS	2	25	PASS	
PBDE066	NA	88.77	0.05	0.1	ng/dry g	100	0.51	88 70 - 130% PASS	10	25	PASS	
PBDE071	NA	86.07	0.05	0.1	ng/dry g	100	0	86 70 - 130% PASS	1	25	PASS	
PBDE085	NA	77.16	0.05	0.1	ng/dry g	100	0	77 70 - 130% PASS	20	25	PASS	
PBDE099	NA	76.42	0.05	0.1	ng/dry g	100	0.06	76 70 - 130% PASS	19	25	PASS	
PBDE100	NA	83.84	0.05	0.1	ng/dry g	100	0	84 70 - 130% PASS	13	25	PASS	
PBDE138	NA	71.2	0.05	0.1	ng/dry g	100	0	71 70 - 130% PASS	20	25	PASS	
PBDE153	NA	73.7	0.05	0.1	ng/dry g	100	0	74 70 - 130% PASS	22	25	PASS	



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PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
PBDE154	NA	83.24	0.05	0.1	ng/dry g	100	0	83	70 - 130% PASS	10	25 PASS	
PBDE183	NA	78.54	0.05	0.1	ng/dry g	100	0	79	70 - 130% PASS	17	25 PASS	
PBDE190	NA	78.31	0.05	0.1	ng/dry g	100	0	78	70 - 130% PASS	14	25 PASS	
PBDE209	NA	327.45	0.05	0.1	ng/dry g	500	0	65	70 - 130% FAIL	3	25 PASS	M

Sample ID: 21958-R2

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 29-Oct-13 23:43

(DFPBDE)	NA	69			% Recovery	100		69	50 - 150% PASS	7	25 PASS	
(FTBDE)	NA	97			% Recovery	100		97	50 - 150% PASS	1	25 PASS	
PBDE017	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PBDE028	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PBDE047	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PBDE049	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PBDE066	NA	0.47	0.05	0.1	ng/dry g					16	25 PASS	
PBDE071	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PBDE085	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PBDE099	NA	0.11	0.05	0.1	ng/dry g					75	25 FAIL	SL
PBDE100	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PBDE138	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PBDE153	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PBDE154	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PBDE183	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PBDE190	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PBDE209	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	

Sample ID: 21964-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 29-Oct-13 21:46

PBDE047	NA	1.52	0.05	0.1	ng/dry g	1.72		88	60 - 140% PASS			
PBDE099	NA	2.17	0.05	0.1	ng/dry g	2		109	60 - 140% PASS			
PBDE100	NA	0.32	0.05	0.1	ng/dry g	0.4		80	60 - 140% PASS			
PBDE153	NA	7.42	0.05	0.1	ng/dry g	6.44		115	60 - 140% PASS			
PBDE154	NA	1.57	0.05	0.1	ng/dry g	1.06		148	60 - 140% FAIL			*



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PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PBDE183	NA	31.26	0.05	0.1	ng/dry g	31.8		98 60 - 140% PASS		
PBDE209	NA	251.6	0.05	0.1	ng/dry g	93.5		269 60 - 140% FAIL		*



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 21956-B1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 2:30	
(d10-Acenaphthene)	NA	74			% Recovery	100	74	50 - 150% PASS		
(d10-Phenanthrene)	NA	83			% Recovery	100	83	50 - 150% PASS		
(d12-Chrysene)	NA	84			% Recovery	100	84	50 - 150% PASS		
(d8-Naphthalene)	NA	62			% Recovery	100	62	25 - 125% PASS		
1-Methylnaphthalene	NA	ND	1	5	ng/dry g					
1-Methylphenanthrene	NA	ND	1	5	ng/dry g					
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g					
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g					
2-Methylnaphthalene	NA	ND	1	5	ng/dry g					
Acenaphthene	NA	ND	1	5	ng/dry g					
Acenaphthylene	NA	ND	1	5	ng/dry g					
Anthracene	NA	ND	1	5	ng/dry g					
Benz[a]anthracene	NA	ND	1	5	ng/dry g					
Benzo[a]pyrene	NA	ND	1	5	ng/dry g					
Benzo[b]fluoranthene	NA	ND	1	5	ng/dry g					
Benzo[e]pyrene	NA	ND	1	5	ng/dry g					
Benzo[g,h,i]perylene	NA	ND	1	5	ng/dry g					
Benzo[k]fluoranthene	NA	ND	1	5	ng/dry g					
Biphenyl	NA	ND	1	5	ng/dry g					
Chrysene	NA	ND	1	5	ng/dry g					
Dibenz[a,h]anthracene	NA	ND	1	5	ng/dry g					
Dibenzothiophene	NA	ND	1	5	ng/dry g					
Fluoranthene	NA	ND	1	5	ng/dry g					
Fluorene	NA	ND	1	5	ng/dry g					
Indeno[1,2,3-c,d]pyrene	NA	ND	1	5	ng/dry g					
Naphthalene	NA	ND	1	5	ng/dry g					
Perylene	NA	ND	1	5	ng/dry g					
Phenanthrene	NA	ND	1	5	ng/dry g					
Pyrene	NA	ND	1	5	ng/dry g					



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Sample ID: 21956-BS1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 4:13	
(d10-Acenaphthene)	NA	87			% Recovery	100	0	87	70 - 130%	PASS
(d10-Phenanthrene)	NA	95			% Recovery	100	0	95	70 - 130%	PASS
(d12-Chrysene)	NA	112			% Recovery	100	0	112	70 - 130%	PASS
(d8-Naphthalene)	NA	76			% Recovery	100	0	76	70 - 130%	PASS
1-Methylnaphthalene	NA	799	1	5	ng/dry g	1000	0	80	70 - 130%	PASS
1-Methylphenanthrene	NA	1087.9	1	5	ng/dry g	1000	0	109	70 - 130%	PASS
2,3,5-Trimethylnaphthalene	NA	891.3	1	5	ng/dry g	1000	0	89	70 - 130%	PASS
2,6-Dimethylnaphthalene	NA	848.2	1	5	ng/dry g	1000	0	85	70 - 130%	PASS
2-Methylnaphthalene	NA	797.4	1	5	ng/dry g	1000	0	80	70 - 130%	PASS
Acenaphthene	NA	846.7	1	5	ng/dry g	1000	0	85	70 - 130%	PASS
Acenaphthylene	NA	783.9	1	5	ng/dry g	1000	0	78	70 - 130%	PASS
Anthracene	NA	1008.2	1	5	ng/dry g	1000	0	101	70 - 130%	PASS
Benz[a]anthracene	NA	1167.9	1	5	ng/dry g	1000	0	117	70 - 130%	PASS
Benzo[a]pyrene	NA	948.5	1	5	ng/dry g	1000	0	95	70 - 130%	PASS
Benzo[b]fluoranthene	NA	1088.9	1	5	ng/dry g	1000	0	109	70 - 130%	PASS
Benzo[e]pyrene	NA	1002.5	1	5	ng/dry g	1000	0	100	70 - 130%	PASS
Benzo[g,h,i]perylene	NA	1002	1	5	ng/dry g	1000	0	100	70 - 130%	PASS
Benzo[k]fluoranthene	NA	1080.4	1	5	ng/dry g	1000	0	108	70 - 130%	PASS
Biphenyl	NA	829.4	1	5	ng/dry g	1000	0	83	70 - 130%	PASS
Chrysene	NA	1126.5	1	5	ng/dry g	1000	0	113	70 - 130%	PASS
Dibenz[a,h]anthracene	NA	1069.8	1	5	ng/dry g	1000	0	107	70 - 130%	PASS
Dibenzothiophene	NA	989.2	1	5	ng/dry g	1000	0	99	70 - 130%	PASS
Fluoranthene	NA	1090.5	1	5	ng/dry g	1000	0	109	70 - 130%	PASS
Fluorene	NA	903.2	1	5	ng/dry g	1000	0	90	70 - 130%	PASS
Indeno[1,2,3-c,d]pyrene	NA	1048	1	5	ng/dry g	1000	0	105	70 - 130%	PASS
Naphthalene	NA	738	1	5	ng/dry g	1000	0	74	70 - 130%	PASS
Perylene	NA	962.4	1	5	ng/dry g	1000	0	96	70 - 130%	PASS
Phenanthrene	NA	965	1	5	ng/dry g	1000	0	96	70 - 130%	PASS
Pyrene	NA	1148.1	1	5	ng/dry g	1000	0	115	70 - 130%	PASS



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Sample ID: 21956-BS2		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 5:55		
(d10-Acenaphthene)	NA	87			% Recovery	100	0	87	70 - 130% PASS	0 25 PASS
(d10-Phenanthrene)	NA	96			% Recovery	100	0	96	70 - 130% PASS	1 25 PASS
(d12-Chrysene)	NA	101			% Recovery	100	0	101	70 - 130% PASS	10 25 PASS
(d8-Naphthalene)	NA	76			% Recovery	100	0	76	70 - 130% PASS	0 25 PASS
1-Methylnaphthalene	NA	777	1	5	ng/dry g	1000	0	78	70 - 130% PASS	3 25 PASS
1-Methylphenanthrene	NA	1055.2	1	5	ng/dry g	1000	0	106	70 - 130% PASS	3 25 PASS
2,3,5-Trimethylnaphthalene	NA	892.9	1	5	ng/dry g	1000	0	89	70 - 130% PASS	0 25 PASS
2,6-Dimethylnaphthalene	NA	836.6	1	5	ng/dry g	1000	0	84	70 - 130% PASS	1 25 PASS
2-Methylnaphthalene	NA	773.9	1	5	ng/dry g	1000	0	77	70 - 130% PASS	4 25 PASS
Acenaphthene	NA	840.8	1	5	ng/dry g	1000	0	84	70 - 130% PASS	1 25 PASS
Acenaphthylene	NA	744.5	1	5	ng/dry g	1000	0	74	70 - 130% PASS	5 25 PASS
Anthracene	NA	938.2	1	5	ng/dry g	1000	0	94	70 - 130% PASS	7 25 PASS
Benz[a]anthracene	NA	1029.7	1	5	ng/dry g	1000	0	103	70 - 130% PASS	13 25 PASS
Benzo[a]pyrene	NA	759.2	1	5	ng/dry g	1000	0	76	70 - 130% PASS	22 25 PASS
Benzo[b]fluoranthene	NA	924.7	1	5	ng/dry g	1000	0	92	70 - 130% PASS	17 25 PASS
Benzo[e]pyrene	NA	845.6	1	5	ng/dry g	1000	0	85	70 - 130% PASS	16 25 PASS
Benzo[g,h,i]perylene	NA	987.7	1	5	ng/dry g	1000	0	99	70 - 130% PASS	1 25 PASS
Benzo[k]fluoranthene	NA	892.7	1	5	ng/dry g	1000	0	89	70 - 130% PASS	19 25 PASS
Biphenyl	NA	811.9	1	5	ng/dry g	1000	0	81	70 - 130% PASS	2 25 PASS
Chrysene	NA	997.7	1	5	ng/dry g	1000	0	100	70 - 130% PASS	12 25 PASS
Dibenz[a,h]anthracene	NA	1100.4	1	5	ng/dry g	1000	0	110	70 - 130% PASS	3 25 PASS
Dibenzothiophene	NA	968.8	1	5	ng/dry g	1000	0	97	70 - 130% PASS	2 25 PASS
Fluoranthene	NA	1027.5	1	5	ng/dry g	1000	0	103	70 - 130% PASS	6 25 PASS
Fluorene	NA	906.1	1	5	ng/dry g	1000	0	91	70 - 130% PASS	1 25 PASS
Indeno[1,2,3-c,d]pyrene	NA	1012.9	1	5	ng/dry g	1000	0	101	70 - 130% PASS	4 25 PASS
Naphthalene	NA	726.5	1	5	ng/dry g	1000	0	73	70 - 130% PASS	1 25 PASS
Perylene	NA	796.7	1	5	ng/dry g	1000	0	80	70 - 130% PASS	18 25 PASS
Phenanthrene	NA	931.5	1	5	ng/dry g	1000	0	93	70 - 130% PASS	3 25 PASS
Pyrene	NA	1062.2	1	5	ng/dry g	1000	0	106	70 - 130% PASS	8 25 PASS



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 21958-MS1		B13-8236 Oceanside		Matrix: Sediment		Sampled: 06-Aug-13 10:12		Received: 06-Aug-13		
		Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 7:38		
(d10-Acenaphthene)	NA	61			% Recovery	100	0	61	50 - 150%	PASS
(d10-Phenanthrene)	NA	84			% Recovery	100	0	84	50 - 150%	PASS
(d12-Chrysene)	NA	78			% Recovery	100	0	78	50 - 150%	PASS
(d8-Naphthalene)	NA	44			% Recovery	100	0	44	25 - 125%	PASS
1-Methylnaphthalene	NA	80	1	5	ng/dry g	134.6	0	59	50 - 150%	PASS
1-Methylphenanthrene	NA	145.8	1	5	ng/dry g	134.6	0.5	108	50 - 150%	PASS
2,3,5-Trimethylnaphthalene	NA	103.8	1	5	ng/dry g	134.6	0	77	50 - 150%	PASS
2,6-Dimethylnaphthalene	NA	91.7	1	5	ng/dry g	134.6	0	68	50 - 150%	PASS
2-Methylnaphthalene	NA	81.6	1	5	ng/dry g	134.6	0	61	50 - 150%	PASS
Acenaphthene	NA	95	1	5	ng/dry g	134.6	0	71	50 - 150%	PASS
Acenaphthylene	NA	99.5	1	5	ng/dry g	134.6	0	74	50 - 150%	PASS
Anthracene	NA	124.7	1	5	ng/dry g	134.6	2.1	91	50 - 150%	PASS
Benz[a]anthracene	NA	144.4	1	5	ng/dry g	134.6	4.7	104	50 - 150%	PASS
Benzo[a]pyrene	NA	115.5	1	5	ng/dry g	134.6	3.3	83	50 - 150%	PASS
Benzo[b]fluoranthene	NA	120.1	1	5	ng/dry g	134.6	3.4	87	50 - 150%	PASS
Benzo[e]pyrene	NA	102.2	1	5	ng/dry g	134.6	2.5	74	50 - 150%	PASS
Benzo[g,h,i]perylene	NA	131.1	1	5	ng/dry g	134.6	3.7	95	50 - 150%	PASS
Benzo[k]fluoranthene	NA	122.2	1	5	ng/dry g	134.6	2.1	89	50 - 150%	PASS
Biphenyl	NA	85.8	1	5	ng/dry g	134.6	0	64	50 - 150%	PASS
Chrysene	NA	120.1	1	5	ng/dry g	134.6	6.6	84	50 - 150%	PASS
Dibenz[a,h]anthracene	NA	163.1	1	5	ng/dry g	134.6	1.7	120	50 - 150%	PASS
Dibenzothiophene	NA	92.2	1	5	ng/dry g	134.6	0.6	68	50 - 150%	PASS
Fluoranthene	NA	157.2	1	5	ng/dry g	134.6	11.2	108	50 - 150%	PASS
Fluorene	NA	116	1	5	ng/dry g	134.6	0.5	86	50 - 150%	PASS
Indeno[1,2,3-c,d]pyrene	NA	166.5	1	5	ng/dry g	134.6	4.3	121	50 - 150%	PASS
Naphthalene	NA	72.1	1	5	ng/dry g	134.6	0	54	25 - 125%	PASS
Perylene	NA	102.8	1	5	ng/dry g	134.6	1.3	75	50 - 150%	PASS
Phenanthrene	NA	132.5	1	5	ng/dry g	134.6	8.6	92	50 - 150%	PASS
Pyrene	NA	149.5	1	5	ng/dry g	134.6	9.9	104	50 - 150%	PASS



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
		LIMITS								LIMITS
Sample ID: 21958-MS2		B13-8236 Oceanside		Matrix: Sediment		Sampled: 06-Aug-13 10:12		Received: 06-Aug-13		
		Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 9:21		
(d10-Acenaphthene)	NA	60			% Recovery	100	0	60	50 - 150%	PASS
(d10-Phenanthrene)	NA	83			% Recovery	100	0	83	50 - 150%	PASS
(d12-Chrysene)	NA	90			% Recovery	100	0	90	50 - 150%	PASS
(d8-Naphthalene)	NA	41			% Recovery	100	0	41	25 - 125%	PASS
1-Methylnaphthalene	NA	75.5	1	5	ng/dry g	132.3	0	57	50 - 150%	PASS
1-Methylphenanthrene	NA	146.9	1	5	ng/dry g	132.3	0.5	111	50 - 150%	PASS
2,3,5-Trimethylnaphthalene	NA	104	1	5	ng/dry g	132.3	0	79	50 - 150%	PASS
2,6-Dimethylnaphthalene	NA	87.9	1	5	ng/dry g	132.3	0	66	50 - 150%	PASS
2-Methylnaphthalene	NA	77.4	1	5	ng/dry g	132.3	0	59	50 - 150%	PASS
Acenaphthene	NA	92.8	1	5	ng/dry g	132.3	0	70	50 - 150%	PASS
Acenaphthylene	NA	97.4	1	5	ng/dry g	132.3	0	74	50 - 150%	PASS
Anthracene	NA	115.9	1	5	ng/dry g	132.3	2.1	86	50 - 150%	PASS
Benz[a]anthracene	NA	159.2	1	5	ng/dry g	132.3	4.7	117	50 - 150%	PASS
Benzo[a]pyrene	NA	121.6	1	5	ng/dry g	132.3	3.3	89	50 - 150%	PASS
Benzo[b]fluoranthene	NA	137	1	5	ng/dry g	132.3	3.4	101	50 - 150%	PASS
Benzo[e]pyrene	NA	117.8	1	5	ng/dry g	132.3	2.5	87	50 - 150%	PASS
Benzo[g,h,i]perylene	NA	125.5	1	5	ng/dry g	132.3	3.7	92	50 - 150%	PASS
Benzo[k]fluoranthene	NA	139.6	1	5	ng/dry g	132.3	2.1	104	50 - 150%	PASS
Biphenyl	NA	83.1	1	5	ng/dry g	132.3	0	63	50 - 150%	PASS
Chrysene	NA	133.6	1	5	ng/dry g	132.3	6.6	96	50 - 150%	PASS
Dibenz[a,h]anthracene	NA	154	1	5	ng/dry g	132.3	1.7	115	50 - 150%	PASS
Dibenzothiophene	NA	117.7	1	5	ng/dry g	132.3	0.6	89	50 - 150%	PASS
Fluoranthene	NA	156.6	1	5	ng/dry g	132.3	11.2	110	50 - 150%	PASS
Fluorene	NA	114.2	1	5	ng/dry g	132.3	0.5	86	50 - 150%	PASS
Indeno[1,2,3-c,d]pyrene	NA	157.6	1	5	ng/dry g	132.3	4.3	116	50 - 150%	PASS
Naphthalene	NA	69.1	1	5	ng/dry g	132.3	0	52	25 - 125%	PASS
Perylene	NA	117.8	1	5	ng/dry g	132.3	1.3	88	50 - 150%	PASS
Phenanthrene	NA	127.3	1	5	ng/dry g	132.3	8.6	90	50 - 150%	PASS
Pyrene	NA	152.4	1	5	ng/dry g	132.3	9.9	108	50 - 150%	PASS



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 21958-R2		B13-8236 Oceanside		Matrix: Sediment		Sampled: 06-Aug-13 10:12		Received: 06-Aug-13		
		Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 18:23		
(d10-Acenaphthene)	NA	58			% Recovery	100		58 50 - 150% PASS	13 25 PASS	
(d10-Phenanthrene)	NA	75			% Recovery	100		75 50 - 150% PASS	1 25 PASS	
(d12-Chrysene)	NA	90			% Recovery	100		90 50 - 150% PASS	24 25 PASS	
(d8-Naphthalene)	NA	34			% Recovery	100		34 25 - 125% PASS	31 25 FAIL	R
1-Methylnaphthalene	NA	ND	1	5	ng/dry g				0 25 PASS	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g				0 25 PASS	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g				0 25 PASS	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g				0 25 PASS	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g				0 25 PASS	
Acenaphthene	NA	ND	1	5	ng/dry g				0 25 PASS	
Acenaphthylene	NA	ND	1	5	ng/dry g				0 25 PASS	
Anthracene	NA	2	1	5	ng/dry g				5 25 PASS	J
Benz[a]anthracene	NA	3.1	1	5	ng/dry g				67 25 FAIL	J,SL
Benzo[a]pyrene	NA	3.1	1	5	ng/dry g				9 25 PASS	J
Benzo[b]fluoranthene	NA	3.1	1	5	ng/dry g				18 25 PASS	J
Benzo[e]pyrene	NA	2.5	1	5	ng/dry g				4 25 PASS	J
Benzo[g,h,i]perylene	NA	3.8	1	5	ng/dry g				5 25 PASS	J
Benzo[k]fluoranthene	NA	2.3	1	5	ng/dry g				14 25 PASS	J
Biphenyl	NA	ND	1	5	ng/dry g				0 25 PASS	
Chrysene	NA	6.1	1	5	ng/dry g				15 25 PASS	
Dibenz[a,h]anthracene	NA	1.7	1	5	ng/dry g				6 25 PASS	J
Dibenzothiophene	NA	ND	1	5	ng/dry g				18 25 PASS	
Fluoranthene	NA	7.8	1	5	ng/dry g				61 25 FAIL	SL
Fluorene	NA	ND	1	5	ng/dry g				10 25 PASS	
Indeno[1,2,3-c,d]pyrene	NA	4.5	1	5	ng/dry g				9 25 PASS	J
Naphthalene	NA	ND	1	5	ng/dry g				0 25 PASS	
Perylene	NA	1.5	1	5	ng/dry g				22 25 PASS	J
Phenanthrene	NA	8.3	1	5	ng/dry g				6 25 PASS	
Pyrene	NA	6.4	1	5	ng/dry g				70 25 FAIL	SL



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 21964-CRM1		QAQC CRM - SRM 1944			Matrix: Sediment		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 13:15	
(d10-Acenaphthene)	NA	66			% Recovery	100	66	60 - 140%	PASS	
(d10-Phenanthrene)	NA	86			% Recovery	100	86	60 - 140%	PASS	
(d12-Chrysene)	NA	78			% Recovery	100	78	60 - 140%	PASS	
(d8-Naphthalene)	NA	60			% Recovery	100	60	60 - 140%	PASS	
1-Methylnaphthalene	NA	392.7	1	5	ng/dry g	470	84	60 - 140%	PASS	
1-Methylphenanthrene	NA	1274.8	1	5	ng/dry g	1700	75	60 - 140%	PASS	
2,6-Dimethylnaphthalene	NA	562.9	1	5	ng/dry g	790	71	60 - 140%	PASS	
2-Methylnaphthalene	NA	736.1	1	5	ng/dry g	740	99	60 - 140%	PASS	
Acenaphthene	NA	439.5	1	5	ng/dry g	390	113	60 - 140%	PASS	
Anthracene	NA	1462.5	1	5	ng/dry g	1130	129	60 - 140%	PASS	
Benz[a]anthracene	NA	3908.6	1	5	ng/dry g	4720	83	60 - 140%	PASS	
Benzo[a]pyrene	NA	3008.4	1	5	ng/dry g	4300	70	60 - 140%	PASS	
Benzo[b]fluoranthene	NA	2748.2	1	5	ng/dry g	3870	71	60 - 140%	PASS	
Benzo[e]pyrene	NA	2437.1	1	5	ng/dry g	3280	74	60 - 140%	PASS	
Benzo[g,h,i]perylene	NA	2545	1	5	ng/dry g	2840	90	60 - 140%	PASS	
Benzo[k]fluoranthene	NA	1875.4	1	5	ng/dry g	2300	82	60 - 140%	PASS	
Biphenyl	NA	314.2	1	5	ng/dry g	250	126	60 - 140%	PASS	
Chrysene	NA	4126	1	5	ng/dry g	4860	85	60 - 140%	PASS	
Dibenz[a,h]anthracene	NA	571	1	5	ng/dry g	424	135	60 - 140%	PASS	
Dibenzothiophene	NA	439.1	1	5	ng/dry g	500	88	60 - 140%	PASS	
Fluoranthene	NA	7422.6	1	5	ng/dry g	8920	83	60 - 140%	PASS	
Fluorene	NA	652.2	1	5	ng/dry g	480	136	60 - 140%	PASS	
Indeno[1,2,3-c,d]pyrene	NA	3573.9	1	5	ng/dry g	2780	129	60 - 140%	PASS	
Naphthalene	NA	1223.9	1	5	ng/dry g	1280	96	60 - 140%	PASS	
Perylene	NA	873.8	1	5	ng/dry g	1170	75	60 - 140%	PASS	
Phenanthrene	NA	3992.6	1	5	ng/dry g	5270	76	60 - 140%	PASS	
Pyrene	NA	7096.7	1	5	ng/dry g	9700	73	60 - 140%	PASS	



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Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 21956-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 15:59

Allethrin	NA	ND	0.25	0.5	ng/dry g					
Bifenthrin	NA	ND	0.25	0.5	ng/dry g					
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g					
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g					
Cypermethrin	NA	ND	0.25	0.5	ng/dry g					
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g					
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g					
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g					
Fenvalerate	NA	ND	0.25	0.5	ng/dry g					
Fluvalinate	NA	ND	0.25	0.5	ng/dry g					
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g					
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g					
Prallethrin	NA	ND	0.25	0.5	ng/dry g					
Resmethrin	NA	ND	0.25	0.5	ng/dry g					

Sample ID: 21956-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 17:02

Allethrin	NA	1185.11	0.25	0.5	ng/dry g	1000	0	119	70 - 130%	PASS
Bifenthrin	NA	993.56	0.25	0.5	ng/dry g	1000	0	99	70 - 130%	PASS
Cyfluthrin	NA	1233.96	0.25	0.5	ng/dry g	1000	0	123	70 - 130%	PASS
Cyhalothrin, Total Lambda	NA	1215.65	0.25	0.5	ng/dry g	1000	0	122	70 - 130%	PASS
Cypermethrin	NA	1292.39	0.25	0.5	ng/dry g	1000	0	129	70 - 130%	PASS
Danitol (Fenpropathrin)	NA	992.51	0.25	0.5	ng/dry g	1000	0	99	70 - 130%	PASS
Deltamethrin/Tralomethrin	NA	1768.38	0.25	0.5	ng/dry g	2000	0	88	70 - 130%	PASS
Esfenvalerate	NA	1202.16	0.25	0.5	ng/dry g	1000	0	120	70 - 130%	PASS
Fenvalerate	NA	1177.46	0.25	0.5	ng/dry g	1000	0	118	70 - 130%	PASS
Fluvalinate	NA	1238.63	0.25	0.5	ng/dry g	1000	0	124	70 - 130%	PASS
Permethrin, cis-	NA	282.03	0.25	0.5	ng/dry g	276	0	102	70 - 130%	PASS
Permethrin, trans-	NA	883.99	0.25	0.5	ng/dry g	716	0	123	70 - 130%	PASS



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Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Prallethrin	NA	708.54	0.25	0.5	ng/dry g	1000	0	71 70 - 130% PASS		
Resmethrin	NA	692.76	0.25	0.5	ng/dry g	1000	0	69 70 - 130% FAIL		R

Sample ID: 21956-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 18:06

Allethrin	NA	1209.75	0.25	0.5	ng/dry g	1000	0	121 70 - 130% PASS	2 25 PASS	
Bifenthrin	NA	970.95	0.25	0.5	ng/dry g	1000	0	97 70 - 130% PASS	2 25 PASS	
Cyfluthrin	NA	1242.22	0.25	0.5	ng/dry g	1000	0	124 70 - 130% PASS	1 25 PASS	
Cyhalothrin, Total Lambda	NA	1243.27	0.25	0.5	ng/dry g	1000	0	124 70 - 130% PASS	2 25 PASS	
Cypermethrin	NA	1253.87	0.25	0.5	ng/dry g	1000	0	125 70 - 130% PASS	3 25 PASS	
Danitol (Fenpropathrin)	NA	1002.04	0.25	0.5	ng/dry g	1000	0	100 70 - 130% PASS	1 25 PASS	
Deltamethrin/Tralomethrin	NA	2098.23	0.25	0.5	ng/dry g	2000	0	105 70 - 130% PASS	18 25 PASS	
Esfenvalerate	NA	1252.76	0.25	0.5	ng/dry g	1000	0	125 70 - 130% PASS	4 25 PASS	
Fenvalerate	NA	1245.19	0.25	0.5	ng/dry g	1000	0	125 70 - 130% PASS	6 25 PASS	
Fluvalinate	NA	1284.8	0.25	0.5	ng/dry g	1000	0	128 70 - 130% PASS	3 25 PASS	
Permethrin, cis-	NA	304.99	0.25	0.5	ng/dry g	276	0	111 70 - 130% PASS	8 25 PASS	
Permethrin, trans-	NA	891.69	0.25	0.5	ng/dry g	716	0	125 70 - 130% PASS	2 25 PASS	
Prallethrin	NA	713.55	0.25	0.5	ng/dry g	1000	0	71 70 - 130% PASS	0 25 PASS	
Resmethrin	NA	704.1	0.25	0.5	ng/dry g	1000	0	70 70 - 130% PASS	1 25 PASS	

Sample ID: 21958-MS1

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 19:10

Allethrin	NA	150.73	0.25	0.5	ng/dry g	134.6	0	112 70 - 130% PASS		
Bifenthrin	NA	123.9	0.25	0.5	ng/dry g	134.6	0	92 70 - 130% PASS		
Cyfluthrin	NA	160.86	0.25	0.5	ng/dry g	134.6	0	120 70 - 130% PASS		
Cyhalothrin, Total Lambda	NA	150.49	0.25	0.5	ng/dry g	134.6	0	112 70 - 130% PASS		
Cypermethrin	NA	157.39	0.25	0.5	ng/dry g	134.6	0	117 70 - 130% PASS		
Danitol (Fenpropathrin)	NA	123.86	0.25	0.5	ng/dry g	134.6	0	92 70 - 130% PASS		
Deltamethrin/Tralomethrin	NA	244.89	0.25	0.5	ng/dry g	269.2	0	91 70 - 130% PASS		
Esfenvalerate	NA	137.7	0.25	0.5	ng/dry g	134.6	0	102 70 - 130% PASS		
Fenvalerate	NA	135.81	0.25	0.5	ng/dry g	134.6	0	101 70 - 130% PASS		
Fluvalinate	NA	137.44	0.25	0.5	ng/dry g	134.6	0	102 70 - 130% PASS		



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CA ELAP #2769

Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Permethrin, cis-	NA	34.79	0.25	0.5	ng/dry g	37.15	0	94 70 - 130%	PASS	
Permethrin, trans-	NA	118.65	0.25	0.5	ng/dry g	96.37	0	123 70 - 130%	PASS	
Prallethrin	NA	75.52	0.25	0.5	ng/dry g	134.6	0	56 70 - 130%	FAIL	M
Resmethrin	NA	78.4	0.25	0.5	ng/dry g	134.6	0	58 70 - 130%	FAIL	M

Sample ID: 21958-MS2

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 20:14

Allethrin	NA	154.11	0.25	0.5	ng/dry g	132.3	0	116 70 - 130%	PASS	4 25 PASS
Bifenthrin	NA	128.76	0.25	0.5	ng/dry g	132.3	0	97 70 - 130%	PASS	5 25 PASS
Cyfluthrin	NA	171.89	0.25	0.5	ng/dry g	132.3	0	130 70 - 130%	PASS	8 25 PASS
Cyhalothrin, Total Lambda	NA	163.8	0.25	0.5	ng/dry g	132.3	0	124 70 - 130%	PASS	10 25 PASS
Cypermethrin	NA	165.3	0.25	0.5	ng/dry g	132.3	0	125 70 - 130%	PASS	7 25 PASS
Danitol (Fenpropathrin)	NA	130.81	0.25	0.5	ng/dry g	132.3	0	99 70 - 130%	PASS	7 25 PASS
Deltamethrin/Tralomethrin	NA	243.09	0.25	0.5	ng/dry g	264.6	0	92 70 - 130%	PASS	1 25 PASS
Esfenvalerate	NA	139.38	0.25	0.5	ng/dry g	132.3	0	105 70 - 130%	PASS	3 25 PASS
Fenvalerate	NA	139.6	0.25	0.5	ng/dry g	132.3	0	106 70 - 130%	PASS	5 25 PASS
Fluvalinate	NA	142.52	0.25	0.5	ng/dry g	132.3	0	108 70 - 130%	PASS	6 25 PASS
Permethrin, cis-	NA	38.99	0.25	0.5	ng/dry g	36.51	0	107 70 - 130%	PASS	13 25 PASS
Permethrin, trans-	NA	131.27	0.25	0.5	ng/dry g	94.73	0	139 70 - 130%	FAIL	12 25 PASS M
Prallethrin	NA	74.79	0.25	0.5	ng/dry g	132.3	0	57 70 - 130%	FAIL	2 25 PASS M
Resmethrin	NA	76.4	0.25	0.5	ng/dry g	132.3	0	58 70 - 130%	FAIL	0 25 PASS M

Sample ID: 21958-R2

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 1:01

Allethrin	NA	ND	0.25	0.5	ng/dry g					0 25 PASS
Bifenthrin	NA	ND	0.25	0.5	ng/dry g					0 25 PASS
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g					0 25 PASS
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g					0 25 PASS
Cypermethrin	NA	ND	0.25	0.5	ng/dry g					0 25 PASS
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g					0 25 PASS
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g					0 25 PASS
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g					0 25 PASS



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info@physislabs.com

CA ELAP #2769

Pyrethroids**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Fenvalerate	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Prallethrin	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Resmethrin	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	

PHYSIS

CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8233	8/6/13	0846	General Chemistry	Grab	8 oz Glass	None	1
B13-8233	8/6/13	0846	Metals	Grab	8 oz Glass	None	1
B13-8233	8/6/13	0846	PBDE	Grab	8 oz Glass	None	1
B13-8233	8/6/13	0846	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8233	8/6/13	0846	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JR

Relinquished By: [Signature]

Date/Time: 8/6/13 1250

Received By: C. Nwadiwe

Date/Time: 8/6/13 1250

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8236	8/6/13	1012	General Chemistry	Grab	8 oz Glass	None	1
B13-8236	8/6/13	1012	Metals	Grab	8 oz Glass	None	1
B13-8236	8/6/13	1012	PBDE	Grab	8 oz Glass	None	1
B13-8236	8/6/13	1012	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8236	8/6/13	1012	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.Sampler's Initials: CRRelinquished By: CRDate/Time: 8/6/13 1250Received By: C. N. M. adineDate/Time: 8/6/13 1250

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8239	8/6/13	1130	General Chemistry	Grab	8 oz Glass	None	1
B13-8239	8/6/13	1130	Metals	Grab	8 oz Glass	None	1
B13-8239	8/6/13	1130	PBDE	Grab	8 oz Glass	None	1
B13-8239	8/6/13	1130	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8239	8/6/13	1130	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: IR

Relinquished By: Chris Stransky

Date/Time: 8.16.13 1125

Received By: C. Nuadine

Date/Time: 8/6/13 1250

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8267	8/5/13	1145	General Chemistry	Grab	8 oz Glass	None	1
B13-8267	8/5/13	1145	Metals	Grab	8 oz Glass	None	1
B13-8267	8/5/13	1145	PBDE	Grab	8 oz Glass	None	1
B13-8267	8/5/13	1145	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8267	8/5/13	1145	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JR

Relinquished By: [Signature]

Date/Time: 8-6-13/1250

Received By: C. Nuachine

Date/Time: 8/6/13 1250

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

1307002-002

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8265	8/5/13	1301	General Chemistry	Grab	8 oz Glass	None	1
B13-8265	8/5/13	1301	Metals	Grab	8 oz Glass	None	1
B13-8265	8/5/13	1301	PBDE	Grab	8 oz Glass	None	1
B13-8265	8/5/13	1301	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8265	8/5/13	1301	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JRC

Relinquished By: Chris Stransky

Date/Time: 8-6-13 1250

Received By: C. Natchine

Date/Time: 8/6/13 1250

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP

Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
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Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8263	8/5/13	1525 1455 JR	General Chemistry	Grab	8 oz Glass	None	1
B13-8263	8/5/13	1525 14 JR	Metals	Grab	8 oz Glass	None	1
B13-8263	8/5/13	1525	PBDE	Grab	8 oz Glass	None	1
B13-8263	8/5/13	1525	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8263	8/5/13	1525	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JR

Relinquished By: Chris Stransky

Date/Time: 8-6-13/1250

Received By: C. Nuecedine

Date/Time: 8/6/13 1250

Relinquished By:

Date/Time:

Received By:

Date/Time:

Analysis Request and Chain of Custody**RHMP**
Bight '13**From:**AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301**To:**Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
✓ B13-8259	8/5/13	1002	General Chemistry	Grab	8 oz Glass	None	1
B13-8259	8/5/13	1002	Metals	Grab	8 oz Glass	None	1
B13-8259	8/5/13	1002	PBDE	Grab	8 oz Glass	None	1
B13-8259	8/5/13	1002	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8259	8/5/13	1002	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.Sampler's Initials: JSRelinquished By: JSDate/Time: 8-6-13 1250Received By: C. NussdineDate/Time: 8/6/13 1250

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

SAMPLE RECEIPT SUMMARY

CLIENT: AMEC Date Received: 8/6/13 Received By: CN Inspected By: RGH

COURIER

☒ PHYSIS ☐ CLIENT ☐ FEDEX ☐ UPS
start end ☐ OTHER:

COOLER

☒ COOLER ☐ BOX total #
☐ OTHER:

TEMPERATURE

°C ☒ WET ICE ☐ BLUE ICE
☐ DRY ICE ☐ NONE

SAMPLE INTEGRITY UPON RECEIPT

1. COC(s) included and completely filled out..... **YES**
2. All sample containers arrived intact..... **YES**
3. All samples listed on COC(s) are present..... **YES**
4. Information on containers consistent with information on COC(s)..... **YES**
5. Correct containers and volume for all analyses indicated..... **YES**
6. All samples received within method holding time..... **YES**
7. Correct preservation used for all analyses indicated..... **YES**

NOTES

The SID's that sampled on 8/5 had a temperature of -10.0°C.
The SID's that sampled on 8/6 had a temperature of 11.1°C.

PHYSIS

LEVEL 3

DELIVERABLES

ENERGY ENVIRONMENTAL CONSULTING INC.

Innovative Solutions for Nature

PHYSIS

Conventionals

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS

Summary of Initial Calibration Data and

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

ICV/CCV

Innovative Solutions for Nature

1307002-002 AMEC RHMP General Chemistry Calibration Data							
Analysis	Method	Batch ID	Co-efficient	Equation	Slope	ICV/True Value	CCV/True Value
Acid Volatile Sulfides	Plumb, 1981	C-14036	0.9998	0.196x-0.001702	NA	NA	NA
Percent Solids	SM2540 B	C-14028	NA	NA	NA	NA	NA
Ammonia	SM 4500-NH3 D	C-14038	NA	NA	-52.71	.225/.25	.219/.25

Elements - ICP-MS

TERRA FLORIDA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature
(EPA 6020 - High Metals)

PHYSIS

Instrument Blank

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name 0MIX_2130931L.D
File Path D:\DATA\2130930H.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 11:46
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.000	ug/g	---	30.00	5.170E-05	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	---	8.89	1.533E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	580,413.01	1.15	100.0	Analog	0.30	3

PHYSIS

Initial Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Batch Folder: D:\DATA\2130930H.b\

 Analysis File: 2130930H.batch.xml

 DA Date-Time: 6/2/2014 2:22:14 PM

 Calibration Title:

 Calibration Method: External Calibration

 VIS Interpolation Fit:

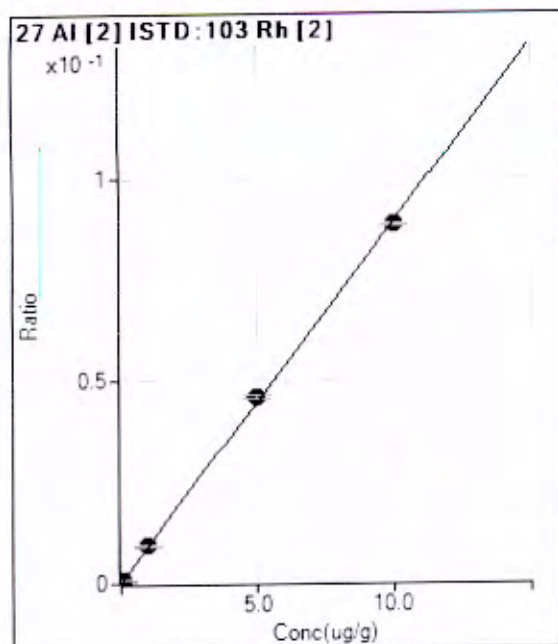
 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX_2130931LD	0 ppb mix	10/2/2013 11:46:36 AM
2	1MIX_2130931LD	1 ppb mix	10/2/2013 11:51:17 AM
3	5MIX_2130931LD	5 ppb mix	10/2/2013 11:55:59 AM
4	10MIX_2130931LD	10 ppb mix	10/2/2013 12:00:41 PM
5	50MIX_2130931LD	50 ppb mix	10/2/2013 1:17:16 PM
6	100MIX_2130931LD	100 ppb mix	10/2/2013 1:22:04 PM
7	500MIX_2130931LD	500 ppb mix	10/2/2013 1:26:45 PM
8	1000MIX_2130931LD	1000 ppb mix	10/2/2013 1:31:12 PM
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

Calibration for CCV3.D



$$y = 0.0089 * x + 5.1701E-005$$

$$R = 0.9998$$

$$DL = 0.005779$$

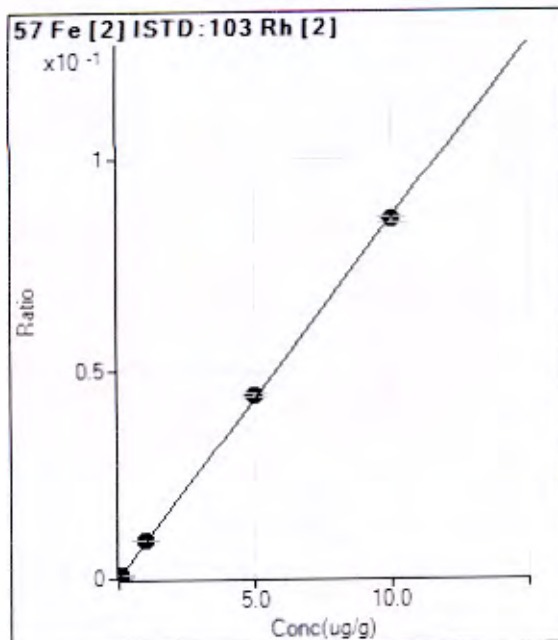
$$BEC = 0.005802$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	30.00	0.0001	P	33.2
2	<input type="checkbox"/>	0.010	0.011	86.67	0.0001	P	20.3
3	<input type="checkbox"/>	0.050	0.064	356.69	0.0006	P	22.3
4	<input type="checkbox"/>	0.100	0.096	523.36	0.0009	P	6.5
5	<input type="checkbox"/>	0.500		2.22		P	
6	<input type="checkbox"/>	1.000	1.029	5351.00	0.0092	P	3.7
7	<input type="checkbox"/>	5.000	5.155	24065.45	0.0460	P	1.6
8	<input type="checkbox"/>	10.00	9.920	44305.68	0.0885	P	0.7
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.0086 * x + 1.5329E-005$$

$$R = 0.9999$$

$$DL = 0.001181$$

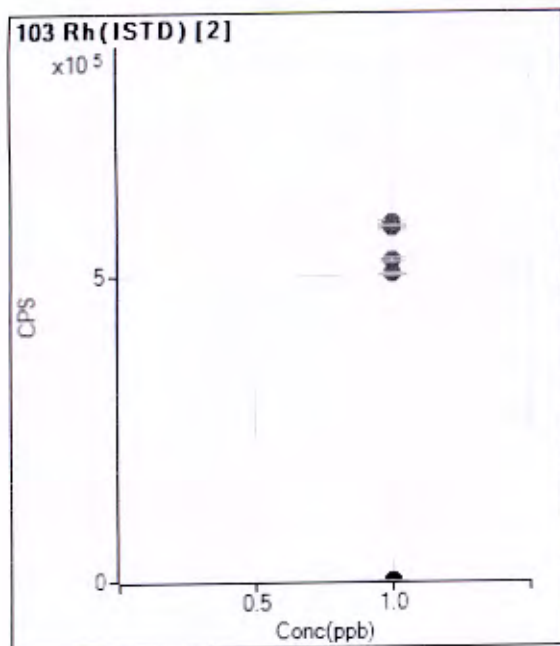
$$BEC = 0.001782$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	8.89	0.0000	P	22.1
2	<input type="checkbox"/>	0.010	0.011	65.56	0.0001	P	38.3
3	<input type="checkbox"/>	0.050	0.050	255.57	0.0004	P	28.2
4	<input type="checkbox"/>	0.100	0.114	573.37	0.0010	P	4.7
5	<input type="checkbox"/>	0.500		13.33		P	
6	<input type="checkbox"/>	1.000	1.053	5268.77	0.0091	P	2.5
7	<input type="checkbox"/>	5.000	5.116	23039.00	0.0440	P	2.4
8	<input type="checkbox"/>	10.00	9.937	42824.27	0.0855	P	1.4
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for CCV3.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		580413.01		A	1.2
2	<input type="checkbox"/>	1.000		584685.11		A	1.2
3	<input type="checkbox"/>	1.000		576642.37		A	0.6
4	<input type="checkbox"/>	1.000		576107.97		A	0.9
5	<input type="checkbox"/>	1.000		3.33		P	100.1
6	<input type="checkbox"/>	1.000		580423.67		A	0.1
7	<input type="checkbox"/>	1.000		523312.75		A	1.0
8	<input type="checkbox"/>	1.000		500915.89		A	0.6
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					
19	<input type="checkbox"/>	1.000					
20	<input type="checkbox"/>	1.000					

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Continuing Calibration Data

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ICPMS 7700x DATA REPORT

File Name CCV1.D
File Path D:\DATA\2130930H.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 23:20
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.102	ug/g	4.47	4,626.35	9.143E-03	Pulse	0.30	3
Fe	57	103	2	0.100	ug/g	4.23	4,351.82	8.596E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	506,171.16	1.16	87.2	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV2.D
File Path D:\DATA\2130930H.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/3/2013 1:13
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.100	ug/g	1.66	4,259.56	8.976E-03	Pulse	0.30	3
Fe	57	103	2	0.096	ug/g	2.33	3,941.71	8.306E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	474,534.49	0.34	81.8	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV3.D
File Path D:\DATA\2130930H.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/3/2013 3:11
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.135	ug/g	3.96	932.29	1.213E-02	Pulse	0.30	3
Fe	57	103	2	0.123	ug/g	12.20	812.28	1.057E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	76,733.60	17.71	13.2	Pulse	0.30	3

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Instrument Run Log

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	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse1			1.000							
2	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse2			1.000							
3	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse10			1.000							
4	C:\CPM\H1\METHOD S\Physis.m	Sample	3101	Rinse11			1.000							
5	C:\CPM\H1\METHOD S\Physis.m	Sample	3101	21956	QAQC Procedural Blank B1	21956,NA,R1,9/25/2013,E-5145	10.00							
6	C:\CPM\H1\METHOD S\Physis.m	Sample	3102	22035	QAQC Procedural Blank B1	22035,NA,B1,9/25/2013,E-5145	10.00							
7	C:\CPM\H1\METHOD S\Physis.m	Sample	3103	22077	QAQC Procedural Blank B1	22077,NA,B1,9/30/2013,E-5147	10.00							
8	C:\CPM\H1\METHOD S\Physis.m	Sample	3104	21957	B13-5235 Oceanside	21957,NA,R1,9/25/2013,E-5145	968.0							
9	C:\CPM\H1\METHOD S\Physis.m	Sample	3105	21957/2	B13-5235 Oceanside Cup	21957,NA,R2,9/25/2013,E-5145	871.0							
10	C:\CPM\H1\METHOD S\Physis.m	Sample	3106	21958	B13-5236 Oceanside	21958,NA,R1,9/25/2013,E-5145	536.0							
11	C:\CPM\H1\METHOD S\Physis.m	Sample	3107	21959	B13-5235 Oceanside	21959,NA,R1,9/25/2013,E-5145	591.0							
12	C:\CPM\H1\METHOD S\Physis.m	Sample	3108	21960	B13-5267 Dana Point	21960,NA,R1,9/25/2013,E-5145	545.0							
13	C:\CPM\H1\METHOD S\Physis.m	Sample	3109	21961	B13-5265 Dana Point	21961,NA,R1,9/25/2013,E-5145	439.0							
14	C:\CPM\H1\METHOD S\Physis.m	Sample	3110	21962	B13-5253 Dana Point	21962,NA,R1,9/25/2013,E-5145	385.0							
15	C:\CPM\H1\METHOD S\Physis.m	Sample	3111	21963	B13-5250 Dana Point	21963,NA,R1,9/25/2013,E-5145	537.0							
16	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R12			1.000							
17	C:\CPM\H1\METHOD S\Physis.m	Sample	3112	21965cm	QAQC CRM - RTC 015-0501	21965,NA,CRM1,9/25/2013,E-5145	947.0							
18	C:\CPM\H1\METHOD S\Physis.m	Sample	3201	21965cm	QAQC CRM - ERA 5401	21968,NA,CRM1,9/25/2013,E-5145	1.010E+03							
19	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R13			1.000							
20	C:\CPM\H1\METHOD S\Physis.m	Sample	3202	21966bs1	QAQC Procedural Blank B51	21966,NA,R51,9/25/2013,E-5145	1.000							
21	C:\CPM\H1\METHOD S\Physis.m	Sample	3203	21966bs2	QAQC Procedural Blank B52	21966,NA,B52,9/25/2013,E-5145	1.000							
22	C:\CPM\H1\METHOD S\Physis.m	Sample	3204	21967ms	B13-5233 Oceanside MS	21967,NA,MS1,9/25/2013,E-5145	1.000							
23	C:\CPM\H1\METHOD S\Physis.m	Sample	3205	21967msd	B13-5233 Oceanside MSD	21967,NA,MS2,9/25/2013,E-5145	1.000							
24	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R14			1.000							
25	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R15			1.000							
26	C:\CPM\H1\METHOD S\Physis.m	Sample	1106	CCV1			1.000E-01							
27	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R16			1.000							
28	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R17			1.000							
29	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R18			1.000							
30	C:\CPM\H1\METHOD S\Physis.m	Sample	3206	22036	B13-5145 Grab	22036,NA,R1,9/25/2013,E-5145	558.0							
31	C:\CPM\H1\METHOD S\Physis.m	Sample	3207	22036/2	B13-5145 Grab Dup	22036,NA,R2,9/25/2013,E-5145	517.0							
32	C:\CPM\H1\METHOD S\Physis.m	Sample	3208	22037	B13-5153 Grab	22037,NA,R1,9/25/2013,E-5145	588.0							
33	C:\CPM\H1\METHOD S\Physis.m	Sample	3209	22038	B13-5150 Grab	22038,NA,R1,9/25/2013,E-5145	724.0							
34	C:\CPM\H1\METHOD S\Physis.m	Sample	3210	22039	B13-5159 Grab	22039,NA,R1,9/25/2013,E-5145	601.0							
35	C:\CPM\H1\METHOD S\Physis.m	Sample	3211	22040	B13-5157 Grab	22040,NA,R1,9/25/2013,E-5145	566.0							
36	C:\CPM\H1\METHOD S\Physis.m	Sample	3212	22041	B13-5155 Grab	22041,NA,R1,9/25/2013,E-5145	709.0							
37	C:\CPM\H1\METHOD S\Physis.m	Sample	3201	22042	B13-5152 Grab	22042,NA,R1,9/25/2013,E-5145	265.0							
38	C:\CPM\H1\METHOD S\Physis.m	Sample	3202	22043	B13-5151 Grab	22043,NA,R1,9/25/2013,E-5145	704.0							
39	C:\CPM\H1\METHOD S\Physis.m	Sample	3203	22044	B13-5145 Grab	22044,NA,R1,9/25/2013,E-5145	653.0							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
40	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R19			1.000							
41	C:\CPMH\1\METHOD S\Physis.m	Sample	3304	22046cm	QAQC CRM - RTD 016-0501	22046.NA.CRM1.9/25/2013.E-5146	1.027E+03							
42	C:\CPMH\1\METHOD S\Physis.m	Sample	3305	22047cm	QAQC CRM - ERA 5401	22047.NA.CRM1.9/25/2013.E-5146	919.0							
43	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R20			1.000							
44	C:\CPMH\1\METHOD S\Physis.m	Sample	3202	22035bs1	QAQC Procedural Blank BS1	22035.NA.BS1.9/25/2013.E-5146	1.000							
45	C:\CPMH\1\METHOD S\Physis.m	Sample	3203	22035bs2	QAQC Procedural Blank BS2	22035.NA.BS2.9/25/2013.E-5146	1.000							
46	C:\CPMH\1\METHOD S\Physis.m	Sample	3308	22036ms	B13-8145 Grab MS	22036.NA.MS1.9/25/2013.E-5146	1.000							
47	C:\CPMH\1\METHOD S\Physis.m	Sample	3309	22036msd	B13-8145 Grab MSD	22036.NA.MS2.9/25/2013.E-5146	1.000							
48	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R21			1.000							
49	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R22			1.000							
50	C:\CPMH\1\METHOD S\Physis.m	Sample	1106	CCV2			1.000E+01							
51	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R23			1.000							
52	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R24			1.000							
53	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R25			1.000							
54	C:\CPMH\1\METHOD S\Physis.m	Sample	3310	22078	B13-8065 Grab	22078.NA.R1.9/30/2013.E-5147	911.0							
55	C:\CPMH\1\METHOD S\Physis.m	Sample	3311	22078/2	B13-8065 Grab Dup	22078.NA.R2.9/30/2013.E-5147	570.0							
56	C:\CPMH\1\METHOD S\Physis.m	Sample	3312	22079	B13-8040 Grab	22079.NA.R1.9/30/2013.E-5147	623.0							
57	C:\CPMH\1\METHOD S\Physis.m	Sample	3401	22080	B13-8029 Grab	22080.NA.R1.9/30/2013.E-5147	602.0							
58	C:\CPMH\1\METHOD S\Physis.m	Sample	3402	22081	B13-8058 Grab	22081.NA.R1.9/30/2013.E-5147	662.0							
59	C:\CPMH\1\METHOD S\Physis.m	Sample	3403	22082	B13-8064 Grab	22082.NA.R1.9/30/2013.E-5147	904.0							
60	C:\CPMH\1\METHOD S\Physis.m	Sample	3404	22083	B13-8056 Grab	22083.NA.R1.9/30/2013.E-5147	738.0							
61	C:\CPMH\1\METHOD S\Physis.m	Sample	3405	22084	B13-8020 Grab	22084.NA.R1.9/30/2013.E-5147	1.108E+03							
62	C:\CPMH\1\METHOD S\Physis.m	Sample	3406	22085	B13-8060 Grab	22085.NA.R1.9/30/2013.E-5147	630.0							
63	C:\CPMH\1\METHOD S\Physis.m	Sample	3407	22086	B13-8069 Grab	22086.NA.R1.9/30/2013.E-5147	608.0							
64	C:\CPMH\1\METHOD S\Physis.m	Sample	3408	22087	B13-8017 Grab	22087.NA.R1.9/30/2013.E-5147	672.0							
65	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R26			1.000							
66	C:\CPMH\1\METHOD S\Physis.m	Sample	3409	22089cm	QAQC CRM - RTD 016-0501	22089.NA.CRM1.9/30/2013.E-5147	1.025E+03							
67	C:\CPMH\1\METHOD S\Physis.m	Sample	3410	22090cm	QAQC CRM - ERA 5401	22090.NA.CRM1.9/30/2013.E-5147	1.035E+03							
68	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R27			1.000							
69	C:\CPMH\1\METHOD S\Physis.m	Sample	3202	22077bs1	QAQC Procedural Blank BS1	22077.NA.BS1.9/30/2013.E-5147	1.000							
70	C:\CPMH\1\METHOD S\Physis.m	Sample	3203	22077bs2	QAQC Procedural Blank BS2	22077.NA.BS2.9/30/2013.E-5147	1.000							
71	C:\CPMH\1\METHOD S\Physis.m	Sample	3501	22078ms	B13-8065 Grab MS	22078.NA.MS1.9/30/2013.E-5147	1.000							
72	C:\CPMH\1\METHOD S\Physis.m	Sample	3502	22078msd	B13-8065 Grab MSD	22078.NA.MS2.9/30/2013.E-5147	1.000							
73	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R28			1.000							
74	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R29			1.000							
75	C:\CPMH\1\METHOD S\Physis.m	Sample	1106	CCV3			1.000E+01							
76	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R30			1.000							
77	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R31			1.000							
78	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R32			1.000							
79		Keyword		StandBy										

Elements –

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Instrument Blank

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ICPMS 7700x DATA REPORT

File Name 0MIX.D
File Path D:\DATA\2130931L.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 11:46
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.000	ug/g	---	64.45	4.823E-05	Pulse	0.30	3
P	31	103	2		ug/g	---	65.56	1.132E-04	Pulse	0.30	3
Cr	52	103	2	0.000	ug/g	---	84.45	1.453E-04	Pulse	0.30	3
Ni	60	103	2	0.000	ug/g	---	14.44	2.499E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	---	166.68	2.873E-04	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	---	40.00	6.885E-05	Pulse	0.30	3
As	75	103	2	0.000	ug/g	---	3.33	5.783E-06	Pulse	0.30	3
Se	78	103	1	0.000	ug/g	---	10.00	7.551E-05	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	---	33.34	5.720E-05	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	---	14.44	2.487E-05	Pulse	0.30	3
Sb	121	169	2	0.000	ug/g	---	15.56	2.013E-05	Pulse	0.30	3
Ba	137	169	2	0.000	ug/g	---	4.44	5.734E-06	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	---	86.67	1.124E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	132,392.97	0.53	100.0	Pulse	0.30	3
2	Rh	103	580,413.01	1.15	100.0	Analog	0.30	3
3	Rh	103	1,336,160.38	0.69	100.0	Analog	0.30	3
2	Tm	169	770,246.09	2.04	100.0	Analog	0.30	3

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Initial Calibration Data

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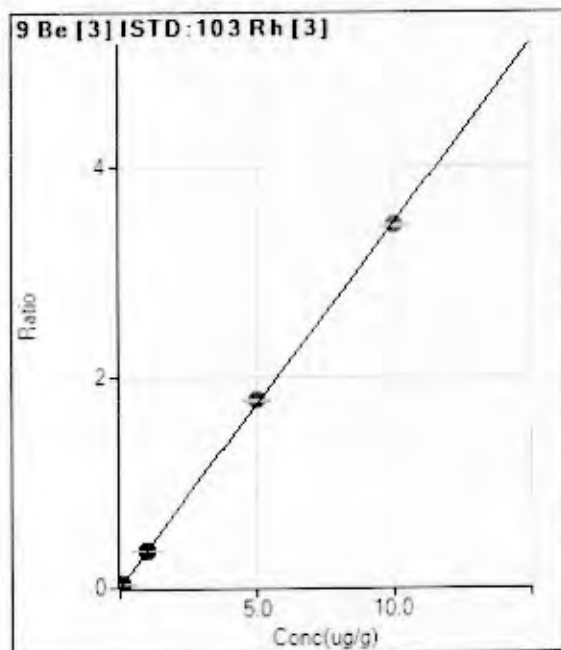
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Calibration for GCV3.D

Batch Folder: D:\DATA\2130931L.b*
 Analysis File: 2130931L.batch.xml
 DA Date-Time: 4/8/2014 1:35:39 PM
 Calibration Title:
 Calibration Method: External Calibration
 VIS Interpolation Fit:
 Tune Step: #1 h2.u
 #2 he.u
 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX.D	0 ppb mix	10/2/2013 11:46:36 AM
2	1MIX.D	1 ppb mix	10/2/2013 11:51:17 AM
3	5MIX.D	5 ppb mix	10/2/2013 11:55:59 AM
4	10MIX.D	10 ppb mix	10/2/2013 12:00:41 PM
5			
6	100MIX.D	100 ppb mix	10/2/2013 1:22:04 PM
7	500MIX.D	500 ppb mix	10/2/2013 1:26:45 PM
8	1000MIX.D	1000 ppb mix	10/2/2013 1:31:12 PM
9	1P.D	1 ppm P	10/2/2013 1:45:30 PM
10	2P.D	2 ppm P	10/2/2013 1:50:12 PM
11	5P.D	5 ppm P	10/2/2013 1:54:55 PM
12	10P.D	10 ppm P	10/2/2013 1:59:37 PM
13			
14			
15			
16			
17			
18			

Calibration for CCV3.D



$$y = 0.3467 * x + 4.8232E-005$$

$$R = 0.9999$$

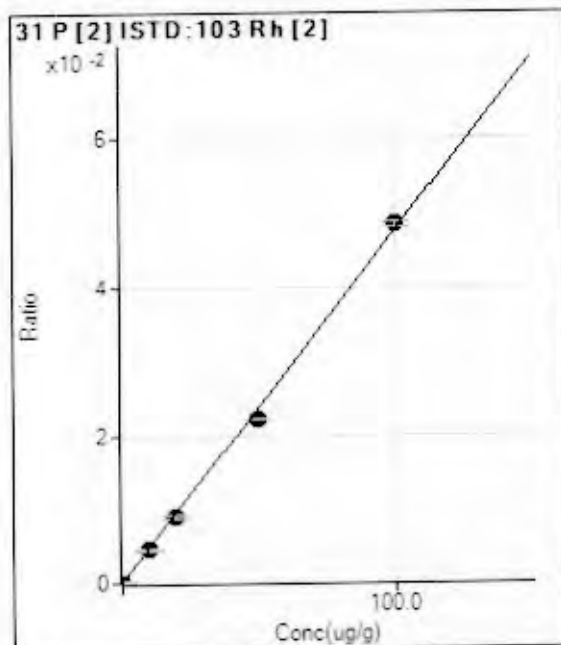
$$DL = 5.377E-05$$

$$BEC = 0.0001391$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	64.45	0.0000	P	12.9
2	<input type="checkbox"/>	0.010	0.011	4980.88	0.0037	P	1.7
3	<input type="checkbox"/>	0.050	0.052	23701.46	0.0181	P	0.6
4	<input type="checkbox"/>	0.100	0.105	47594.15	0.0363	P	0.5
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.022	427074.83	0.3542	P	0.7
7	<input type="checkbox"/>	5.000	5.093	2006348.10	1.7657	A	0.5
8	<input type="checkbox"/>	10.00	9.951	3850909.81	3.4497	A	0.4
9	<input type="checkbox"/>			188.90	0.0002	P	21.5
10	<input type="checkbox"/>			161.12	0.0001	P	3.8
11	<input type="checkbox"/>			147.78	0.0001	P	1.7
12	<input type="checkbox"/>			147.79	0.0001	P	18.8
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 4.7339E-004 * x + 1.1324E-004$$

$$R = 0.9991$$

$$DL = 0.2436$$

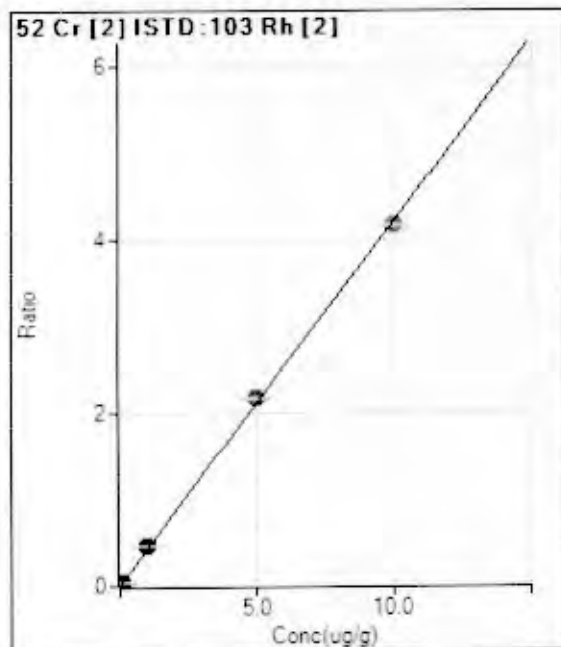
$$BEC = 0.2392$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	65.56	0.0001	P	34.0
2	<input type="checkbox"/>			65.56	0.0001	P	39.4
3	<input type="checkbox"/>			82.23	0.0001	P	12.9
4	<input type="checkbox"/>			72.23	0.0001	P	16.5
5	<input type="checkbox"/>						
6	<input type="checkbox"/>			106.67	0.0002	P	17.3
7	<input type="checkbox"/>			101.12	0.0002	P	30.2
8	<input type="checkbox"/>			65.56	0.0001	P	20.8
9	<input type="checkbox"/>	10.00	9.263	2201.3	0.0045	P	3.9
10	<input type="checkbox"/>	20.00	18.818	4474.0	0.0090	P	4.4
11	<input type="checkbox"/>	50.00	46.736	10964.	0.0222	P	0.2
12	<input type="checkbox"/>	100.0	101.942	24442.	0.0484	P	1.5
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.4213 * x + 1.4530E-004$$

$$R = 0.9998$$

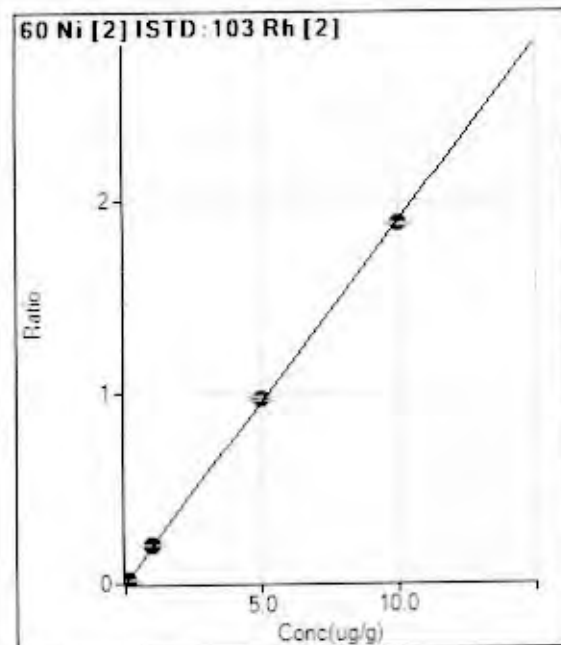
$$DL = 0.0001825$$

$$BEC = 0.0003449$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	84.45	0.0001	P	17.6
2	<input type="checkbox"/>	0.010	0.011	2779.21	0.0048	P	5.4
3	<input type="checkbox"/>	0.050	0.054	13296.53	0.0231	P	1.3
4	<input type="checkbox"/>	0.100	0.109	26529.20	0.0461	P	0.7
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.091	266790.30	0.4597	P	0.9
7	<input type="checkbox"/>	5.000	5.146	1134541.63	2.1681	A	1.1
8	<input type="checkbox"/>	10.00	9.918	2093048.49	4.1785	A	0.5
9	<input type="checkbox"/>			81.11	0.0002	P	26.9
10	<input type="checkbox"/>			128.89	0.0003	P	11.2
11	<input type="checkbox"/>			168.90	0.0003	P	11.3
12	<input type="checkbox"/>			180.01	0.0004	P	5.1
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.1891 * x + 2.4992E-005$$

$$R = 0.9999$$

$$DL = 0.0002346$$

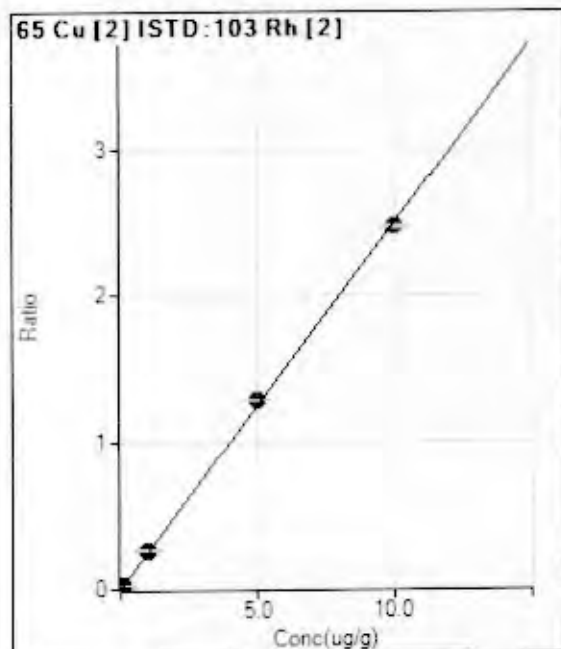
$$BEC = 0.0001322$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	14.44	0.0000	P	59.2
2	<input type="checkbox"/>	0.010	0.011	1196.76	0.0020	P	4.8
3	<input type="checkbox"/>	0.050	0.054	5926.75	0.0103	P	3.0
4	<input type="checkbox"/>	0.100	0.107	11702.05	0.0203	P	1.6
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.050	115260.08	0.1986	P	0.8
7	<input type="checkbox"/>	5.000	5.111	505723.41	0.9665	A	1.2
8	<input type="checkbox"/>	10.00	9.939	941433.43	1.8794	A	0.3
9	<input type="checkbox"/>			13.33	0.0000	P	25.9
10	<input type="checkbox"/>			21.11	0.0000	P	59.9
11	<input type="checkbox"/>			26.67	0.0001	P	33.1
12	<input type="checkbox"/>			27.78	0.0001	P	13.7
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.2492 * x + 2.8732E-004$$

$$R = 0.9998$$

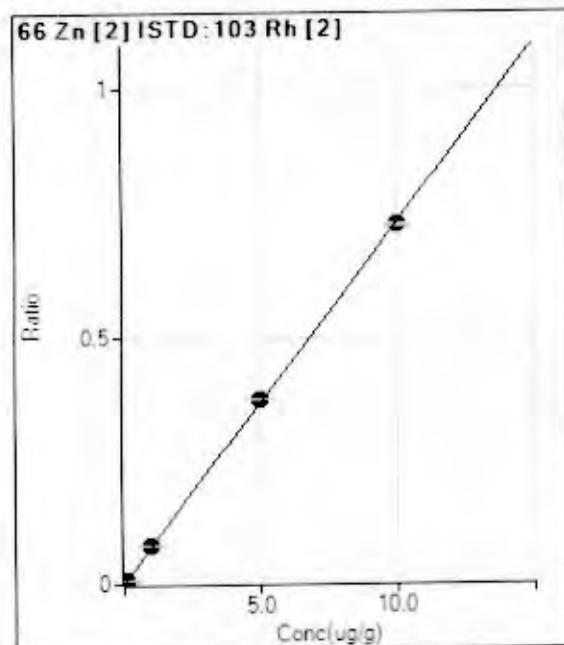
$$DL = 0.0006769$$

$$BEC = 0.001153$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	166.68	0.0003	P	19.6
2	<input type="checkbox"/>	0.010	0.011	1779.06	0.0030	P	1.7
3	<input type="checkbox"/>	0.050	0.055	8087.71	0.0140	P	0.8
4	<input type="checkbox"/>	0.100	0.110	15962.13	0.0277	P	2.8
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.076	155782.32	0.2684	P	0.9
7	<input type="checkbox"/>	5.000	5.141	670545.32	1.2814	A	0.5
8	<input type="checkbox"/>	10.00	9.922	1238742.8	2.4730	A	0.6
9	<input type="checkbox"/>			166.67	0.0003	P	14.4
10	<input type="checkbox"/>			138.90	0.0003	P	13.1
11	<input type="checkbox"/>			98.89	0.0002	P	18.1
12	<input type="checkbox"/>			100.01	0.0002	P	11.5
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0730 * x + 6.8849E-005$$

$$R = 0.9999$$

$$DL = 0.0004467$$

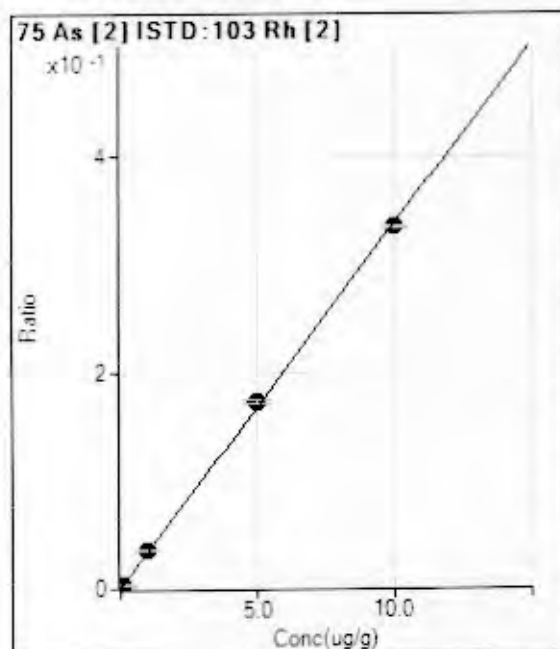
$$BEC = 0.0009425$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	40.00	0.0001	P	15.8
2	<input type="checkbox"/>	0.010	0.010	486.69	0.0008	P	8.4
3	<input type="checkbox"/>	0.050	0.053	2272.46	0.0039	P	6.3
4	<input type="checkbox"/>	0.100	0.101	4280.69	0.0074	P	3.7
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.042	44227.08	0.0762	P	0.6
7	<input type="checkbox"/>	5.000	5.112	195447.17	0.3735	P	0.7
8	<input type="checkbox"/>	10.00	9.940	363727.46	0.7261	P	0.4
9	<input type="checkbox"/>			57.78	0.0001	P	32.9
10	<input type="checkbox"/>			45.56	0.0001	P	27.0
11	<input type="checkbox"/>			58.89	0.0001	P	28.5
12	<input type="checkbox"/>			117.78	0.0002	P	20.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.0336 * x + 5.7835E-006$$

$$R = 0.9998$$

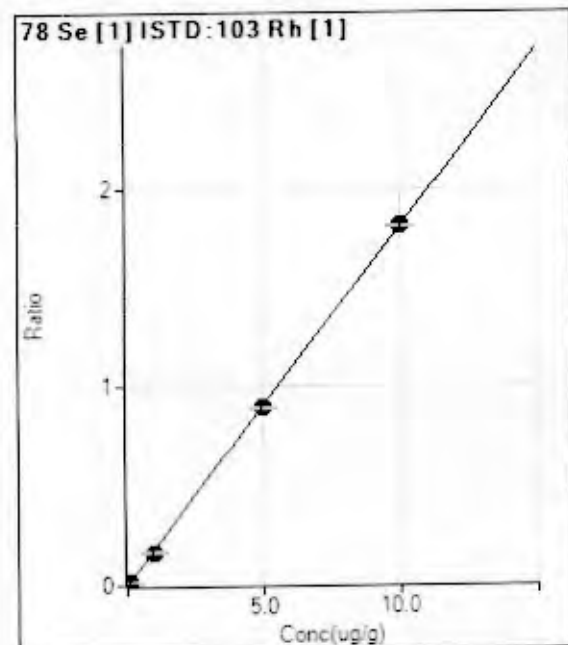
$$DL = 0.0005195$$

$$BEC = 0.000172$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	3.33	0.0000	P	100.7
2	<input type="checkbox"/>	0.010	0.010	196.67	0.0003	P	6.7
3	<input type="checkbox"/>	0.050	0.053	1023.41	0.0018	P	1.2
4	<input type="checkbox"/>	0.100	0.106	2063.54	0.0036	P	5.9
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.050	20494.83	0.0353	P	2.6
7	<input type="checkbox"/>	5.000	5.152	90664.06	0.1733	P	1.6
8	<input type="checkbox"/>	10.00	9.919	167101.1	0.3336	P	0.8
9	<input type="checkbox"/>			22.22	0.0000	P	46.9
10	<input type="checkbox"/>			7.78	0.0000	P	39.5
11	<input type="checkbox"/>			8.89	0.0000	P	43.9
12	<input type="checkbox"/>			8.89	0.0000	P	43.6
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.1811 * x + 7.5513E-005$$

$$R = 1.0000$$

$$DL = 0.0007197$$

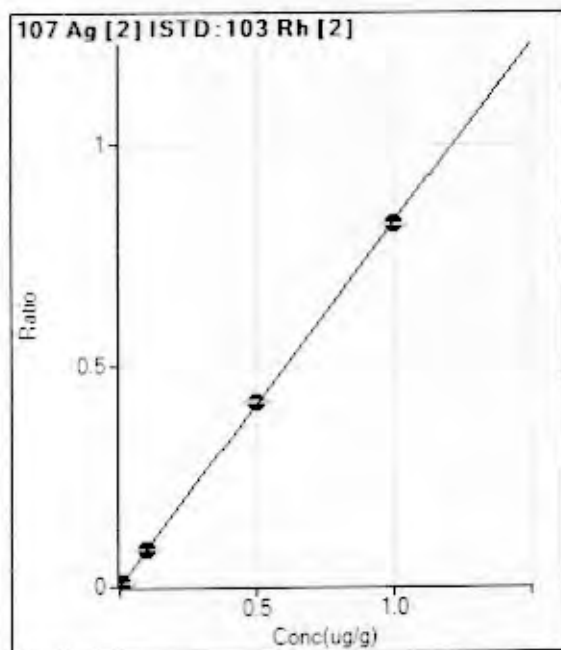
$$BEC = 0.0004169$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	10.00	0.0001	P	57.5
2	<input type="checkbox"/>	0.010	0.011	274.46	0.0020	P	22.5
3	<input type="checkbox"/>	0.050	0.052	1267.88	0.0095	P	5.9
4	<input type="checkbox"/>	0.100	0.100	2398.03	0.0182	P	1.2
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	0.929	26070.17	0.1683	P	2.7
7	<input type="checkbox"/>	5.000	4.937	118667.92	0.8942	P	1.0
8	<input type="checkbox"/>	10.00	10.039	222615.06	1.8182	P	0.8
9	<input type="checkbox"/>			18.89	0.0002	P	88.6
10	<input type="checkbox"/>			5.56	0.0000	P	35.5
11	<input type="checkbox"/>			4.44	0.0000	P	43.5
12	<input type="checkbox"/>			7.78	0.0001	P	89.4
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.8226 * x + 5.7202E-005$$

$$R = 1.0000$$

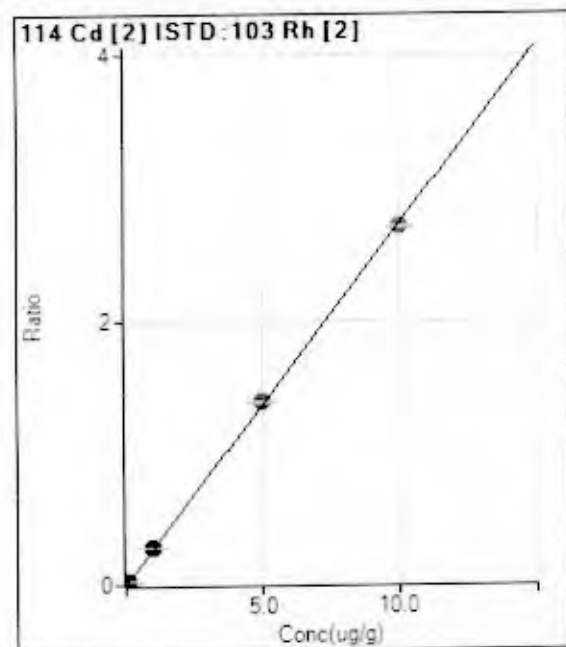
$$DL = 0.0001239$$

$$BEC = 6.954E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	33.34	0.0001	P	59.4
2	<input type="checkbox"/>	0.001	0.001	283.35	0.0005	P	7.3
3	<input type="checkbox"/>	0.005	0.004	2023.54	0.0035	P	4.1
4	<input type="checkbox"/>	0.010	0.009	4499.67	0.0078	P	2.6
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	0.100	0.102	48634.29	0.0838	P	1.1
7	<input type="checkbox"/>	0.500	0.507	218415.67	0.4174	P	0.9
8	<input type="checkbox"/>	1.000	0.996	410477.45	0.8195	P	0.2
9	<input type="checkbox"/>			135.56	0.0003	P	38.9
10	<input type="checkbox"/>			75.56	0.0002	P	18.0
11	<input type="checkbox"/>			66.67	0.0001	P	43.3
12	<input type="checkbox"/>			45.56	0.0001	P	44.1
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2721 * x + 2.4872E-005$$

$$R = 0.9999$$

$$DL = 3.48E-05$$

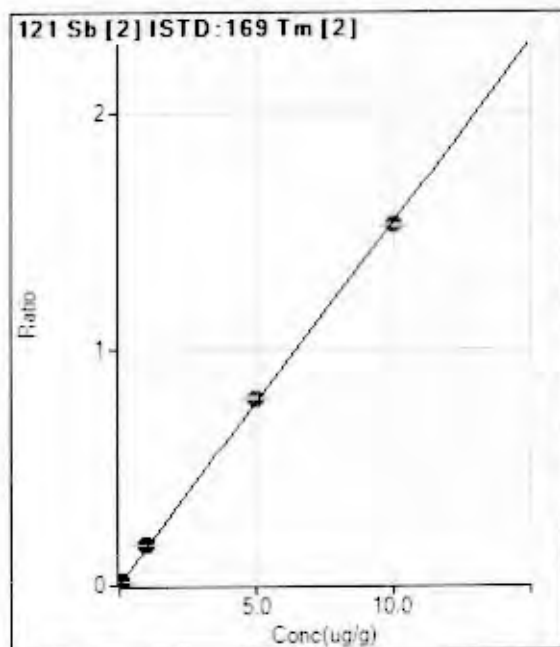
$$BEC = 9.139E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	14.44	0.0000	P	12.7
2	<input type="checkbox"/>	0.010	0.010	1676.82	0.0029	P	9.6
3	<input type="checkbox"/>	0.050	0.050	7938.82	0.0138	P	1.8
4	<input type="checkbox"/>	0.100	0.103	16120.39	0.0280	P	0.6
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.069	168933.13	0.2911	P	1.4
7	<input type="checkbox"/>	5.000	5.095	725579.56	1.3866	A	1.4
8	<input type="checkbox"/>	10.00	9.945	1355795.8	2.7067	A	0.4
9	<input type="checkbox"/>			44.45	0.0001	P	31.1
10	<input type="checkbox"/>			20.00	0.0000	P	66.5
11	<input type="checkbox"/>			36.67	0.0001	P	59.4
12	<input type="checkbox"/>			28.89	0.0001	P	88.5
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.1540 * x + 2.0130E-005$$

$$R = 0.9999$$

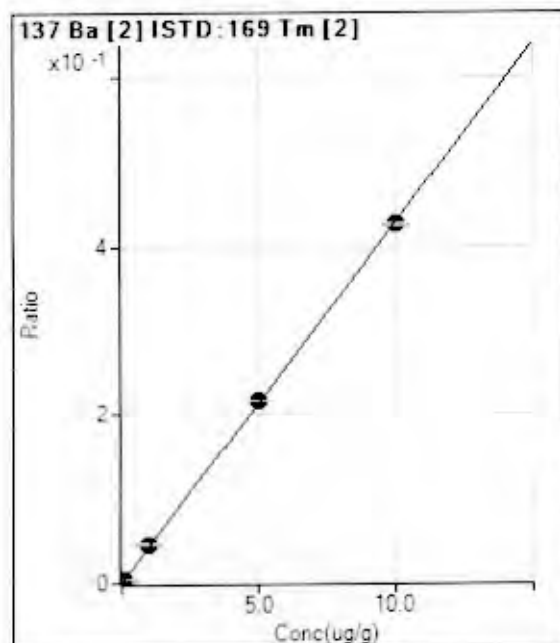
$$DL = 0.0002907$$

$$BEC = 0.0001307$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	15.56	0.0000	P	74.1
2	<input type="checkbox"/>	0.010	0.011	1381.22	0.0018	P	1.9
3	<input type="checkbox"/>	0.050	0.055	6562.65	0.0085	P	2.8
4	<input type="checkbox"/>	0.100	0.108	12894.30	0.0167	P	2.1
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.105	136809.11	0.1702	P	0.8
7	<input type="checkbox"/>	5.000	5.121	586961.96	0.7886	A	0.9
8	<input type="checkbox"/>	10.00	9.929	1091276.0	1.5289	A	0.3
9	<input type="checkbox"/>			116.67	0.0002	P	25.5
10	<input type="checkbox"/>			112.23	0.0002	P	15.3
11	<input type="checkbox"/>			140.01	0.0002	P	19.5
12	<input type="checkbox"/>			186.67	0.0005	P	9.5
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0428 * x + 5.7339E-006$$

$$R = 0.9999$$

$$DL = 0.0004629$$

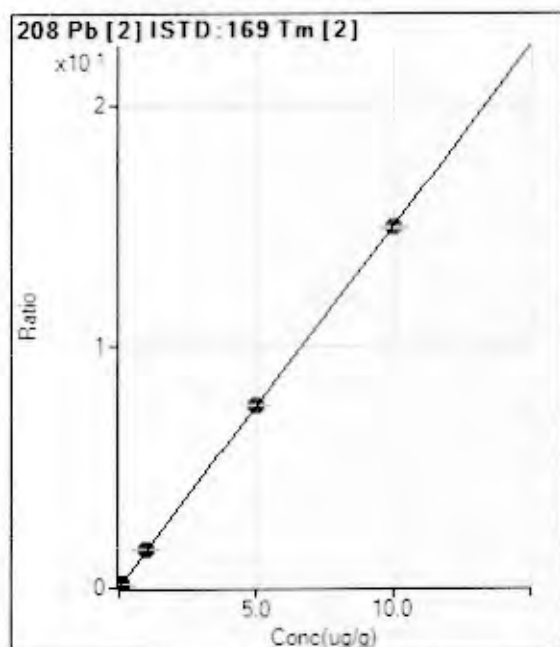
$$BEC = 0.0001339$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	4.44	0.0000	P	115.3
2	<input type="checkbox"/>	0.010	0.012	393.36	0.0005	P	7.1
3	<input type="checkbox"/>	0.050	0.049	1623.48	0.0021	P	2.5
4	<input type="checkbox"/>	0.100	0.104	3457.16	0.0045	P	4.2
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.076	37051.09	0.0461	P	1.2
7	<input type="checkbox"/>	5.000	5.082	162011.73	0.2177	P	0.2
8	<input type="checkbox"/>	10.00	9.951	304241.09	0.4262	P	0.7
9	<input type="checkbox"/>			0.00	0.0000	P	
10	<input type="checkbox"/>			1.11	0.0000	P	173.2
11	<input type="checkbox"/>			3.33	0.0000	P	100.3
12	<input type="checkbox"/>			6.67	0.0000	P	86.8
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 1.4990 * x + 1.1236E-004$$

$$R = 1.0000$$

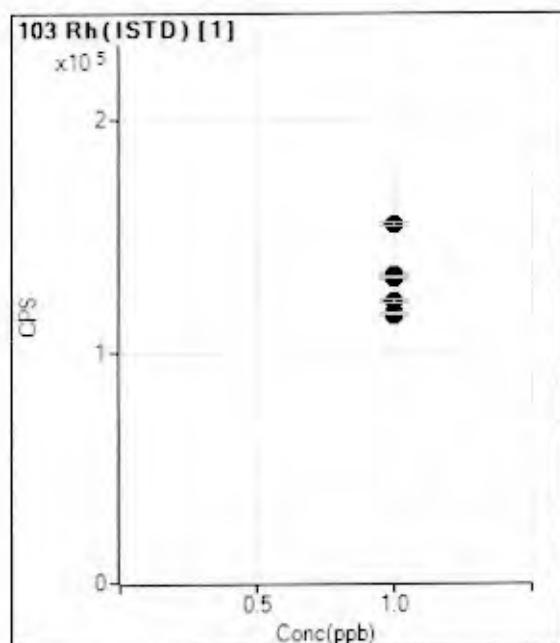
$$DL = 3.7E-05$$

$$BEC = 7.495E-05$$

Weight: None

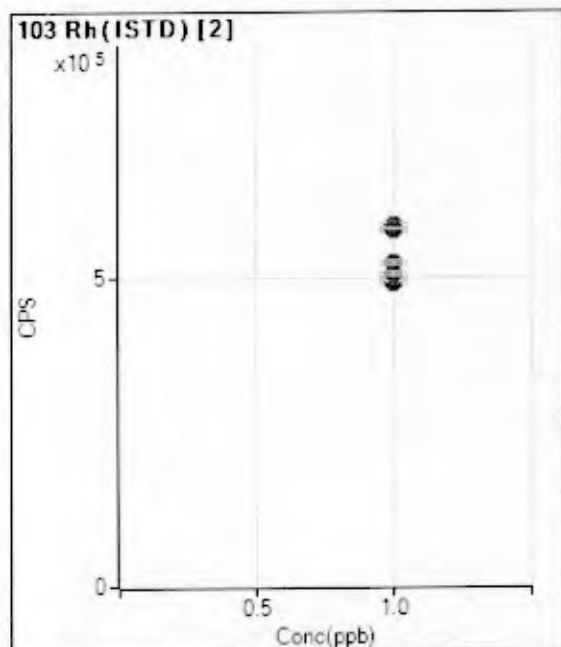
Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	86.67	0.0001	P	16.5
2	<input type="checkbox"/>	0.010	0.011	13313.86	0.0171	P	1.7
3	<input type="checkbox"/>	0.050	0.056	64258.65	0.0835	P	0.4
4	<input type="checkbox"/>	0.100	0.111	128641.76	0.1663	P	1.0
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.051	1266109.45	1.5755	A	0.6
7	<input type="checkbox"/>	5.000	5.033	5615055.54	7.5441	A	0.2
8	<input type="checkbox"/>	10.00	9.978	10676663.9	14.957	A	0.3
9	<input type="checkbox"/>			190.01	0.0003	P	3.2
10	<input type="checkbox"/>			226.67	0.0003	P	30.5
11	<input type="checkbox"/>			234.46	0.0003	P	8.7
12	<input type="checkbox"/>			335.57	0.0009	P	15.3
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

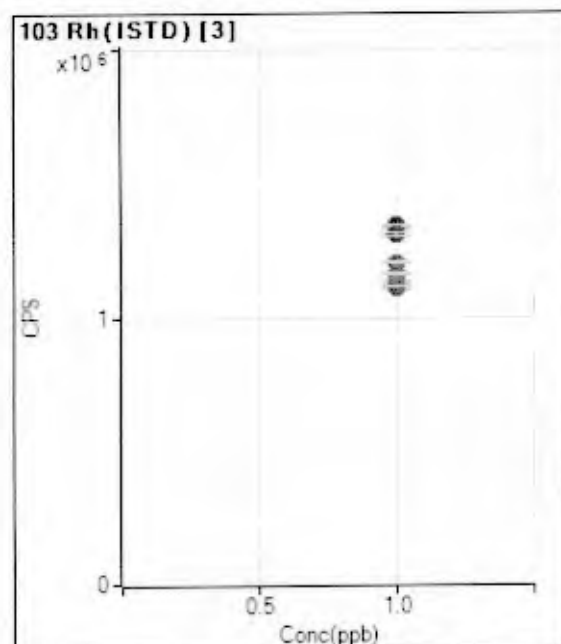


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		132392.97		P	0.5
2	<input type="checkbox"/>	1.000		134138.77		P	1.0
3	<input type="checkbox"/>	1.000		133174.94		P	0.6
4	<input type="checkbox"/>	1.000		131877.10		P	0.4
5	<input type="checkbox"/>	1.000					
6	<input type="checkbox"/>	1.000		154948.52		P	1.1
7	<input type="checkbox"/>	1.000		132708.38		P	0.7
8	<input type="checkbox"/>	1.000		122436.39		P	0.6
9	<input type="checkbox"/>	1.000		117517.87		P	0.3
10	<input type="checkbox"/>	1.000		116211.29		P	1.1
11	<input type="checkbox"/>	1.000		117028.35		P	0.1
12	<input type="checkbox"/>	1.000		122259.27		P	1.3
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for CCV3.D

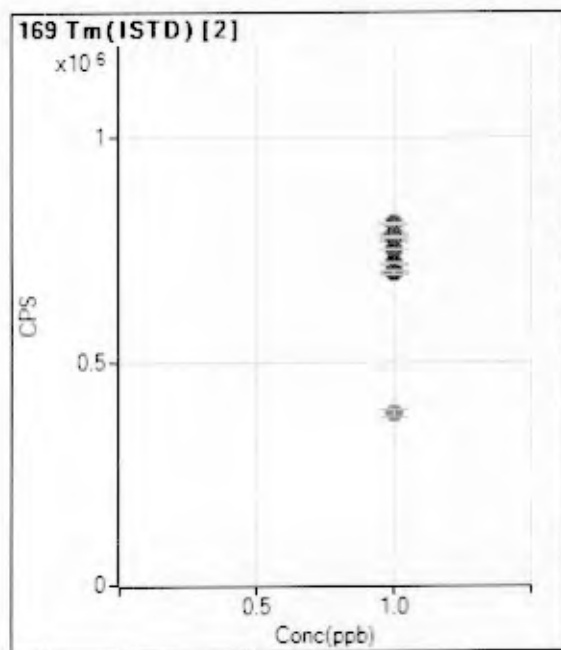


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		580413.01		A	1.2
2	<input type="checkbox"/>	1.000		584685.11		A	1.2
3	<input type="checkbox"/>	1.000		576642.37		A	0.6
4	<input type="checkbox"/>	1.000		576107.97		A	0.9
5	<input type="checkbox"/>	1.000					
6	<input type="checkbox"/>	1.000		580423.67		A	0.1
7	<input type="checkbox"/>	1.000		523312.75		A	1.0
8	<input type="checkbox"/>	1.000		500915.89		A	0.6
9	<input type="checkbox"/>	1.000		489304.58		A	1.1
10	<input type="checkbox"/>	1.000		495832.61		A	0.9
11	<input type="checkbox"/>	1.000		493083.77		A	0.6
12	<input type="checkbox"/>	1.000		505302.30		A	1.1
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		1336160.38		A	0.7
2	<input type="checkbox"/>	1.000		1343220.38		A	0.7
3	<input type="checkbox"/>	1.000		1311531.67		A	1.0
4	<input type="checkbox"/>	1.000		1311474.43		A	0.9
5	<input type="checkbox"/>	1.000					
6	<input type="checkbox"/>	1.000		1205598.39		A	0.3
7	<input type="checkbox"/>	1.000		1136319.00		A	0.6
8	<input type="checkbox"/>	1.000		1116293.10		A	0.2
9	<input type="checkbox"/>	1.000		1108260.40		A	0.8
10	<input type="checkbox"/>	1.000		1121819.03		A	0.6
11	<input type="checkbox"/>	1.000		1117858.69		A	0.6
12	<input type="checkbox"/>	1.000		1163758.64		A	0.7
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for CCV3.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		770246.09		A	2.0
2	<input type="checkbox"/>	1.000		778761.34		A	1.2
3	<input type="checkbox"/>	1.000		769306.21		A	0.4
4	<input type="checkbox"/>	1.000		773605.60		A	0.6
5	<input type="checkbox"/>	1.000					
6	<input type="checkbox"/>	1.000		803629.81		A	0.8
7	<input type="checkbox"/>	1.000		744292.42		A	0.2
8	<input type="checkbox"/>	1.000		713786.94		A	0.2
9	<input type="checkbox"/>	1.000		693383.99		A	0.8
10	<input type="checkbox"/>	1.000		695913.43		A	0.1
11	<input type="checkbox"/>	1.000		694885.99		A	1.1
12	<input type="checkbox"/>	1.000		387990.49		M	4.1
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

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Continuing Calibration Data

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ICPMS 7700x DATA REPORT

File Name ICV.D
File Path D:\DATA\2130931L.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 14:09
Sample Name 100 ppb (10 ppb Ag)
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.103	ug/g	0.27	413,274.00	3.588E-01	Pulse	0.30	3
P	31	103	2	0.015	ug/g	60.04	94.45	1.850E-04	Pulse	0.30	3
Cr	52	103	2	0.106	ug/g	1.11	228,516.19	4.470E-01	Pulse	0.30	3
Ni	60	103	2	0.106	ug/g	1.32	102,375.97	2.003E-01	Pulse	0.30	3
Cu	65	103	2	0.107	ug/g	1.59	136,483.98	2.670E-01	Pulse	0.30	3
Zn	66	103	2	0.101	ug/g	0.73	37,696.43	7.374E-02	Pulse	0.30	3
As	75	103	2	0.099	ug/g	3.49	17,087.77	3.343E-02	Pulse	0.30	3
Se	78	103	1	0.106	ug/g	0.90	23,170.45	1.922E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.96	41,952.29	8.207E-02	Pulse	0.30	3
Cd	114	103	2	0.103	ug/g	1.12	143,683.25	2.811E-01	Pulse	0.30	3
Sb	121	169	2	0.103	ug/g	0.32	113,980.92	1.594E-01	Pulse	0.30	3
Ba	137	169	2	0.101	ug/g	2.01	30,813.82	4.309E-02	Pulse	0.30	3
Pb	208	169	2	0.105	ug/g	0.19	1,120,462.81	1.567E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	120,565.81	0.19	91.1	Pulse	0.30	3
2	Rh	103	511,214.23	0.84	88.1	Analog	0.30	3
3	Rh	103	1,151,937.16	0.42	86.2	Analog	0.30	3
2	Tm	169	715,140.95	0.21	92.8	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCVP.D
File Path D:\DATA\2130931Lb
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 14:13
Sample Name 5 PPM Phosphorus
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.000	ug/g	56.00	141.12	1.240E-04	Pulse	0.30	3
P	31	103	2	4.711	ug/g	1.20	11,131.63	2.242E-02	Pulse	0.30	3
Cr	52	103	2	0.000	ug/g	79.38	106.67	2.148E-04	Pulse	0.30	3
Ni	60	103	2	0.000	ug/g	43.96	41.11	8.279E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	-192.86	125.56	2.529E-04	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	62.29	87.78	1.767E-04	Pulse	0.30	3
As	75	103	2	0.000	ug/g	83.47	16.67	3.353E-05	Pulse	0.30	3
Se	78	103	1	0.000	ug/g	95.29	30.00	2.573E-04	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	7.71	368.91	7.428E-04	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	98.74	43.34	8.734E-05	Pulse	0.30	3
Sb	121	169	2	0.000	ug/g	7.85	214.46	3.065E-04	Pulse	0.30	3
Ba	137	169	2	0.000	ug/g	141.69	8.89	1.269E-05	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	21.75	404.46	5.785E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	116,345.96	1.20	87.9	Pulse	0.30	3
2	Rh	103	496,583.98	0.20	85.6	Analog	0.30	3
3	Rh	103	1,137,720.55	0.71	85.1	Analog	0.30	3
2	Tm	169	699,538.77	0.61	90.8	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV1.D
File Path D:\DATA\2130931L.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 16:38
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.097	ug/g	0.84	456,720.88	3.365E-01	Pulse	0.30	3
P	31	103	2	0.003	ug/g	434.94	73.34	1.286E-04	Pulse	0.30	3
Cr	52	103	2	0.106	ug/g	0.72	254,494.90	4.465E-01	Pulse	0.30	3
Ni	60	103	2	0.107	ug/g	0.47	115,062.96	2.019E-01	Pulse	0.30	3
Cu	65	103	2	0.109	ug/g	1.16	154,291.16	2.707E-01	Pulse	0.30	3
Zn	66	103	2	0.098	ug/g	0.21	40,738.89	7.147E-02	Pulse	0.30	3
As	75	103	2	0.100	ug/g	1.05	19,191.08	3.367E-02	Pulse	0.30	3
Se	78	103	1	0.109	ug/g	0.93	25,865.38	1.982E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	1.21	47,868.72	8.399E-02	Pulse	0.30	3
Cd	114	103	2	0.100	ug/g	0.50	155,848.87	2.734E-01	Pulse	0.30	3
Sb	121	169	2	0.105	ug/g	1.27	122,799.78	1.615E-01	Pulse	0.30	3
Ba	137	169	2	0.103	ug/g	2.10	33,563.34	4.415E-02	Pulse	0.30	3
Pb	208	169	2	0.106	ug/g	1.37	1,203,744.01	1.583E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	130,497.59	0.57	98.6	Pulse	0.30	3
2	Rh	103	569,998.85	1.03	98.2	Analog	0.30	3
3	Rh	103	1,357,338.63	0.91	101.6	Analog	0.30	3
2	Tm	169	760,357.64	0.86	98.7	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV2.D
File Path D:\DATA\2130931L.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 18:57
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.096	ug/g	0.59	428,483.27	3.337E-01	Pulse	0.30	3
P	31	103	2	0.003	ug/g	-175.37	54.45	1.007E-04	Pulse	0.30	3
Cr	52	103	2	0.103	ug/g	0.87	234,686.51	4.337E-01	Pulse	0.30	3
Ni	60	103	2	0.103	ug/g	0.07	105,732.73	1.954E-01	Pulse	0.30	3
Cu	65	103	2	0.105	ug/g	1.51	142,119.65	2.626E-01	Pulse	0.30	3
Zn	66	103	2	0.096	ug/g	1.27	38,078.50	7.037E-02	Pulse	0.30	3
As	75	103	2	0.096	ug/g	1.01	17,400.34	3.215E-02	Pulse	0.30	3
Se	78	103	1	0.107	ug/g	0.56	24,160.76	1.933E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	1.25	45,015.41	8.318E-02	Pulse	0.30	3
Cd	114	103	2	0.101	ug/g	0.20	148,877.95	2.751E-01	Pulse	0.30	3
Sb	121	169	2	0.100	ug/g	0.10	115,807.38	1.542E-01	Pulse	0.30	3
Ba	137	169	2	0.100	ug/g	1.45	32,327.65	4.305E-02	Pulse	0.30	3
Pb	208	169	2	0.107	ug/g	0.30	1,202,793.81	1.602E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	125,017.77	0.22	94.4	Pulse	0.30	3
2	Rh	103	541,161.32	0.60	93.2	Analog	0.30	3
3	Rh	103	1,283,937.46	0.45	96.1	Analog	0.30	3
2	Tm	169	750,970.14	0.26	97.5	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV3.D
File Path D:\DATA\2130931L.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 21:02
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.090	ug/g	0.71	386,000.52	3.110E-01	Pulse	0.30	3
P	31	103	2	-0.005	ug/g	-29.41	45.56	8.762E-05	Pulse	0.30	3
Cr	52	103	2	0.100	ug/g	1.20	220,093.23	4.233E-01	Pulse	0.30	3
Ni	60	103	2	0.100	ug/g	1.36	98,516.74	1.895E-01	Pulse	0.30	3
Cu	65	103	2	0.103	ug/g	0.50	133,929.24	2.576E-01	Pulse	0.30	3
Zn	66	103	2	0.096	ug/g	1.19	36,395.95	6.999E-02	Pulse	0.30	3
As	75	103	2	0.095	ug/g	0.02	16,629.53	3.198E-02	Pulse	0.30	3
Se	78	103	1	0.106	ug/g	2.47	23,120.44	1.921E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.61	43,734.34	8.411E-02	Pulse	0.30	3
Cd	114	103	2	0.102	ug/g	0.70	144,587.43	2.781E-01	Pulse	0.30	3
Sb	121	169	2	0.099	ug/g	0.87	112,802.33	1.531E-01	Pulse	0.30	3
Ba	137	169	2	0.103	ug/g	0.85	32,392.11	4.396E-02	Pulse	0.30	3
Pb	208	169	2	0.107	ug/g	0.35	1,179,861.41	1.601E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	120,377.59	0.38	90.9	Pulse	0.30	3
2	Rh	103	520,004.56	0.50	89.6	Analog	0.30	3
3	Rh	103	1,241,228.10	0.37	92.9	Analog	0.30	3
2	Tm	169	736,906.05	0.41	95.7	Analog	0.30	3

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Instrument Run Log

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id	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
	Keyword		CALBEG	Start of CALIB									
METHODS	Sample	1	Rinse1			1,000							
METHODS	Sample	1	Rinse2			1,000							
METHODS	Sample	1101	Rinse			1,000							
METHODS	CalStd	1101	0MIX	0 ppb mix	0 ng 0 ng Ag	Level 1							
METHODS	CalStd	1102	1MIX	1 ppb mix	10 ng 1 ng Ag	Level 2							
METHODS	CalStd	1103	5MIX	5 ppb mix	50 ng 5 ng Ag	Level 3							
METHODS	CalStd	1104	10MIX	10 ppb mix	100 ng 10 ng Ag	Level 4							
METHODS	CalStd	1105	50MIX	50 ppb mix	500 ng 50 ng Ag	Level 5							
METHODS	CalStd	1106	100MIX	100 ppb mix	1000 ng 100 ng Ag	Level 6							
METHODS	CalStd	1107	500MIX	500 ppb mix	5000 ng 500 ng Ag	Level 7							
METHODS	CalStd	1108	1000MIX	1000 ppb mix	10000 ng 1000 ng Ag	Level 8							
METHODS	Sample	1	Rinse3			1,000							
METHODS	Sample	1	Rinse4			1,000							
METHODS	CalStd	1109	1P	1 ppm P	10 ug P	Level 9							
METHODS	CalStd	1110	2P	2 ppm P	20 ug P	Level 10							
METHODS	CalStd	1111	5P	5 ppm P	50 ug P	Level 11							
METHODS	CalStd	1112	10P	10 ppm P	100 ug P	Level 12							
METHODS	Sample	1	Rinse5			1,000							
METHODS	Sample	1201	ICV	100 ppb (10 ppb Ag)		1.000E-01							
METHODS	Sample	2111	CCVP	5 PPM Phosphorus		1.000E-01							
METHODS	Sample	1202	2ndP	ERA Phosphorus 9.71 PPM		1.000E-01							
METHODS	Sample	1	Rinse6			1,000							
METHODS	Sample	1	Rinse7			1,000							
	Keyword		CALEND	End of CALIB									
	Keyword		SMPLBEG	Start of SMPL									
METHODS	Sample	1	Rinse8			1,000							
METHODS	Sample	1	Rinse9			1,000							
METHODS	Sample	1	Rinse10			1,000							
METHODS	Sample	2101	Rinse11			1,000							
METHODS	Sample	2101	21956	QAQC Procedural Blank B1	21956 NA, B1 9/25/2013, E-5145,	10.00							
METHODS	Sample	2102	22035	QAQC Procedural Blank B1	22035 NA, B1 9/25/2013, E-5146,	10.00							
METHODS	Sample	2103	22077	QAQC Procedural Blank B1	22077 NA, B1 9/30/2013, E-5147,	10.00							
METHODS	Sample	2104	21957	B13-8233 Oceanside	21957 NA, R1 9/25/2013, E-5145,	33.28							
METHODS	Sample	2105	21957/2	B13-8233 Oceanside Dup	21957 NA, R2 9/25/2013, E-5145,	33.54							
METHODS	Sample	2106	21958	B13-8236 Oceanside	21958 NA, R1 9/25/2013, E-5145,	26.82							
METHODS	Sample	2107	21959	B13-8239 Oceanside	21959 NA, R1 9/25/2013, E-5145,	29.57							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
38	C:\CPMH\1\METHODS (Physis.m)	Sample	2108	21860	B13-8267 Dana Point	21860,NA,R1,9/25/2013,E-5145,	29.80							
39	C:\CPMH\1\METHODS (Physis.m)	Sample	2109	21861	B13-8265 Dana Point	21861,NA,R1,9/25/2013,E-5145,	21.93							
40	C:\CPMH\1\METHODS (Physis.m)	Sample	2110	21862	B13-8263 Dana Point	21862,NA,R1,9/25/2013,E-5145,	18.27							
41	C:\CPMH\1\METHODS (Physis.m)	Sample	2111	21863	B13-8269 Dana Point	21863,NA,R1,9/25/2013,E-5145,	26.88							
42	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R12			1.000							
43	C:\CPMH\1\METHODS (Physis.m)	Sample	2112	21865cm	QAQC CRM - RTC 016-0501	21865,NA,CRM1,9/25/2013,E-5145,	47.35							
44	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	21903cm	QAQC CRM - ERA 5401	21866,NA,CRM1,9/25/2013,E-5145,	50.51							
45	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R13			1.000							
46	C:\CPMH\1\METHODS (Physis.m)	Sample	2202	21956bs1	QAQC Procedural Blank BS1	21956,NA,BS1,9/25/2013,E-5145,	1.000							
47	C:\CPMH\1\METHODS (Physis.m)	Sample	2203	21956bs2	QAQC Procedural Blank BS2	21956,NA,BS2,9/25/2013,E-5145,	1.000							
48	C:\CPMH\1\METHODS (Physis.m)	Sample	2204	21957ms	B13-8233 Oceanside MS	21957,NA,MS1,9/25/2013,E-5145,	1.000							
49	C:\CPMH\1\METHODS (Physis.m)	Sample	2205	21957msd	B13-8233 Oceanside MSD	21957,NA,MS2,9/25/2013,E-5145,	1.000							
50	C:\CPMH\1\METHODS (Physis.m)	Sample	2206	21957s1P	B13-8233 Oceanside MS	21957,NA,MS1,9/25/2013,E-5145,	1.000							
51	C:\CPMH\1\METHODS (Physis.m)	Sample	2207	21957s2P	B13-8233 Oceanside MSD	21957,NA,MS2,9/25/2013,E-5145,	1.000							
52	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R14			1.000							
53	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R15			1.000							
54	C:\CPMH\1\METHODS (Physis.m)	Sample	1106	CCV1			1.000E-01							
55	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R16			1.000							
56	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R17			1.000							
57	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R18			1.000							
58	C:\CPMH\1\METHODS (Physis.m)	Sample	2208	22036	B13-8145 Grab	22036,NA,R1,9/25/2013,E-5146,	32.80							
59	C:\CPMH\1\METHODS (Physis.m)	Sample	2209	22036/2	B13-8145 Grab Dup	22036,NA,R2,9/25/2013,E-5146,	30.84							
60	C:\CPMH\1\METHODS (Physis.m)	Sample	2210	22037	B13-8163 Grab	22037,NA,R1,9/25/2013,E-5146,	29.39							
61	C:\CPMH\1\METHODS (Physis.m)	Sample	2211	22038	B13-8180 Grab	22038,NA,R1,9/25/2013,E-5146,	35.19							
62	C:\CPMH\1\METHODS (Physis.m)	Sample	2212	22039	B13-8168 Grab	22039,NA,R1,9/25/2013,E-5146,	34.56							
63	C:\CPMH\1\METHODS (Physis.m)	Sample	2301	22040	B13-8157 Grab	22040,NA,R1,9/25/2013,E-5146,	29.43							
64	C:\CPMH\1\METHODS (Physis.m)	Sample	2302	22041	B13-8158 Grab	22041,NA,R1,9/25/2013,E-5146,	35.43							
65	C:\CPMH\1\METHODS (Physis.m)	Sample	2303	22042	B13-8152 Grab	22042,NA,R1,9/25/2013,E-5146,	13.40							
66	C:\CPMH\1\METHODS (Physis.m)	Sample	2304	22043	B13-8151 Grab	22043,NA,R1,9/25/2013,E-5146,	39.72							
67	C:\CPMH\1\METHODS (Physis.m)	Sample	2305	22044	B13-8148 Grab	22044,NA,R1,9/25/2013,E-5146,	32.65							
68	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R19			1.000							
69	C:\CPMH\1\METHODS (Physis.m)	Sample	2306	22046cm	QAQC CRM - RTC 016-0501	22046,NA,CRM1,9/25/2013,E-5146,	51.34							
70	C:\CPMH\1\METHODS (Physis.m)	Sample	2307	22047cm	QAQC CRM - ERA 5401	22047,NA,CRM1,9/25/2013,E-5146,	45.98							
71	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R20			1.000							
72	C:\CPMH\1\METHODS (Physis.m)	Sample	2202	22035bs1	QAQC Procedural Blank BS1	22035,NA,BS1,9/25/2013,E-5146,	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	S/LP	Result
73	C:\ICPMH\1\METHODS (Physis.m)	Sample	2203	22036os2	QAQC Procedural Blank BS2	22035,NA,BS2,9/25/2013,E-5146,	1.000							
74	C:\ICPMH\1\METHODS (Physis.m)	Sample	2308	22036ms	B13-B145 Grab MS	22036,NA,MS1,9/25/2013,E-5146,	1.000							
75	C:\ICPMH\1\METHODS (Physis.m)	Sample	2308	22036ms	B13-B145 Grab MSD	22036,NA,MS2,9/25/2013,E-5146,	1.000							
76	C:\ICPMH\1\METHODS (Physis.m)	Sample	2310	22036s1P	B13-B145 Grab MS	22036,NA,MS1,9/25/2013,E-5146,	1.000							
77	C:\ICPMH\1\METHODS (Physis.m)	Sample	2311	22036s2P	B13-B145 Grab MSD	22036,NA,MS2,9/25/2013,E-5146,	1.000							
78	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R21			1.000							
79	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R22			1.000							
80	C:\ICPMH\1\METHODS (Physis.m)	Sample	1106	CCV2			1.000E-01							
81	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R23			1.000							
82	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R24			1.000							
83	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R25			1.000							
84	C:\ICPMH\1\METHODS (Physis.m)	Sample	2312	22078	B13-8055 Grab	22078,NA,R1,9/30/2013,E-5147,	30.56							
85	C:\ICPMH\1\METHODS (Physis.m)	Sample	2401	22078r2	B13-8055 Grab Dux	22078,NA,R2,9/30/2013,E-5147,	28.46							
86	C:\ICPMH\1\METHODS (Physis.m)	Sample	2402	22079	B13-8049 Grab	22079,NA,R1,9/30/2013,E-5147,	31.15							
87	C:\ICPMH\1\METHODS (Physis.m)	Sample	2403	22080	B13-8029 Grab	22080,NA,R1,9/30/2013,E-5147,	25.10							
88	C:\ICPMH\1\METHODS (Physis.m)	Sample	2404	22081	B13-8056 Grab	22081,NA,R1,9/30/2013,E-5147,	34.62							
89	C:\ICPMH\1\METHODS (Physis.m)	Sample	2405	22082	B13-8064 Grab	22082,NA,R1,9/30/2013,E-5147,	30.18							
90	C:\ICPMH\1\METHODS (Physis.m)	Sample	2406	22083	B13-8066 Grab	22083,NA,R1,9/30/2013,E-5147,	38.86							
91	C:\ICPMH\1\METHODS (Physis.m)	Sample	2407	22084	B13-8020 Grab	22084,NA,R1,9/30/2013,E-5147,	59.90							
92	C:\ICPMH\1\METHODS (Physis.m)	Sample	2408	22085	B13-8050 Grab	22085,NA,R1,9/30/2013,E-5147,	31.49							
93	C:\ICPMH\1\METHODS (Physis.m)	Sample	2408	22086	B13-8069 Grab	22086,NA,R1,9/30/2013,E-5147,	33.31							
94	C:\ICPMH\1\METHODS (Physis.m)	Sample	2410	22087	B13-8017 Grab	22087,NA,R1,9/30/2013,E-5147,	33.56							
95	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R26			1.000							
96	C:\ICPMH\1\METHODS (Physis.m)	Sample	2411	22089crm	QAQC CRM - RTC 016-0601	22089,NA,CRM1,9/30/2013,E-5147,	51.23							
97	C:\ICPMH\1\METHODS (Physis.m)	Sample	2412	22080crm	QAQC CRM - ERA 5401	22080,NA,CRM1,9/30/2013,E-5147,	51.78							
98	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R27			1.000							
99	C:\ICPMH\1\METHODS (Physis.m)	Sample	2203	22077bs1	QAQC Procedural Blank BS1	22077,NA,BS1,9/30/2013,E-5147,	1.000							
100	C:\ICPMH\1\METHODS (Physis.m)	Sample	2203	22077bs2	QAQC Procedural Blank BS2	22077,NA,BS2,9/30/2013,E-5147,	1.000							
101	C:\ICPMH\1\METHODS (Physis.m)	Sample	2501	22078ms	B13-8065 Grab MS	22078,NA,MS1,9/30/2013,E-5147,	1.000							
102	C:\ICPMH\1\METHODS (Physis.m)	Sample	2502	22078msd	B13-8065 Grab MSD	22078,NA,MS2,9/30/2013,E-5147,	1.000							
103	C:\ICPMH\1\METHODS (Physis.m)	Sample	2503	22078s1P	B13-8055 Grab MS	22078,NA,MS1,9/30/2013,E-5147,	1.000							
104	C:\ICPMH\1\METHODS (Physis.m)	Sample	2504	22078s2P	B13-8055 Grab MSD	22078,NA,MS2,9/30/2013,E-5147,	1.000							
105	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R28			1.000							
106	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R29			1.000							
107	C:\ICPMH\1\METHODS (Physis.m)	Sample	1106	CCV3			1.000E-01							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
108	C:\CPMH\1\METHODS\1Physis.m	Sample	1	R30			1.000							
109	C:\CPMH\1\METHODS\1Physis.m	Sample	1	R31			1.000							
110	C:\CPMH\1\METHODS\1Physis.m	Sample	1	R32			1.000							
111		Keyword		SMPLEND	End of SMPLE									
112		Keyword		END	End of Sequence									
113		Keyword		BLKBEG	Start of BLANK									
114		Keyword		BLKEND	End of BLANK									
115		Keyword		ERRBEG	Start of ERRTERM									
116		Keyword		ERREND	End of ERRTERM									

Elements -

ICP-MS

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ICPMS 7700x DATA REPORT

File Name OMDX.D
File Path D:\data\2131009.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/10/2013 12:02
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.000	ug/g	---	11.11	2.296E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	---	171.12	3.553E-04	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	---	203.35	4.218E-04	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	---	15.56	3.230E-05	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	---	14.45	3.010E-05	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	---	318.90	4.817E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	482,176.00	0.99	100.0	Analog	0.30	3
3	Rh	103	1,132,858.46	0.03	100.0	Analog	0.30	3
2	Tm	169	662,755.66	1.23	100.0	Analog	0.30	3

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Initial Calibration Data

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Calibration for 1000MIX.D

Batch Folder: D:\DATA\2131009.B\

 Analysis File: 2131009.batch.xml

 DA Date-Time: 4/8/2014 2:08:43 PM

 Calibration Title:

 Calibration Method: External Calibration

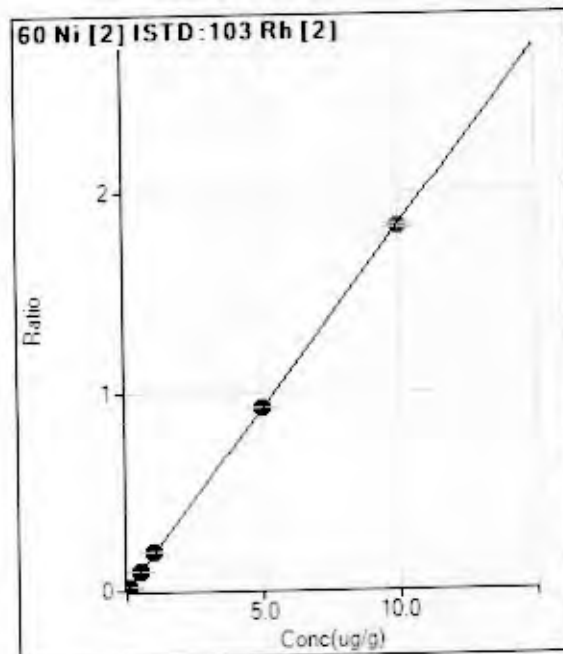
 VIS Interpolation Fit:

 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX.D	0 ppb mix	10/10/2013 12:02:54 PM
2	1MIX.D	1 ppb mix	10/10/2013 12:07:35 PM
3	5MIX.D	5 ppb mix	10/10/2013 12:12:20 PM
4	10MIX.D	10 ppb mix	10/10/2013 12:17:02 PM
5	50MIX.D	50 ppb mix	10/10/2013 12:21:43 PM
6	100MIX.D	100 ppb mix	10/10/2013 12:26:25 PM
7	500MIX.D	500 ppb mix	10/10/2013 12:31:06 PM
8	1000MIX.D	1000 ppb mix	10/10/2013 12:35:37 PM
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			



$$y = 0.1831 * x + 2.2963E-005$$

$$R = 1.0000$$

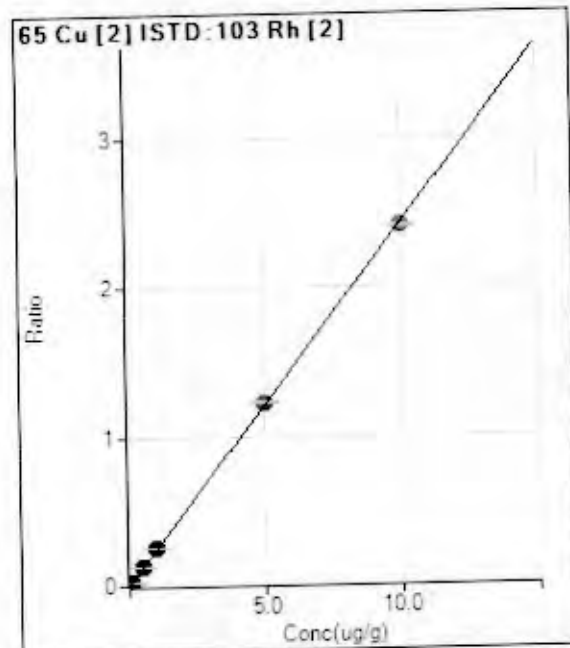
$$DL = 0.0002572$$

$$BEC = 0.0001254$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	11.11	0.0000	P	68.4
2	<input type="checkbox"/>	0.010	0.012	1040.07	0.0021	P	5.9
3	<input type="checkbox"/>	0.050	0.055	4995.36	0.0101	P	2.8
4	<input type="checkbox"/>	0.100	0.107	9699.71	0.0196	P	2.9
5	<input type="checkbox"/>	0.500	0.534	47898.29	0.0979	P	1.9
6	<input type="checkbox"/>	1.000	1.054	94206.87	0.1930	P	2.2
7	<input type="checkbox"/>	5.000	5.033	399344.10	0.9218	P	0.6
8	<input type="checkbox"/>	10.00	9.976	733813.21	1.8271	A	1.0
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2418 * x + 3.5526E-004$$

$$R = 0.9999$$

$$DL = 0.000688$$

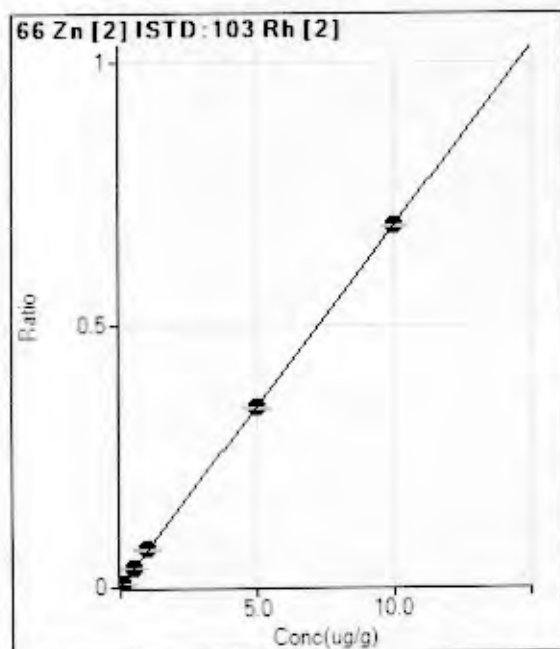
$$BEC = 0.001469$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	171.12	0.0004	P	15.6
2	<input type="checkbox"/>	0.010	0.011	1421.23	0.0029	P	2.3
3	<input type="checkbox"/>	0.050	0.053	6513.66	0.0132	P	2.6
4	<input type="checkbox"/>	0.100	0.108	13120.91	0.0265	P	1.5
5	<input type="checkbox"/>	0.500	0.542	64281.08	0.1314	P	1.4
6	<input type="checkbox"/>	1.000	1.063	125695.36	0.2575	P	1.2
7	<input type="checkbox"/>	5.000	5.072	531484.61	1.2270	A	0.9
8	<input type="checkbox"/>	10.00	9.955	967044.65	2.4079	A	0.5
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D



$$y = 0.0688 * x + 4.2178E-004$$

$$R = 1.0000$$

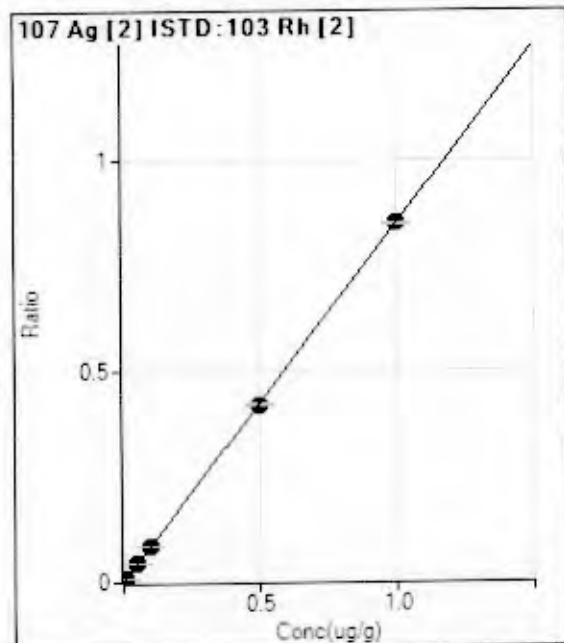
$$DL = 0.001621$$

$$BEC = 0.006132$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	203.35	0.0004	P	8.8
2	<input type="checkbox"/>	0.010	0.008	470.02	0.0010	P	3.2
3	<input type="checkbox"/>	0.050	0.049	1871.29	0.0038	P	2.2
4	<input type="checkbox"/>	0.100	0.102	3683.87	0.0074	P	2.9
5	<input type="checkbox"/>	0.500	0.518	17627.13	0.0360	P	3.2
6	<input type="checkbox"/>	1.000	1.032	34861.87	0.0714	P	2.4
7	<input type="checkbox"/>	5.000	4.965	148117.08	0.3419	P	0.3
8	<input type="checkbox"/>	10.00	10.013	276796.40	0.6892	P	0.5
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.8477 * x + 3.2301E-005$$

$$R = 1.0000$$

$$DL = 7.475E-05$$

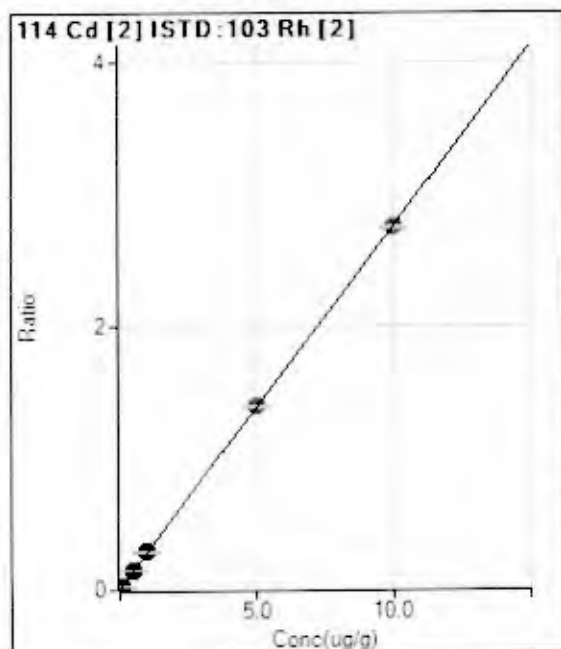
$$BEC = 3.81E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	15.56	0.0000	P	65.4
2	<input type="checkbox"/>	0.001	0.001	431.13	0.0009	P	14.5
3	<input type="checkbox"/>	0.005	0.005	2201.34	0.0045	P	2.4
4	<input type="checkbox"/>	0.010	0.010	4278.48	0.0086	P	0.8
5	<input type="checkbox"/>	0.050	0.051	21143.78	0.0432	P	0.7
6	<input type="checkbox"/>	0.100	0.101	41865.33	0.0858	P	1.3
7	<input type="checkbox"/>	0.500	0.496	182035.06	0.4202	P	0.5
8	<input type="checkbox"/>	1.000	1.002	341161.50	0.8495	P	0.3
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D



$$y = 0.2762 * x + 3.0104E-005$$

$$R = 1.0000$$

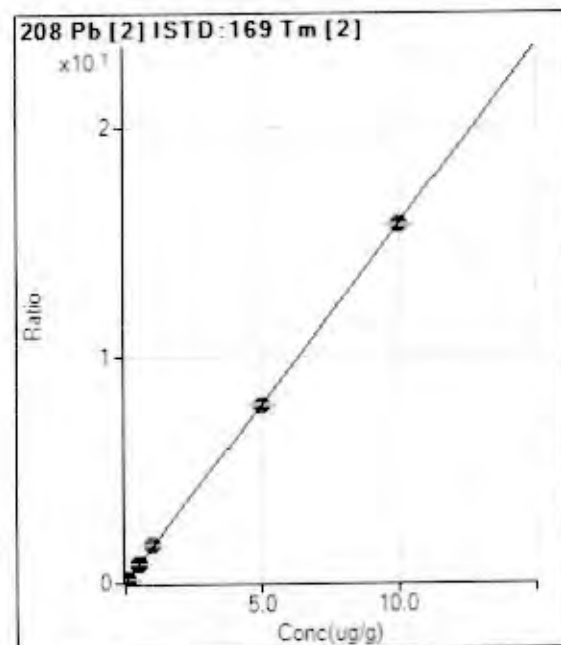
$$DL = 0.0002455$$

$$BEC = 0.000109$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	14.45	0.0000	P	75.1
2	<input type="checkbox"/>	0.010	0.011	1442.35	0.0030	P	5.3
3	<input type="checkbox"/>	0.050	0.051	6988.35	0.0142	P	4.7
4	<input type="checkbox"/>	0.100	0.102	13975.06	0.0282	P	1.9
5	<input type="checkbox"/>	0.500	0.521	70377.58	0.1439	P	0.8
6	<input type="checkbox"/>	1.000	1.033	139226.87	0.2853	P	1.2
7	<input type="checkbox"/>	5.000	5.012	599544.42	1.3842	A	1.3
8	<input type="checkbox"/>	10.00	9.990	1108135.7	2.7592	A	0.8
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 1.5727 * x + 4.8170E-004$$

$$R = 1.0000$$

$$DL = 0.0001486$$

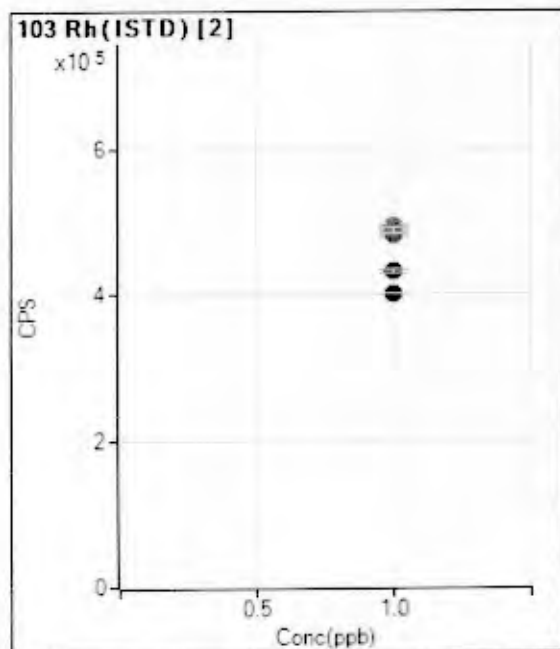
$$BEC = 0.0003063$$

Weight: None

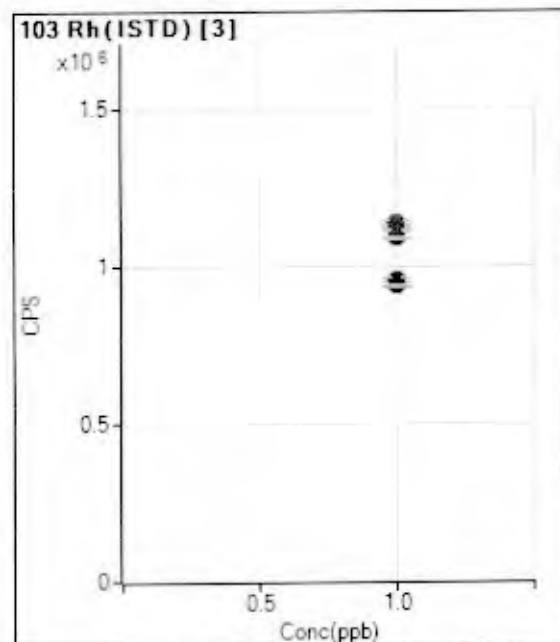
Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	318.90	0.0005	P	16.2
2	<input type="checkbox"/>	0.010	0.011	11805.55	0.0179	P	2.1
3	<input type="checkbox"/>	0.050	0.055	58968.35	0.0877	P	1.8
4	<input type="checkbox"/>	0.100	0.110	116615.94	0.1740	P	0.2
5	<input type="checkbox"/>	0.500	0.542	572958.11	0.8521	P	0.4
6	<input type="checkbox"/>	1.000	1.048	1103567.83	1.6485	A	0.8
7	<input type="checkbox"/>	5.000	4.990	4862015.16	7.8488	A	0.7
8	<input type="checkbox"/>	10.00	9.998	9278311.34	15.723	A	0.8
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D

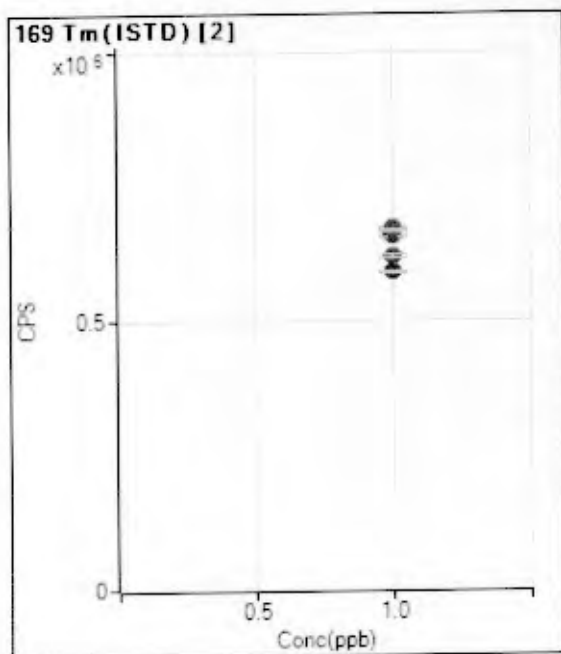


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		482176.00		A	1.0
2	<input type="checkbox"/>	1.000		486447.96		A	1.3
3	<input type="checkbox"/>	1.000		493073.63		A	0.9
4	<input type="checkbox"/>	1.000		494836.77		A	1.7
5	<input type="checkbox"/>	1.000		489256.29		A	0.8
6	<input type="checkbox"/>	1.000		488119.77		A	1.5
7	<input type="checkbox"/>	1.000		433186.42		P	1.4
8	<input type="checkbox"/>	1.000		401621.07		P	0.2
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		1132858.46		A	0.0
2	<input type="checkbox"/>	1.000		1127765.56		A	1.1
3	<input type="checkbox"/>	1.000		1136419.46		A	1.0
4	<input type="checkbox"/>	1.000		1124554.18		A	0.6
5	<input type="checkbox"/>	1.000		1111511.78		A	1.0
6	<input type="checkbox"/>	1.000		1089575.06		A	0.6
7	<input type="checkbox"/>	1.000		957957.94		A	1.5
8	<input type="checkbox"/>	1.000		937565.94		A	0.3
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for 1000MIX.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		662755.66		A	1.2
2	<input type="checkbox"/>	1.000		661094.41		A	1.2
3	<input type="checkbox"/>	1.000		672686.56		A	1.0
4	<input type="checkbox"/>	1.000		670359.07		A	0.3
5	<input type="checkbox"/>	1.000		672393.36		A	0.7
6	<input type="checkbox"/>	1.000		669474.48		A	0.6
7	<input type="checkbox"/>	1.000		619482.57		A	1.0
8	<input type="checkbox"/>	1.000		590094.46		A	0.6
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

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Continuing Calibration Data

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ICPMS 7700x DATA REPORT

File Name ICV.D
File Path D:\data\2131009.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/10/2013 12:54
Sample Name 100 ppb (10 ppb Ag)
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.101	ug/g	0.09	75,257.81	1.851E-01	Pulse	0.30	3
Cu	65	103	2	0.102	ug/g	0.16	100,231.49	2.466E-01	Pulse	0.30	3
Zn	66	103	2	0.100	ug/g	0.31	28,083.02	6.909E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	1.19	34,661.47	8.527E-02	Pulse	0.30	3
Cd	114	103	2	0.103	ug/g	0.76	116,037.20	2.855E-01	Pulse	0.30	3
Pb	208	169	2	0.105	ug/g	0.64	974,258.50	1.655E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	406,495.85	0.22	84.3	Pulse	0.30	3
3	Rh	103	909,923.16	0.70	80.3	Analog	0.30	3
2	Tm	169	588,519.34	0.54	88.8	Analog	0.30	3

PHYSIS LABORATORIES
ICPMS 7700x DATA REPORT

File Name	CCV.D
File Path	D:\data\2131009.B
Method File	Physis.m
Method Path	C:\ICPMH\1\METHODS\
Acq Time	10/10/2013 19:30
Sample Name	
Sample Type	Sample
Comment	

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.100	ug/g	0.66	69,348.63	1.835E-01	Pulse	0.30	3
Cu	65	103	2	0.102	ug/g	0.58	93,600.45	2.477E-01	Pulse	0.30	3
Zn	66	103	2	0.101	ug/g	2.45	26,383.72	6.982E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.67	32,209.02	8.524E-02	Pulse	0.30	3
Cd	114	103	2	0.104	ug/g	0.96	108,878.35	2.881E-01	Pulse	0.30	3
Pb	208	169	2	0.106	ug/g	1.28	935,456.46	1.662E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	377,846.25	0.50	78.4	Pulse	0.30	3
3	Rh	103	845,355.03	0.81	74.6	Analog	0.30	3
2	Tm	169	562,825.49	1.12	84.9	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV1.D
File Path D:\data\2131009.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/11/2013 9:54
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.105	ug/g	0.74	86,127.59	1.917E-01	Pulse	0.30	3
Cu	65	103	2	0.107	ug/g	1.01	116,233.75	2.587E-01	Pulse	0.30	3
Zn	66	103	2	0.100	ug/g	1.80	31,000.11	6.900E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	1.42	37,770.38	8.406E-02	Pulse	0.30	3
Cd	114	103	2	0.098	ug/g	0.46	121,135.22	2.696E-01	Pulse	0.30	3
Pb	208	169	2	0.107	ug/g	1.09	960,869.55	1.676E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	449,331.44	0.67	93.2	Pulse	0.30	3
3	Rh	103	1,022,651.20	1.00	90.3	Analog	0.30	3
2	Tm	169	573,410.06	1.05	86.5	Analog	0.30	3

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Instrument Run Log

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	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1	C:\CPMH\1\METHODS\Physis.m	Keyword		CALBEG	Start of CALIB									
2	C:\CPMH\1\METHODS\Physis.m	Sample	1101	Rinse			1.000							
3	C:\CPMH\1\METHODS\Physis.m	CalBix	1101	0MIX	0 ppb mix	0 ng 0 ng Ag	Level 1							
4	C:\CPMH\1\METHODS\Physis.m	CalStd	1102	1MIX	1 ppb mix	10 ng 1 ng Ag	Level 2							
5	C:\CPMH\1\METHODS\Physis.m	CalStd	1103	5MIX	5 ppb mix	50 ng 5 ng Ag	Level 3							
6	C:\CPMH\1\METHODS\Physis.m	CalStd	1104	10MIX	10 ppb mix	100 ng 10 ng Ag	Level 4							
7	C:\CPMH\1\METHODS\Physis.m	CalStd	1105	50MIX	50 ppb mix	500 ng 50 ng Ag	Level 5							
8	C:\CPMH\1\METHODS\Physis.m	CalStd	1106	100MIX	100 ppb mix	1000 ng 100 ng Ag	Level 6							
9	C:\CPMH\1\METHODS\Physis.m	CalStd	1107	500MIX	500 ppb mix	5000 ng 500 ng Ag	Level 7							
10	C:\CPMH\1\METHODS\Physis.m	CalStd	1108	1000MIX	1000 ppb mix	10000 ng 1000 ng Ag	Level 8							
11	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse1			1.000							
12	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse2			1.000							
13	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse3			1.000							
14	C:\CPMH\1\METHODS\Physis.m	Sample	1201	ICV	100 ppb (10 ppb Ag)		1.000E-01							
15	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse4			1.000							
16	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse5			1.000							
17	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse6			1.000							
18		Keyword		CALEND	End of CALIB									
19		Keyword		SAMPLEBEG	Start of SMPLE									
20	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse7			1.000							
21	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse8			1.000							
22	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse9			1.000							
23	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse10			1.000							
24	C:\CPMH\1\METHODS\Physis.m	Sample	2101	21956	QAQC Procedural Blank B1	21956.NA.B1.10/8/2013.E-5152	10.00							
25	C:\CPMH\1\METHODS\Physis.m	Sample	2101	22035	QAQC Procedural Blank B1	22035.NA.B1.10/8/2013.E-5153	10.00							
26	C:\CPMH\1\METHODS\Physis.m	Sample	2101	22077	QAQC Procedural Blank B1	22077.NA.B1.10/8/2013.E-5154	10.00							
27	C:\CPMH\1\METHODS\Physis.m	Sample	2101	22098	QAQC Procedural Blank B1	22098.NA.B1.10/8/2013.E-5155	10.00							
28	C:\CPMH\1\METHODS\Physis.m	Sample	2102	21957	B13-8233 Oceanside	21957.NA.R1.10/8/2013.E-5152	55.38							
29	C:\CPMH\1\METHODS\Physis.m	Sample	2103	21957/2	B13-8233 Oceanside Dup	21957.NA.R2.10/8/2013.E-5152	60.49							
30	C:\CPMH\1\METHODS\Physis.m	Sample	2104	21958	B13-8236 Oceanside	21958.NA.R1.10/8/2013.E-5152	43.03							
31	C:\CPMH\1\METHODS\Physis.m	Sample	2105	21959	B13-8238 Oceanside	21959.NA.R1.10/8/2013.E-5152	33.76							
32	C:\CPMH\1\METHODS\Physis.m	Sample	2106	21960	B13-8267 Dana Point	21960.NA.R1.10/8/2013.E-5152	51.29							
33	C:\CPMH\1\METHODS\Physis.m	Sample	2107	21961	B13-8265 Dana Point	21961.NA.R1.10/8/2013.E-5152	45.25							
34	C:\CPMH\1\METHODS\Physis.m	Sample	2108	21962	B13-8263 Dana Point	21962.NA.R1.10/8/2013.E-5152	32.44							
35	C:\CPMH\1\METHODS\Physis.m	Sample	2109	21963	B13-8263 Dana Point	21963.NA.R1.10/8/2013.E-5152	49.59							
36	C:\CPMH\1\METHODS\Physis.m	Sample	1	R11			1.000							
37	C:\CPMH\1\METHODS\Physis.m	Sample	2110	21959bs1	QAQC Procedural Blank BS1	21959.NA.BS1.10/8/2013.E-5152	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Div/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
38	C:\CPMH\1\METHODS (Physis.m)	Sample	2111	21956.ms2	QAQC Procedural Blank BS2	21956.NA.BS2,10/8/2013,E-5152	1.000							
39	C:\CPMH\1\METHODS (Physis.m)	Sample	2112	21957.ms	B13-8233 Oceanside MS	21957.NA.MS1,10/8/2013,E-5152	1.000							
40	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	21957.ms2	B13-8233 Oceanside MS2	21957.NA.MS2,10/8/2013,E-5152	1.000							
41	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R12			1.000							
42	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R13			1.000							
43	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R14			1.000							
44	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R15			1.000							
45	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R16			1.000							
46	C:\CPMH\1\METHODS (Physis.m)	Sample	2202	22038	B13-8145 Grab	22038.NA.R1,10/8/2013,E-5153	44.84							
47	C:\CPMH\1\METHODS (Physis.m)	Sample	2203	22038r2	B13-8145 Grab Dup	22038.NA.R2,10/8/2013,E-5153	41.60							
48	C:\CPMH\1\METHODS (Physis.m)	Sample	2204	22037	B13-8163 Grab	22037.NA.R1,10/8/2013,E-5153	58.07							
49	C:\CPMH\1\METHODS (Physis.m)	Sample	2205	22038	B13-8160 Grab	22038.NA.R1,10/8/2013,E-5153	74.53							
50	C:\CPMH\1\METHODS (Physis.m)	Sample	2206	22038	B13-8159 Grab	22038.NA.R1,10/8/2013,E-5153	85.83							
51	C:\CPMH\1\METHODS (Physis.m)	Sample	2207	22040	B13-8157 Grab	22040.NA.R1,10/8/2013,E-5153	49.47							
52	C:\CPMH\1\METHODS (Physis.m)	Sample	2208	22041	B13-8158 Grab	22041.NA.R1,10/8/2013,E-5153	85.28							
53	C:\CPMH\1\METHODS (Physis.m)	Sample	2209	22042	B13-8152 Grab	22042.NA.R1,10/8/2013,E-5153	27.87							
54	C:\CPMH\1\METHODS (Physis.m)	Sample	2210	22043	B13-8151 Grab	22043.NA.R1,10/8/2013,E-5153	67.82							
55	C:\CPMH\1\METHODS (Physis.m)	Sample	2211	22044	B13-8146 Grab	22044.NA.R1,10/8/2013,E-5153	43.59							
56	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R17			1.000							
57	C:\CPMH\1\METHODS (Physis.m)	Sample	2110	22035.bs1	QAQC Procedural Blank BS1	22035.NA.BS1,10/6/2013,E-5153	1.000							
58	C:\CPMH\1\METHODS (Physis.m)	Sample	2111	22035.bs2	QAQC Procedural Blank BS2	22035.NA.BS2,10/8/2013,E-5153	1.000							
59	C:\CPMH\1\METHODS (Physis.m)	Sample	2212	22036.ms	B13-8145 Grab MS	22036.NA.MS1,10/8/2013,E-5153	1.000							
60	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	22036.ms2	B13-8145 Grab MS2	22036.NA.MS2,10/8/2013,E-5153	1.000							
61	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R18			1.000							
62	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R19			1.000							
63	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R20			1.000							
64	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R21			1.000							
65	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R22			1.000							
66	C:\CPMH\1\METHODS (Physis.m)	Sample	2302	22078	B13-8085 Grab	22078.NA.R1,10/8/2013,E-5154	58.92							
67	C:\CPMH\1\METHODS (Physis.m)	Sample	2303	22078r2	B13-8085 Grab Dup	22078.NA.R2,10/8/2013,E-5154	48.22							
68	C:\CPMH\1\METHODS (Physis.m)	Sample	2304	22079	B13-8048 Grab	22079.NA.R1,10/8/2013,E-5154	59.89							
69	C:\CPMH\1\METHODS (Physis.m)	Sample	2305	22080	B13-8029 Grab	22080.NA.R1,10/8/2013,E-5154	40.58							
70	C:\CPMH\1\METHODS (Physis.m)	Sample	2306	22081	B13-8056 Grab	22081.NA.R1,10/8/2013,E-5154	55.43							
71	C:\CPMH\1\METHODS (Physis.m)	Sample	2307	22082	B13-8054 Grab	22082.NA.R1,10/8/2013,E-5154	81.78							
72	C:\CPMH\1\METHODS (Physis.m)	Sample	2308	22083	B13-8066 Grab	22083.NA.R1,10/8/2013,E-5154	58.79							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
73	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2309	22084	B13-8020 Grab	22084,NA,R1,10/8/2013,E-5154	94.83							
74	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2310	22085	B13-8050 Grab	22085,NA,R1,10/8/2013,E-5154	50.52							
75	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2311	22086	B13-8086 Grab	22086,NA,R1,10/8/2013,E-5154	52.71							
76	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2312	22087	B13-8017 Grab	22087,NA,R1,10/8/2013,E-5154	55.80							
77	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R23			1.000							
78	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2110	22077bs1	QAQC Procedural Blank BS1	22077,NA,BS1,10/8/2013,E-5154	1.000							
79	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2111	22077bs2	QAQC Procedural Blank BS2	22077,NA,BS2,10/8/2013,E-5154	1.000							
80	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2401	22078ms	B13-8085 Grab MS	22078,NA,MS1,10/8/2013,E-5154	1.000							
81	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2402	22078msd	B13-8085 Grab MSD	22078,NA,MS2,10/8/2013,E-5154	1.000							
82	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R24			1.000							
83	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R25			1.000							
84	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R26			1.000							
85	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R27			1.000							
86	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R28			1.000							
87	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2403	22100	B13-8077 Grab	22100,NA,R1,10/8/2013,E-5155	45.60							
88	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2404	22100r2	B13-8077 Grab Dup	22100,NA,R2,10/8/2013,E-5155	41.21							
89	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2405	22101	B13-8075 Grab	22101,NA,R1,10/8/2013,E-5155	50.23							
90	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2406	22102	B13-8075 Grab	22102,NA,R1,10/8/2013,E-5155	50.34							
91	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2407	22103	B13-8074 Grab	22103,NA,R1,10/8/2013,E-5155	57.11							
92	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R29			1.000							
93	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2110	22099bs1	QAQC Procedural Blank BS1	22099,NA,BS1,10/8/2013,E-5155	1.000							
94	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2111	22099bs2	QAQC Procedural Blank BS2	22099,NA,BS2,10/8/2013,E-5155	1.000							
95	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2408	22100ms	B13-8077 Grab MS	22100,NA,MS1,10/8/2013,E-5155	1.000							
96	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2409	22100msd	B13-8077 Grab MSD	22100,NA,MS2,10/8/2013,E-5155	1.000							
97	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R30			1.000							
98	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R31			1.000							
99	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1106	CCV			1.000							
100	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R32			1.000							
101	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R33			1.000							
102	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R34			1.000							
103		Keyword		StandBy										
104		Keyword		SAMPLE	End of SMPL									
105		Keyword		END	End of Sequence									
106		Keyword		BLKBEG	Start of BLANK									
107		Keyword		BLKEND	End of BLANK									
108		Keyword		ERRBEG	Start of ERRTERM									
109		Keyword		ERREND	End of ERRTERM									

PHYSIS
Elements -

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Initial Calibration Data

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method: EPA 245.7 Mercury
Calibration data 100413

Calib Level Standard Raw Counts

Std01Rep1	0	-98
Std01Rep2	0	-98
Std01Rep3	0	-101
Std02Rep1	1	-72
Std02Rep2	1	-60
Std02Rep3	1	-56
Std03Rep1	10	127
Std03Rep2	10	142
Std03Rep3	10	128
Std04Rep1	100	2213
Std04Rep2	100	2230
Std04Rep3	100	2210
Std05Rep1	1000	23365
Std05Rep2	1000	23386
Std05Rep3	1000	23711
Std06Rep1	10000	239584
Std06Rep2	10000	240381
Std06Rep3	10000	239474

Note: Above calibration data used for the following project:

1307002-002
1307002-004
1307002-006
1307002-008
1307002-010
1307002-012
1307002-014
1307002-016
1307002-018

Continuing Calibration Data / Instrument Run Log

ENVIRONMENTAL LABORATORIES, INC.

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Sequence# 100413 for PID: 1307002-002, 004

Sample ID	Date	Method
ICV	4-Oct-13	2457TST
Ck1Blank	4-Oct-13	2457TST
Blank	4-Oct-13	2457TST
BS1	4-Oct-13	2457TST
BS2	4-Oct-13	2457TST
Ck1Blank	4-Oct-13	2457TST
21957r1	4-Oct-13	2457TST
21957r2	4-Oct-13	2457TST
21957ms1	4-Oct-13	2457TST
21957ms2	4-Oct-13	2457TST
Ck1Blank	4-Oct-13	2457TST
21958	4-Oct-13	2457TST
21959	4-Oct-13	2457TST
21960	4-Oct-13	2457TST
21961	4-Oct-13	2457TST
21962	4-Oct-13	2457TST
21963	4-Oct-13	2457TST
21965CRM1	4-Oct-13	2457TST
21966CRM2	4-Oct-13	2457TST
CCV1	4-Oct-13	2457TST
Ck1Blank	4-Oct-13	2457TST
Blank	4-Oct-13	2457TST
BS1	4-Oct-13	2457TST
BS2	4-Oct-13	2457TST
Ck1Blank	4-Oct-13	2457TST
22036r1	4-Oct-13	2457TST
22036r2	4-Oct-13	2457TST
22036ms1	4-Oct-13	2457TST
22036ms2	4-Oct-13	2457TST
Ck1Blank	4-Oct-13	2457TST
22037	4-Oct-13	2457TST
22038	4-Oct-13	2457TST
22039	4-Oct-13	2457TST
22040	4-Oct-13	2457TST
22041	4-Oct-13	2457TST
22042	4-Oct-13	2457TST
22043	4-Oct-13	2457TST
22044	4-Oct-13	2457TST
22046CRM1	4-Oct-13	2457TST
22047CRM2	4-Oct-13	2457TST
Ck1Blank	4-Oct-13	2457TST

CCV2	4-Oct-13	2457TST
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QAQC	Date	Method	True Value	Result (ppt)
ICV	4-Oct-13	2457TST	1000	954
CCV1	4-Oct-13	2457TST	1000	936
CCV2	4-Oct-13	2457TST	1000	913



PHYSIS

Extraction/Preparation Log

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

24

1307002-002 / 004

OCTOBER 15, 2013

Z HONG, A HOANG

EXTRACTION OF AMEC PHMP SEDIMENTS FOR FIBRONS, OCPs, PCBs, ARACLOBS, PBDEs, PAHs, PYRETHROIDS, TOXAPHENE. SAMPLES WERE RUN FOR PYR/PBDE/FIP AND THEN COLUMN CLEANED WITH SILICA/ALUMINA ADSORBENTS.

METHOD: EPA 8270 C

BSLO	SAMPLE DESCRIPTION	SAMPLE WT (g)	COMMENTS	%W	MULTIPLIER
B1 (21956)	BLANK	—	A	—	1.0
BS1	BLANK SPIKE	—	A, B	—	1.0
BS2	BLANK SPIKE DUP	—	A, B	—	1.0
21958 MS1	8236	15.0986	A, B	0.4920 0.4401 0.4938 0.4481	0.1346
21958 MS2	8236	15.3660	A, B	—	0.1323
21964 CRM	CRM - 1944	1.3235	A, C	—	0.7556
21957	8233	15.5027	A	0.4401	0.1466
21958	8236	15.2079	A	0.4920	0.1337
21958 R2	8236	15.3424	A	0.4920	0.1325
21959	8239	15.6365	A	0.5155	0.1241
21960	8267	15.0351	A	0.4090	0.1571
21961	8265	15.5607	A	0.5560	0.1156
21962	8263	15.7787	A	0.6124	0.1035
21963	8259	15.1659	A	0.4672	0.1411
22037	8163	15.5142		0.4559	0.1414
22038	8160	15.6512	A	0.3465	0.1844
22039	8159	15.6509	A	0.3090	0.2068
22040	8157	15.2045	A	0.4735	0.1380
22041	8156	15.0973	A	0.4119	0.1608
22042	8152	15.9991	A	0.7608	0.0822
22043	PH 8151	15.4229	A	0.3185	0.2036
22044	8146	15.1469	A	0.5302 0.5774	0.1143
22036	8145	14.9883		0.5774	0.1156

- a) 100µL CHC RS (1000µg, p 274)

100µL PAH RS (1000µg, p 244)

100µL PBDE RS (50µg, p 261)

100µL CR

100µL PA
- b) 1.0ML FIBRONS MIX (1000µg, p 270)

1.0ML OCP MIX (1000µg, p 241)

100µL DDMU (1000µg, p 223)

2µL PCB MIX (200µg, p 255)

2µL PCB + G MIX (200µg, p 259)

2µL PBDE MIX (+CHC) (100µg, p 262, p 263)

0.1ML CUSTOM PAH (1000µg, p 256)

1.0ML PYRETHROIDS (1000µg, p 260)

1.0ML TOXAPHENE (1000µg, p 253)
- c) LOST ~ 5% copper added in 50mL para flask before final rotovap + vialing

Organics - GC-MS

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Innovative Analytical Solutions
(EPA 8270C)

PHYSIS

Instrument Run Log

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2013 Nov 02 1709 Sequence Log .LOG
 Starting sequence Sat Nov 02 17:09:01 2013

Instrument Name: GCMS1
 Sequence File: C:\msdchem\1\sequence\131102 EI.S
 Comment:
 Operator:
 Data Path: C:\MSDCHEM\1\DATA\131102 EI\
 Method Path: C:\MSDCHEM\1\METHODS\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX		
	Datafile		HEX		
	Method		EI_HEXANE		
2)	Sample	142	TUNE	EI_SCAN5	TUNE
3)	Sample	131	OCP_DDMU1000I CV		
	Datafile		OCP_DDMU1000I CV		
	Method		EI_SCAN5		
4)	Sample	132	PAH1000I CV		
	Datafile		PAH1000I CV		
	Method		EI_SCAN5		
5)	Sample	133	PCB+6_1000I CV		
	Datafile		PCB+6_1000I CV		
	Method		EI_SCAN5		
6)	Sample	134	SPEX1000MI X		
	Datafile		SPEX1000MI X		
	Method		EI_SCAN5		
7)	Sample	141	HEX2		
	Datafile		HEX2		
	Method		EI_HEXANE		
8)	Sample	1	B_5024	EI_SCAN5	B_5024
9)	Sample	2	BS1_5024	EI_SCAN5	BS1_5024
10)	Sample	3	BS2_5024	EI_SCAN5	BS2_5024
11)	Sample	4	21958MS1	EI_SCAN5	21958MS1
12)	Sample	5	21958MS2	EI_SCAN5	21958MS2
13)	Sample	141	HEX3		
	Datafile		HEX3		
	Method		EI_HEXANE		
14)	Sample	31	22623	EI_SCAN5	22623
15)	Sample	6	21964	EI_SCAN5	21964
16)	Sample	7	21957	EI_SCAN5	21957
17)	Sample	8	21958	EI_SCAN5	21958
18)	Sample	9	21958R2	EI_SCAN5	21958R2
19)	Sample	10	21959	EI_SCAN5	21959
20)	Sample	11	21960	EI_SCAN5	21960
21)	Sample	12	21961	EI_SCAN5	21961
22)	Sample	13	21962	EI_SCAN5	21962
23)	Sample	14	21963	EI_SCAN5	21963
24)	Sample	131	OCP_DDMU1000CCV		
	Datafile		OCP_DDMU1000CCV		
	Method		EI_SCAN5		
25)	Sample	132	PAH1000CCV		
	Datafile		PAH1000CCV		
	Method		EI_SCAN5		
26)	Sample	133	PCB+6_1000CCV		
	Datafile		PCB+6_1000CCV		
	Method		EI_SCAN5		
27)	Sample	141	HEX4		
	Datafile		HEX4		
	Method		EI_HEXANE		
28)	Sample	15	22036	EI_SCAN5	22036
29)	Sample	16	22037	EI_SCAN5	22037
30)	Sample	17	22038	EI_SCAN5	22038

2013 Nov 02 1709 Sequence Log . LOG

31)	Sample	18	22039	EI_SCAN5	22039
32)	Sample	19	22040	EI_SCAN5	22040
33)	Sample	20	22041	EI_SCAN5	22041
34)	Sample	21	22042	EI_SCAN5	22042
35)	Sample	22	22043	EI_SCAN5	22043
36)	Sample	23	22044	EI_SCAN5	22044
37)	Sample	131	OCP_DDMU1000FCV		
	Datafile		OCP_DDMU1000FCV		
	Method		EI_SCAN5		
38)	Sample	132	PAH1000FCV		
	Datafile		PAH1000FCV		
	Method		EI_SCAN5		
39)	Sample	133	PCB+6_1000FCV		
	Datafile		PCB+6_1000FCV		
	Method		EI_SCAN5		
40)	Sample	121	TEMEPHOS1000		
	Datafile		TEMEPHOS1000		
	Method		EI_SCAN5		

Sequence completed Tue Nov 05 08:21:04 2013

C:\MSDCHEM\1\DATA\131102 EI\2013 Nov 02 1709 Quality Log. LOG

C:\MSDCHEM\1\DATA\131102 EI\2013 Nov 02 1709 Sequence Log . LOG

PHYSIS

Instrument Tune Report

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Chlorinated Pesticides

TERRA ENVIRONMENTAL SERVICES, INC.

Innovative Solutions for Nature

PHYSIS

Summary of Internal Standards

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	4,4'-Dibromobiphenyl		2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time	Response	Retention Time
PCB+6_500ICV	1867274	44.2	371506	55.378
B_5024	5815048	44.211	1116601	55.384
BS1_5024	3312735	44.221	607745	55.382
BS2_5024	4126653	44.21	798041	55.38
21958MS1	6990225	44.244	1230961	55.394
21958MS2	3268862	44.241	625411	55.385
21964	6165848	44.341	1044777	55.497
21957	5543510	44.252	959764	55.396
21958	5885493	44.249	983177	55.397
21958R2	3767220	44.24	693885	55.393
21959	5485830	44.261	928570	55.402
21960	5315681	44.296	921227	55.411
21961	5468752	44.258	968780	55.399
21962	4608877	44.251	793877	55.399
21963	5034240	44.243	935706	55.4
PCB+6_1000CCV	2285137	44.21	419808	55.392
22036	4149573	44.248	742990	55.4
22037	3669031	44.22	691020	55.397
22038	5460658	44.235	1042497	55.394
22039	4016753	44.247	724971	55.394
22040	3639980	44.236	682093	55.39
22041	3378929	44.244	640778	55.391
22042	4475786	44.251	809730	55.396
22043	5771567	44.253	1086373	55.402
22044	4326463	44.236	824752	55.4
PCB+6_1000FCV	2747068	44.209	512356	55.382

PHYSIS

Initial Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\METHODS\
 Method File : Q_OCP130821.M
 Title : FIPRONIL
 Last Update : Thu Nov 07 15:37:36 2013
 Response Via : Initial Calibration

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Calibration Files

1000=OCP_DDMU1000ICV.D 500 =OCP500.D 250 =OCP250.D 100 =OCP100.D 50 =OCP50.D

Compound		1000	500	250	100	50	Avg	%RSD

1) I	4,4'-Dibromobiphenyl	-----ISTD-----						
2) S	(TCMX)	0.485	0.504	0.487	0.519	0.505	0.500	2.79
3) S	(PCB030)	1.254	1.260	1.220	1.268	1.186	1.237	2.77
4)	BHC-alpha	0.445	0.459	0.408	0.387	0.552	0.450	14.11
5)	Hexachlorobenzene	1.017	0.993	0.925	0.949	1.034	0.984	4.67
6)	BHC-beta	0.355	0.301	0.207	0.249	0.328	0.288	20.84
7)	BHC-gamma	0.340	0.335	0.297	0.389	0.326	0.338	9.91
8)	BHC-delta	0.322	0.289	0.277	0.256	0.300	0.289	8.66
9)	Heptachlor	0.352	0.466	0.406	0.377	0.390	0.398	10.78
10)	Aldrin	0.306	0.360	0.329	0.328	0.335	0.332	5.91
11)	DCPA (Dacthal)	0.872	0.839		0.814	0.870	0.849	3.25
12)	Heptachlor epoxide	0.321	0.402	0.362	0.367	0.356	0.362	8.07
13)	Oxychlordane	0.301	0.341	0.309	0.335	0.425	0.342	14.40

14) I	2,2',5,5'-Tetrabro...	-----ISTD-----						
15) S	(PCB112)	2.147	4.685	4.994	4.726	5.235	4.357	28.81
16) S	(PCB198)	1.424	1.510	1.621	1.525	1.643	1.545	5.77
17)	Chlordane-gamma	2.419	2.888	2.814	2.566	2.825	2.702	7.41
18)	2,4'-DDE	6.007	6.083	5.836	5.343	6.700	5.994	8.15
19)	Endosulfan-I	0.587	0.624	0.635	0.670	0.835	0.670	14.43
20)	Chlordane-alpha	2.205	2.608	2.474	2.231	2.652	2.434	8.54
21)	trans-Nonachlor	2.610	3.012	2.848	2.425	2.973	2.774	9.02
22)	4,4'-DDE	4.118	4.190	4.140	3.950	4.789	4.237	7.58
23)	Dieldrin	0.724	0.798	0.747	0.799	0.921	0.798	9.54
24)	2,4'-DDD	6.681	6.967	6.832	6.318	8.356	7.031	11.09
25)	Perthane	1.332	1.322	1.284	1.158	1.385	1.296	E1 6.58
26)	Endrin	0.719	0.885	0.883	0.839	1.066	0.878	14.23
27)	Endosulfan-II	0.460	0.440	0.488	0.554	0.823	0.553	28.39
28)	4,4'-DDD	6.687	6.631	6.888	5.921	7.561	6.737	8.72
29)	2,4'-DDT	5.680	5.394	5.534	4.228	5.966	5.360	12.45
30)	cis-Nonachlor	2.308	2.397	2.347	1.987	2.592	2.326	9.41
31)	Endrin aldehyde	0.600	0.681	0.671	0.573	0.697	0.644	8.43
32)	Endosulfan sulfate	1.213	1.311	1.223	1.128	1.415	1.258	8.67
33)	4,4'-DDT	5.283	4.724	4.372	3.342	4.026	4.350	16.79
34)	Endrin ketone	0.926	1.009	0.955	0.897	1.105	0.978	8.37
35)	Methoxychlor	9.784	8.871	8.202	6.528	7.682	8.213	14.94
36)	Dicofol	2.317	0.525		0.567	0.600	1.002	87.51
37)	Mirex	3.613	4.382	4.107	3.734	4.638	4.095	10.50

(#) = Out of Range

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Continuing Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : SPEX1000MIX.D
 Acq On : 3 Nov 2013 12:30 am
 Operator :
 Sample : SPEX1000MIX
 Misc :
 ALS Vial : 134 Sample Multiplier: 1

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Quant Time: Nov 07 15:50:15 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP130821.M
 Quant Title : FIPRONIL
 QLast Update : Thu Nov 07 15:37:36 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	44.200	312	956351	1000.00		0.00
14) 2,2',5,5'-Tetrabromobi...	55.383	391	176834	1000.00		0.01
System Monitoring Compounds						
2) (TCMX)	29.542	244	201891	422.18		0.00
Spiked Amount 400.000			Recovery	=	105.55%	
3) (PCB030)	34.782	256	531285	448.94		0.00
Spiked Amount 400.000			Recovery	=	112.24%	
15) (PCB112)	49.509	326	336207	436.33		0.00
Spiked Amount 400.000			Recovery	=	109.08%	
16) (PCB198)	63.714	358	105851	387.51		0.00
Spiked Amount 400.000			Recovery	=	96.88%	
Target Compounds						Qvalue
4) BHC-alpha	32.586	219	416358	977.35		98
5) Hexachlorobenzene	33.213	284	1017930	1056.17		99
6) BHC-beta	34.561	219	291072	903.04		98
7) BHC-gamma	35.072	219	322365	998.34		98
8) BHC-delta	36.820	219	293964	980.99		97
9) Heptachlor	40.574	272	289820	805.36		97
10) Aldrin	43.175	263	277139	913.27	#	76
11) DCPA (Dacthal)	44.072	301	859312	1039.09		98
12) Heptachlor epoxide	46.147	353	282125	871.39		98
13) Oxychlorane	46.244	115	289761	979.88		95
17) Chlordane-gamma	47.898	373	422977	946.07		99
18) 2,4'-DDE	48.289	246	1092361	1027.97		99
19) Endosulfan-I	48.793	241	90777	859.28		90
20) Chlordane-alpha	49.027	373	400473	986.76		96
21) trans-Nonachlor	49.414	409	439929	922.54		99
22) 4,4'-DDE	50.596	246	769523	1053.02		93
23) Dieldrin	50.698	263	124325m	950.57		
24) 2,4'-DDD	51.195	235	1146052	961.22		100
25) Perthane	52.410	223	2191654	934.40		99
26) Endrin	52.260	263	50001m	372.37		
27) Endosulfan-II	52.910	241	74686m	920.67		
28) 4,4'-DDD	53.585	235	1067250	903.28		97
29) 2,4'-DDT	53.855	235	957946	965.85		99
30) cis-Nonachlor	53.914	409	391269	951.68	#	92
31) Endrin aldehyde	54.261	345	138722	1268.48	#	75
32) Endosulfan sulfate	55.964	272	197437	906.33		97
33) 4,4'-DDT	56.265	235	806637	891.30		95
34) Endrin ketone	59.237	317	203559	1220.95	#	85
35) Methoxychlor	60.332	227	1410970	839.13	#	67
36) Dicofol	60.369	139	329864	959.02		95
37) Mirex	63.214	272	634115	947.63		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000ICV.D
 Acq On : 2 Nov 2013 7:22 pm
 Operator :
 Sample : OCP_DDMU1000ICV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 07 15:49:12 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP130821.M
 Quant Title : FIPRONIL
 QLast Update : Thu Nov 07 15:37:36 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	44.196	312	1510570	1000.00		0.00
14) 2,2',5,5'-Tetrabromobi...	55.371	391	298085	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)	29.542	244	293301	388.30		0.00
Spiked Amount	400.000		Recovery	=	97.08%	
3) (PCB030)	34.781	256	757529	405.26		0.00
Spiked Amount	400.000		Recovery	=	101.32%	
15) (PCB112)	49.499	326	531727	409.37		-0.01
Spiked Amount	400.000		Recovery	=	102.34%	
16) (PCB198)	63.711	358	170023	369.25		0.00
Spiked Amount	400.000		Recovery	=	92.31%	
Target Compounds						Qvalue
4) BHC-alpha	32.584	219	671766	998.34		100
5) Hexachlorobenzene	33.213	284	1536499	1009.31		100
6) BHC-beta	34.558	219	536536	1053.86		100
7) BHC-gamma	35.077	219	514263	1008.31		100
8) BHC-delta	36.819	219	487043	1029.00		100
9) Heptachlor	40.582	272	531576	935.20		100
10) Aldrin	43.179	263	461732	963.32		100
11) DCPA (Dacthal)	44.069	301	1316604	1007.94		100
12) Heptachlor epoxide	46.148	353	482921	944.33		97
13) Oxychlorane	46.245	115	454479	973.03		100
17) Chlordane-gamma	47.901	373	722113	958.16		100
18) 2,4'-DDE	48.286	246	1792686	1000.79		100
19) Endosulfan-I	48.809	241	176346	990.26		99
20) Chlordane-alpha	49.029	373	658229	962.15		100
21) trans-Nonachlor	49.402	409	779106	969.23		100
22) 4,4'-DDE	50.591	246	1229031	997.71		100
23) Dieldrin	50.697	263	215954	979.52		100
24) 2,4'-DDD	51.193	235	1993971	992.12		100
25) Perthane	52.411	223	3974089	1005.13		100
26) Endrin	52.270	263	214464	947.51		100
27) Endosulfan-II	52.919	241	137192	1003.28		100
28) 4,4'-DDD	53.587	235	1995899	1002.12		100
29) 2,4'-DDT	53.852	235	1695267	1013.99		100
30) cis-Nonachlor	53.912	409	688938	994.08	#	100
31) Endrin aldehyde	54.266	345	179019	971.09	#	74
32) Endosulfan sulfate	55.969	272	362098	986.07		100
33) 4,4'-DDT	56.265	235	1576848	1033.62		97
34) Endrin ketone	59.229	317	262167	932.85	#	97
35) Methoxychlor	60.333	227	2920594	1030.41		99
36) Dicofol	60.373	139	656857	1132.89		97
37) Mirex	63.216	272	1078250	955.91		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000ICV.D
 Acq On : 2 Nov 2013 7:22 pm
 Operator :
 Sample : OCP_DDMU1000ICV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 11 10:56:06 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP_DDMU_130911.M
 Quant Title : CHCs
 QLast Update : Wed Oct 02 14:49:23 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	55.371	391	298459	1000.00		-0.13
System Monitoring Compounds						
2) (PCB112)	49.499	326	531727	368.50		-0.02
Spiked Amount 400.000			Recovery	=	92.13%	
3) (PCB198)	63.709	358	169520m	392.64		-0.27
Spiked Amount 400.000			Recovery	=	98.16%	
Target Compounds						
4) 4,4'-DDMU	47.951	212	2429640	1087.96		Qvalue 93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000CCV.D
 Acq On : 4 Nov 2013 4:39 am
 Operator :
 Sample : OCP_DDMU1000CCV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 07 15:47:40 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP130821.M
 Quant Title : FIPRONIL
 QLast Update : Thu Nov 07 15:37:36 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	44.214	312	2163300	1000.00		0.02
14) 2,2',5,5'-Tetrabromobi...	55.393	391	387834	1000.00		0.02
System Monitoring Compounds						
2) (TCMX)	29.542	244	403300	372.83		0.00
Spiked Amount	400.000		Recovery	=	93.21%	
3) (PCB030)	34.786	256	1060733	396.25		0.00
Spiked Amount	400.000		Recovery	=	99.06%	
15) (PCB112)	49.518	326	742039m	439.09		0.00
Spiked Amount	400.000		Recovery	=	109.77%	
16) (PCB198)	63.721	358	232976	388.88		0.00
Spiked Amount	400.000		Recovery	=	97.22%	
Target Compounds						Qvalue
4) BHC-alpha	32.592	219	910343	944.69		99
5) Hexachlorobenzene	33.221	284	2150439	986.38		100
6) BHC-beta	34.580	219	745828	1022.93		98
7) BHC-gamma	35.082	219	725923	993.86		100
8) BHC-delta	36.839	219	718620	1060.16		96
9) Heptachlor	40.585	272	521816	641.03		99
10) Aldrin	43.181	263	607951	885.67		97
11) DCPA (Dacthal)	44.076	301	1905558	1018.65		99
12) Heptachlor epoxide	46.160	353	662251	904.26		97
13) Oxychlordane	46.243	115	650458	972.42		97
17) Chlordane-gamma	47.908	373	993199	1012.89		100
18) 2,4'-DDE	48.298	246	2567571	1101.68		98
19) Endosulfan-I	48.804	241	244064	1053.38		96
20) Chlordane-alpha	49.036	373	907754	1019.83		100
21) trans-Nonachlor	49.420	409	1038199	992.67		98
22) 4,4'-DDE	50.605	246	1790288	1117.01		99
23) Dieldrin	50.719	263	292026	1018.04		97
24) 2,4'-DDD	51.204	235	2802295	1071.65		98
25) Perthane	52.419	223	5462656	1061.90		99
26) Endrin	52.275	263	252059	855.91	#	71
27) Endosulfan-II	52.914	241	182598	1026.32	#	84
28) 4,4'-DDD	53.599	235	2829166	1091.78		100
29) 2,4'-DDT	53.861	235	2002585	920.62		99
30) cis-Nonachlor	53.924	409	932002	1033.60	#	99
31) Endrin aldehyde	54.277	345	240113	1001.09	#	74
32) Endosulfan sulfate	55.984	272	512224	1072.10	#	69
33) 4,4'-DDT	56.283	235	1626857	819.62		96
34) Endrin ketone	59.248	317	356915	976.09	#	95
35) Methoxychlor	60.346	227	2917405	791.10		99
36) Dicofol	60.380	139	369768	490.16	#	85
37) Mirex	63.219	272	1410470	961.07		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000CCV.D
 Acq On : 4 Nov 2013 4:39 am
 Operator :
 Sample : OCP_DDMU1000CCV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 11 10:55:10 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP_DDMU_130911.M
 Quant Title : CHCs
 QLast Update : Wed Oct 02 14:49:23 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	55.393	391	387205	1000.00		-0.10
System Monitoring Compounds						
2) (PCB112)	49.520	326	777809	415.49		0.00
Spiked Amount 400.000			Recovery	=	103.87%	
3) (PCB198)	63.721	358	232980	415.95		-0.26
Spiked Amount 400.000			Recovery	=	103.99%	
Target Compounds						
4) 4,4'-DDMU	47.955	212	3469732	1197.60		Qvalue 93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000FCV.D
 Acq On : 5 Nov 2013 1:39 am
 Operator :
 Sample : OCP_DDMU1000FCV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 07 15:48:43 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP130821.M
 Quant Title : FIPRONIL
 QLast Update : Thu Nov 07 15:37:36 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	44.213	312	2412817	1000.00		0.02
14) 2,2',5,5'-Tetrabromobi...	55.390	391	455435	1000.00		0.02
System Monitoring Compounds						
2) (TCMX)	29.547	244	460989	382.09		0.00
Spiked Amount	400.000		Recovery	=	95.52%	
3) (PCB030)	34.789	256	1153383	386.30		0.00
Spiked Amount	400.000		Recovery	=	96.58%	
15) (PCB112)	49.514	326	874409	440.62		0.00
Spiked Amount	400.000		Recovery	=	110.16%	
16) (PCB198)	63.715	358	255929	363.79		0.00
Spiked Amount	400.000		Recovery	=	90.95%	
Target Compounds						Qvalue
4) BHC-alpha	32.588	219	1058579	984.91		94
5) Hexachlorobenzene	33.222	284	2421512	995.85		99
6) BHC-beta	34.583	219	801813	985.99		98
7) BHC-gamma	35.087	219	801784	984.20		99
8) BHC-delta	36.838	219	752068	994.77		97
9) Heptachlor	40.585	272	560398	617.24		98
10) Aldrin	43.175	263	708708	925.69		95
11) DCPA (Dacthal)	44.075	301	2119188	1015.70		99
12) Heptachlor epoxide	46.156	353	818337	1001.83		93
13) Oxychlordane	46.250	115	701576	940.38		97
17) Chlordane-gamma	47.902	373	1096421	952.19		99
18) 2,4'-DDE	48.296	246	2811363	1027.23		99
19) Endosulfan-I	48.805	241	261342	960.53		96
20) Chlordane-alpha	49.037	373	1011513	967.72		99
21) trans-Nonachlor	49.411	409	1156411	941.58		99
22) 4,4'-DDE	50.601	246	1976558	1050.18		99
23) Dieldrin	50.715	263	315629	937.00		92
24) 2,4'-DDD	51.205	235	3084899	1004.62		99
25) Perthane	52.419	223	6013267	995.43		99
26) Endrin	52.282	263	273681	791.39	#	75
27) Endosulfan-II	52.922	241	199884	956.72		91
28) 4,4'-DDD	53.598	235	3118991	1024.97		98
29) 2,4'-DDT	53.860	235	2325662	910.45		98
30) cis-Nonachlor	53.923	409	1054133	995.52	#	98
31) Endrin aldehyde	54.276	345	279591	992.66	#	76
32) Endosulfan sulfate	55.978	272	539605	961.77		99
33) 4,4'-DDT	56.277	235	1961503	841.54		98
34) Endrin ketone	59.252	317	402476	937.32	#	93
35) Methoxychlor	60.342	227	3487898	805.41	#	94
36) Dicofol	60.382	139	385068	434.68	#	82
37) Mirex	63.218	272	1571037	911.59		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000FCV.D
 Acq On : 5 Nov 2013 1:39 am
 Operator :
 Sample : OCP_DDMU1000FCV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 11 10:55:22 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP_DDMU_130911.M
 Quant Title : CHCs
 QLast Update : Wed Oct 02 14:49:23 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	55.390	391	454721	1000.00		-0.11
System Monitoring Compounds						
2) (PCB112)	49.514	326	874409	397.74		0.00
Spiked Amount	400.000		Recovery	=	99.44%	
3) (PCB198)	63.715	358	255124	387.85		-0.27
Spiked Amount	400.000		Recovery	=	96.96%	
Target Compounds						
4) 4,4'-DDMU	47.960	212	3817948	1122.12		Qvalue 94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	OCP1000 ICV			OCP1000 CCV			OCP1000 FCV		
	11/2/13 7:22 PM			11/4/13 4:39 AM			11/5/13 1:39 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
BHC-alpha	1000	998	0	1000	945	6	1000	985	2
Hexachlorobenzene	1000	1009	1	1000	986	1	1000	996	0
BHC-beta	1000	1054	5	1000	1023	2	1000	986	1
BHC-gamma	1000	1008	1	1000	994	1	1000	984	2
BHC-delta	1000	1029	3	1000	1060	6	1000	995	1
Heptachlor	1000	935	6	1000	641	36	1000	617	38
Aldrin	1000	963	4	1000	886	11	1000	926	7
DCPA (Dacthal)	1000	1008	1	1000	1019	2	1000	1016	2
Heptachlor epoxide	1000	944	6	1000	904	10	1000	1002	0
Oxychlordane	1000	973	3	1000	972	3	1000	940	6
Chlordane-gamma	1000	958	4	1000	1013	1	1000	952	5
2,4'-DDE	1000	1001	0	1000	1102	10	1000	1027	3
Endosulfan-I	1000	990	1	1000	1053	5	1000	961	4
Chlordane-alpha	1000	962	4	1000	1020	2	1000	968	3
trans-Nonachlor	1000	969	3	1000	993	1	1000	942	6
4,4'-DDE	1000	998	0	1000	1117	12	1000	1050	5
Dieldrin	1000	980	2	1000	1018	2	1000	937	6
2,4'-DDD	1000	992	1	1000	1072	7	1000	1005	0
Perthane	1000	1005	1	1000	1062	6	1000	995	0
Endrin	1000	948	5	1000	856	14	1000	791	21
Endosulfan-II	1000	1003	0	1000	1026	3	1000	957	4
4,4'-DDD	1000	1002	0	1000	1092	9	1000	1025	2
2,4'-DDT	1000	1014	1	1000	921	8	1000	910	9
cis-Nonachlor	1000	994	1	1000	1034	3	1000	996	0
Endrin aldehyde	1000	971	3	1000	1001	0	1000	993	1
Endosulfan sulfate	1000	986	1	1000	1072	7	1000	962	4
4,4'-DDT	1000	1034	3	1000	820	18	1000	842	16
Endrin ketone	1000	933	7	1000	976	2	1000	937	6
Methoxychlor	1000	1030	3	1000	791	21	1000	805	19
Dicofol	1000	1133	13	1000	490	51	1000	435	57
Mirex	1000	956	4	1000	961	4	1000	912	9
4,4'-DDMU	1000	1088	9	1000	1198	20	1000	1122	12
Average	-	-	3	-	-	9	-	-	8

PHYSIS

PCB Congeners

TERRA

FAUNA

FLORA

AQUA

AURA

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PHYSIS

Initial Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\METHODS\
 Method File : Q_PCB+6_130910.M
 Title : PCBs (Richs Version)
 Last Update : Tue Sep 10 11:06:40 2013
 Response Via : Initial Calibration

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Calibration Files

10 =PCB+6_10.D 25 =PCB+6_25.D 50 =PCB+6_50.D 75 =PCB+6_75.D 100 =PCB+6_100.D
 200 =PCB+6_200.D

Compound	10	25	50	75	100	200	Avg	%RSD

1) I 4,4'-Dibromobiphenyl	-----ISTD-----							
2) PCB003	2.398	2.074	1.853	2.265	2.136	2.485	2.202	10.45
3) PCB008	1.812	1.421	1.586	1.689	1.738	2.148	1.732	14.13
4) PCB005	2.043	1.733	1.423	1.693	1.465	1.530	1.648	13.92
5) PCB018	0.996	0.874	0.882	0.912	0.872	1.015	0.925	6.93
6) PCB015	1.755	1.410	1.357	1.451	1.422	1.482	1.479	9.56
7) PCB027	0.963	0.800	0.756	0.789	0.756	0.841	0.817	9.52
8) PCB029	1.189	0.950	0.964	1.059	0.969	1.081	1.035	8.96
9) I PCB031	1.157	1.150	1.174	1.160	1.253	1.259	1.192	4.21
10) PCB028	1.376	1.188	1.135	1.233	1.175	1.413	1.253	9.13
11) PCB033	1.223	1.088	1.084	1.183	1.150	1.281	1.168	6.61
12) PCB052	0.822	0.741	0.796	0.838	0.826	0.913	0.823	6.84
13) PCB049	0.887	0.750	0.816	0.828	0.863	0.963	0.851	8.46
14) PCB044	0.691	0.652	0.638	0.700	0.707	0.785	0.695	7.44
15) PCB037	1.006	0.898	1.021	1.044	1.071	1.163	1.034	8.39
16) PCB074	1.056	0.902	0.997	1.068	1.037	1.103	1.027	6.88
17) PCB070	1.062	0.926	1.056	1.022	1.065	1.150	1.047	6.97
18) PCB066	1.084	0.866	1.054	1.093	1.114	1.212	1.070	10.64
19) PCB095	0.810	0.792	0.832	0.813	0.824	0.911	0.831	5.04
20) PCB056(060)	0.907	0.767	0.922	0.865	0.881	0.998	0.890	8.52
21) PCB101	0.741	0.678	0.674	0.746	0.714	0.797	0.725	6.42
22) PCB099	0.800	0.730	0.752	0.795	0.772	0.849	0.783	5.32
23) PCB119	0.968	0.873	0.907	0.949	0.973	1.001	0.945	5.00
24) PCB097	0.677	0.552	0.639	0.698	0.663	0.741	0.662	9.64
25) PCB087	0.706	0.631	0.660	0.760	0.716	0.790	0.710	8.34
26) PCB081	1.060	0.923	0.969	0.992	1.051	1.139	1.022	7.53
27) PCB110	1.013	0.818	0.910	1.018	0.974	1.028	0.960	8.56
28) PCB077	0.987	0.728	0.945	0.969	0.938	1.087	0.942	12.52
29) PCB151	0.695	0.570	0.612	0.645	0.647	0.703	0.645	7.79
30) PCB149	0.778	0.625	0.718	0.733	0.753	0.796	0.734	8.24
31) PCB123	0.914	0.720	0.895	0.907	0.857	0.962	0.876	9.52
32) PCB118	1.022	0.819	1.001	0.953	0.950	1.032	0.963	8.15
33) PCB114	0.877	0.715	0.820	0.821	0.833	0.943	0.835	9.00
34) I 2,2',5,5'-Tetrabro...	-----ISTD-----							
35) PCB153	3.157	3.403	3.120	3.271	3.247	3.981	3.363	9.46
36) PCB168+132	3.345	3.517	3.520	3.388	3.607	4.116	3.582	7.78
37) PCB105	4.690	4.335	4.739	4.752	4.946	5.837	4.883	10.40
38) PCB141	2.911	3.205	2.695	2.940	3.142	3.529	3.070	9.40
39) PCB137	2.437	1.912	1.824	1.920	2.100	2.389	2.097	12.45
40) PCB138	2.998	3.008	2.983	3.057	3.075	3.616	3.123	7.82
41) PCB158	4.036	3.996	4.138	4.047	4.259	4.984	4.243	8.83
42) PCB126	3.640	3.080	3.586	3.545	3.780	4.415	3.674	11.79
43) PCB187	2.581	2.601	2.489	2.525	2.638	3.056	2.648	7.81
44) PCB183	2.571	2.749	2.800	2.783	2.721	3.239	2.811	8.01
45) PCB128	2.183	2.496	2.973	2.561	2.699	3.117	2.672	12.66
46) PCB167	3.971	3.592	3.691	3.786	4.506	4.567	4.019	10.46
47) PCB174	2.040	2.213	2.078	2.216	2.277	2.512	2.223	7.55
48) PCB177	2.173	2.378	2.241	2.421	2.439	2.773	2.404	8.69
49) PCB156	3.644	3.185	3.417	3.423	3.722	4.314	3.618	10.80
50) PCB199(200)	3.213	3.521	3.351	3.352	3.573	4.011	3.503	8.01
51) PCB157	4.909	4.398	5.033	5.140	5.303	6.039	5.137	10.49
52) PCB180	2.355	2.106	2.397	2.327	2.469	2.699	2.392	8.09
53) PCB169	2.956	2.420	2.783	2.922	2.901	3.688	2.945	14.05
54) PCB170	2.056	1.916	2.127	2.205	2.275	2.606	2.197	10.72
55) PCB201	1.856	1.572	1.832	1.684	2.012	2.107	1.844	10.77
56) PCB203	2.171	1.872	1.795	2.013	2.025	2.074	1.992	6.87
57) PCB189	2.923	2.393	2.725	2.604	2.791	3.235	2.779	10.32
58) PCB195	1.742	1.760	1.866	1.707	1.973	1.992	1.840	6.68
59) PCB194	1.944	1.747	1.909	1.846	2.157	2.311	1.986	10.54
60) PCB206	1.704	1.726	1.866	1.694	1.896	1.982	1.811	6.62

Method Path : C:\msdchem\1\METHODS\

Method File : Q_PCB+6_130910.M

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Title : PCBs (Richs Version)

61)	PCB209	2.354	2.146	2.224	2.336	2.400	2.700	2.360	8.09
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(#) = Out of Range

PHYSIS

Continuing Calibration Data

TERRA

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ENVIRONMENTAL LABORATORIES, INC.

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Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : PCB+6_1000ICV.D
 Acq On : 2 Nov 2013 10:47 pm
 Operator :
 Sample : PCB+6_1000ICV
 Misc :
 ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 18:57:57 2013

Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M

Quant Title : PCBs (Richs Version)

QLast Update : Wed Nov 06 18:55:11 2013

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	44.200	312	1867274	1000.00		0.00
34) 2,2',5,5'-Tetrabromobi...	55.378	389	371506	1000.00		0.00
Target Compounds						
					Qvalue	
2) PCB003	27.801	188	2396075	540.67		99
3) PCB008	32.570	222	1863536	498.36	#	98
4) PCB005	32.634	222	1256655m	438.99		
5) PCB018	35.845	256	857602	471.69	#	85
6) PCB015	36.012	222	1424273	521.27		96
7) PCB027	36.656	256	698005	457.26		95
8) PCB029	38.314	256	1009929	513.48	#	84
9) PCB031	39.295	256	1260787	542.88		89
10) PCB028	39.396	256	1277552m	510.26		
11) PCB033	40.124	256	1245748	538.51		97
12) PCB052	42.007	292	846428	512.69		92
13) PCB049	42.341	292	881359	510.65	#	86
14) PCB044	43.555	292	760001	538.80		94
15) PCB037	43.808	256	1240494	589.40	#	87
16) PCB074	46.201	292	1169109	578.85	#	65
17) PCB070	46.470	292	1189762	570.63		99
18) PCB066	46.741	292	1186051	541.40		96
19) PCB095	46.801	326	771831	468.46	#	76
20) PCB056(060)	47.967	292	1064341	593.87		94
21) PCB101	48.484	326	803802	558.02		95
22) PCB099	48.874	326	837236m	543.39		
23) PCB119	49.349	326	1027211	557.89		97
24) PCB097	50.055	326	746493	557.42		94
25) PCB087	50.422	326	742277	518.36	#	100
26) PCB081	50.422	292	1167920	568.28		95
27) PCB110	51.141	326	1045095	553.70		97
28) PCB077	51.135	292	1142021	587.89	#	85
29) PCB151	52.041	360	676994	530.94	#	86
30) PCB149	52.889	360	734581	506.04		97
31) PCB123	52.842	326	997552m	572.26		
32) PCB118	53.009	326	1071947	570.09		96
33) PCB114	53.817	326	1007888	596.23	#	93
35) PCB153	54.628	360	771504	554.65	#	48
36) PCB168+132	54.825	360	1470548	1007.98		98
37) PCB105	54.900	326	1077512	525.71		98
38) PCB141	55.527	360	582260	465.51	#	57
39) PCB137	56.027	360	463101	550.09		93
40) PCB138	56.582	360	702548	550.30	#	77
41) PCB158	56.769	360	931966	531.11	#	38
42) PCB126	57.194	326	927225	598.05	#	75
43) PCB187	57.775	394	597569	553.76		94
44) PCB183	58.131	394	615138	537.17		97
45) PCB128	58.514	360	531167m	479.99		
46) PCB167	58.556	360	1004264m	609.77		
47) PCB174	59.412	394	465499	517.47		96
48) PCB177	59.789	394	531641	539.11		97
49) PCB156	60.153	360	886118	585.00		95
50) PCB199(200)	60.587	430	657819	461.25		98
51) PCB157	60.544	360	1137317	530.92	#	59
52) PCB180	61.303	394	573691	592.92	#	96
53) PCB169	62.726	360	825218	648.02	#	49
54) PCB170	63.327	394	514732	558.05	#	95
55) PCB201	63.926	430	406053	537.75		97

Data Path : C:\msdchem\1\DATA\O-5024 EI\
Data File : PCB+6_1000ICV.D
Acq On : 2 Nov 2013 10:47 pm
Operator :
Sample : PCB+6_1000ICV
Misc :
ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 18:57:57 2013
Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M
Quant Title : PCBs (Richs Version)
QLast Update : Wed Nov 06 18:55:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	64.279	430	394384	518.83		88
57) PCB189	65.259	394	689546	604.95		97
58) PCB195	66.308	430	402695	554.88	#	95
59) PCB194	67.619	430	452259	549.16	#	51
60) PCB206	70.104	464	371087	517.08	#	100
61) PCB209	72.109	498	430830	448.13		90

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : PCB+6_1000CCV.D
 Acq On : 4 Nov 2013 8:05 am
 Operator :
 Sample : PCB+6_1000CCV
 Misc :
 ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 19:36:08 2013

Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M

Quant Title : PCBs (Richs Version)

QLast Update : Wed Nov 06 19:33:03 2013

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	44.210	312	2285137	1000.00		0.01
34) 2,2',5,5'-Tetrabromobi...	55.392	389	419808	1000.00		0.02
Target Compounds						
2) PCB003	27.806	188	2914489	537.39		Qvalue 99
3) PCB008	32.574	222	2456704	536.85	#	94
4) PCB005	32.646	222	1444877	412.44		96
5) PCB018	35.847	256	1080576	485.65		97
6) PCB015	36.019	222	1791886	535.89		93
7) PCB027	36.660	256	865329	463.22		96
8) PCB029	38.320	256	1235853	513.44		96
9) PCB031	39.304	256	1626337	572.23		94
10) PCB028	39.408	256	1512946	493.78		94
11) PCB033	40.131	256	1569115	554.26		98
12) PCB052	42.013	292	1051820	520.59		96
13) PCB049	42.349	292	1104449	522.89		99
14) PCB044	43.559	292	901671	522.35		88
15) PCB037	43.822	256	1540807	598.22		98
16) PCB074	46.209	292	1474283	596.47		99
17) PCB070	46.471	292	1453898	569.80	100	
18) PCB066	46.751	292	1474185	549.88		96
19) PCB095	46.809	326	940889	466.64		94
20) PCB056(060)	47.970	292	1284792	585.79	#	90
21) PCB101	48.494	326	968068	549.16		91
22) PCB099	48.880	326	1043306	553.31		95
23) PCB119	49.353	326	1256631	557.69		96
24) PCB097	50.056	326	907667	553.83		96
25) PCB087	50.428	326	876382	500.10		92
26) PCB081	50.437	292	1415778	562.91		98
27) PCB110	51.150	326	1247802	540.21		98
28) PCB077	51.139	292	1387648	583.71		98
29) PCB151	52.039	360	812890	520.94		92
30) PCB149	52.897	360	857449	482.67		97
31) PCB123	52.852	326	1220874	572.30		97
32) PCB118	53.023	326	1271141	552.41		97
33) PCB114	53.826	326	1196363	578.31		98
35) PCB153	54.635	360	919682	585.11		92
36) PCB168+132	54.830	360	1739313	1055.03		95
37) PCB105	54.910	326	1285141	554.87	#	86
38) PCB141	55.536	360	710308	502.54	#	89
39) PCB137	56.031	360	527669	554.66		91
40) PCB138	56.591	360	838089	580.94		96
41) PCB158	56.773	360	1063102	536.13		90
42) PCB126	57.208	326	1135436	648.09		98
43) PCB187	57.784	394	671109	550.35		97
44) PCB183	58.140	394	689001	532.45		93
45) PCB128	58.519	360	632666m	505.93		
46) PCB167	58.561	360	1190756m	639.82		
47) PCB174	59.408	394	549888	540.95		92
48) PCB177	59.795	394	629848	565.21		96
49) PCB156	60.155	360	1095616m	640.09		
50) PCB199(200)	60.587	430	761053	472.24		98
51) PCB157	60.554	360	1345147	555.69		92
52) PCB180	61.312	394	692102	633.00		90
53) PCB169	62.741	360	1013331	704.18		99
54) PCB170	63.329	394	600238	575.88		87
55) PCB201	63.928	430	461313	540.64		95

Data Path : C:\msdchem\1\DATA\O-5024 EI\
Data File : PCB+6_1000CCV.D
Acq On : 4 Nov 2013 8:05 am
Operator :
Sample : PCB+6_1000CCV
Misc :
ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 19:36:08 2013
Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M
Quant Title : PCBs (Richs Version)
QLast Update : Wed Nov 06 19:33:03 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	64.275	430	438744	510.78	#	79
57) PCB189	65.269	394	861718	669.01		96
58) PCB195	66.314	430	478497	583.46		98
59) PCB194	67.628	430	561827	603.71		96
60) PCB206	70.116	464	430513	530.86	#	82
61) PCB209	72.119	498	514572	473.66		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : PCB+6_1000FCV.D
 Acq On : 5 Nov 2013 5:04 am
 Operator :
 Sample : PCB+6_1000FCV
 Misc :
 ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 19:39:34 2013

Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M

Quant Title : PCBs (Richs Version)

QLast Update : Tue Sep 10 11:06:40 2013

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	44.209	312	2747068	1000.00		0.01
34) 2,2',5,5'-Tetrabromobi...	55.382	389	512356	1000.00		0.00
Target Compounds						
					Qvalue	
2) PCB003	27.807	188	3391481	520.19		99
3) PCB008	32.575	222	2819882	512.59	#	94
4) PCB005	32.646	222	1690481	401.41		97
5) PCB018	35.845	256	1256563	469.78		98
6) PCB015	36.013	222	2075770	516.40		93
7) PCB027	36.654	256	1002780	446.53		96
8) PCB029	38.317	256	1447501	500.25		95
9) PCB031	39.305	256	1906599	558.04		94
10) PCB028	39.411	256	1765391	479.28		96
11) PCB033	40.128	256	1788898	525.64		97
12) PCB052	42.010	292	1215819	500.57		95
13) PCB049	42.348	292	1251081	492.71		97
14) PCB044	43.563	292	1073022	517.09		89
15) PCB037	43.817	256	1813385	585.66		97
16) PCB074	46.210	292	1693988	570.11		98
17) PCB070	46.478	292	1724416m	562.18		
18) PCB066	46.749	292	1768660	548.78		97
19) PCB095	46.804	326	1130084	466.23		95
20) PCB056(060)	47.975	292	1526520	578.97	#	90
21) PCB101	48.488	326	1151683	543.46		92
22) PCB099	48.881	326	1212255	534.81		95
23) PCB119	49.353	326	1498625	553.25		97
24) PCB097	50.057	326	1082327	549.35		93
25) PCB087	50.428	326	1072320	509.02		95
26) PCB081	50.436	292	1679477	555.47		97
27) PCB110	51.148	326	1508144	543.12		98
28) PCB077	51.144	292	1671894	585.02		98
29) PCB151	52.046	360	975246	519.89		91
30) PCB149	52.897	360	1057239	495.06		97
31) PCB123	52.850	326	1490959	581.39		95
32) PCB118	53.019	326	1538626	556.22		99
33) PCB114	53.823	326	1423296	572.31		98
35) PCB153	54.632	360	1141801	595.20		97
36) PCB168+132	54.833	360	2081829	1034.70		94
37) PCB105	54.909	326	1561819	552.52	#	87
38) PCB141	55.535	360	861244	499.26	#	89
39) PCB137	56.030	360	656762	565.66	#	90
40) PCB138	56.595	360	1010069	573.68		97
41) PCB158	56.777	360	1301896	537.96		91
42) PCB126	57.209	326	1409151	659.03		98
43) PCB187	57.782	394	820055	551.03		95
44) PCB183	58.133	394	863719	546.90		95
45) PCB128	58.514	360	861044m	564.18		
46) PCB167	58.561	360	1504972m	662.59		
47) PCB174	59.411	394	658825	531.05		92
48) PCB177	59.792	394	738134	542.74		98
49) PCB156	60.155	360	1315969m	629.95		
50) PCB199(200)	60.586	430	963705	489.97	#	91
51) PCB157	60.555	360	1690651	572.26		91
52) PCB180	61.319	394	840259	629.69	#	68
53) PCB169	62.735	360	1237267	704.49		99
54) PCB170	63.336	394	749061	588.85		89
55) PCB201	63.931	430	606725	582.62		98

Data Path : C:\msdchem\1\DATA\O-5024 EI\
Data File : PCB+6_1000FCV.D
Acq On : 5 Nov 2013 5:04 am
Operator :
Sample : PCB+6_1000FCV
Misc :
ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 19:39:34 2013
Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M
Quant Title : PCBs (Richs Version)
QLast Update : Tue Sep 10 11:06:40 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	64.283	430	548736	523.43	#	83
57) PCB189	65.266	394	1041018	662.23		99
58) PCB195	66.315	430	570074	569.57		98
59) PCB194	67.627	430	674544	593.90		94
60) PCB206	70.111	464	539094	544.68	#	89
61) PCB209	72.118	498	629402	474.71		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PCB500 CCV			PCB500 CCV2			PCB500 CCV2		
	11/2/2013 10:47:00 PM			11/4/13 8:05 AM			11/5/12 5:04 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PCB003	500	540.67	8	500	537.39	7	500	520.19	4
PCB008	500	498.36	0	500	536.85	7	500	512.59	3
PCB005	500	438.99	12	500	412.44	18	500	401.41	20
PCB018	500	471.69	6	500	485.65	3	500	469.78	6
PCB015	500	521.27	4	500	535.89	7	500	516.4	3
PCB027	500	457.26	9	500	463.22	7	500	446.53	11
PCB029	500	513.48	3	500	513.44	3	500	500.25	0
PCB031	500	542.88	9	500	572.23	14	500	558.04	12
PCB028	500	510.26	2	500	493.78	1	500	479.28	4
PCB033	500	538.51	8	500	554.26	11	500	525.64	5
PCB052	500	512.69	3	500	520.59	4	500	500.57	0
PCB049	500	510.65	2	500	522.89	5	500	492.71	1
PCB044	500	538.8	8	500	522.35	4	500	517.09	3
PCB037	500	589.4	18	500	598.22	20	500	585.66	17
PCB074	500	578.85	16	500	596.47	19	500	570.11	14
PCB070	500	570.63	14	500	569.8	14	500	562.18	12
PCB066	500	541.4	8	500	549.88	10	500	548.78	10
PCB095	500	468.46	6	500	466.64	7	500	466.23	7
PCB056 (060)	500	593.87	19	500	585.79	17	500	578.97	16
PCB101	500	558.02	12	500	549.16	10	500	543.46	9
PCB099	500	543.39	9	500	553.31	11	500	534.81	7
PCB119	500	557.89	12	500	557.69	12	500	553.25	11
PCB097	500	557.42	11	500	553.83	11	500	549.35	10
PCB087	500	518.36	4	500	500.1	0	500	509.02	2
PCB081	500	568.28	14	500	562.91	13	500	555.47	11
PCB110	500	553.7	11	500	540.21	8	500	543.12	9
PCB077	500	587.79	18	500	583.71	17	500	585.02	17
PCB151	500	530.94	6	500	520.94	4	500	519.89	4
PCB149	500	506.04	1	500	482.67	3	500	495.06	1
PCB123	500	572.26	14	500	572.3	14	500	581.39	16
PCB118	500	570.09	14	500	552.41	10	500	556.22	11
PCB114	500	596.23	19	500	578.31	16	500	572.31	14
PCB153	500	554.65	11	500	585.11	17	500	595.2	19
PCB168+132	1000	1007.98	1	1000	1055.03	6	1000	1034.7	3
PCB105	500	525.71	5	500	554.87	11	500	552.52	11
PCB141	500	465.51	7	500	502.54	1	500	499.26	0
PCB137	500	550.09	10	500	554.66	11	500	565.66	13
PCB138	500	550.3	10	500	580.94	16	500	573.68	15
PCB158	500	531.11	6	500	536.13	7	500	537.96	8
PCB126	500	598.05	20	500	648.09	30	500	659.03	32
PCB187	500	553.76	11	500	550.35	10	500	551.03	10
PCB183	500	537.17	7	500	532.45	6	500	546.9	9
PCB128	500	479.99	4	500	505.93	1	500	564.18	13
PCB167	500	609.77	22	500	639.82	28	500	662.59	33
PCB174	500	517.47	3	500	540.95	8	500	531.05	6
PCB177	500	539.11	8	500	565.21	13	500	542.74	9
PCB156	500	585	17	500	640.09	28	500	629.95	26
PCB199 (200)	500	461.25	8	500	472.24	6	500	489.97	2
PCB157	500	530.92	6	500	555.69	11	500	572.26	14
PCB180	500	592.92	19	500	633	27	500	629.69	26
PCB169	500	648.02	30	500	704.18	41	500	704.49	41
PCB170	500	558.05	12	500	575.88	15	500	588.85	18
PCB201	500	537.75	8	500	540.64	8	500	582.62	17
PCB203	500	518.83	4	500	510.78	2	500	523.43	5
PCB189	500	604.95	21	500	669.01	34	500	662.23	32
PCB195	500	554.88	11	500	583.46	17	500	569.57	14
PCB194	500	549.16	10	500	603.71	21	500	593.9	19
PCB206	500	517.08	3	500	530.86	6	500	544.68	9
PCB209	500	448.13	10	500	473.66	5	500	474.71	5
Average	-	-	10	-	-	12	-	-	11

Polynuclear

Aromatic

Hydrocarbons

(PAHs)

PHYSIS

Summary of Internal Standards

TERRA FACTORY AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

	D10-Anthracene		D-12 Perylene	
	Response	Retention Time	Response	Retention Time
PAH1000SPEX	6654505	36.057	1943594	83.612
B_5024	34611984	36.072	16820912	83.653
BS1_5024	9114089	36.057	7963655	83.641
BS2_5024	10134115	36.064	10152647	83.642
21958MS1	46636000	36.087	17197570	83.669
21958MS2	21131353	36.071	9325894	83.642
22623	6514013	36.057	2378662	83.623
21964	43874583	36.133	5452801	83.736
21957	40758084	36.086	11018503	83.69
21958	42375957	36.08	13330247	83.664
21958R2	24065887	36.071	10301893	83.659
21959	35702175	36.091	12593599	83.682
21960	35119386	36.089	6929255	83.702
21961	38472631	36.089	10190058	83.682
21962	32904357	36.083	9019775	83.68
21963	34551292	36.081	10596074	83.679
PAH1000CCV	11081824	36.068	2661700	83.66
22036	28204272	36.081	6672047	83.674
22037	26132953	36.075	6028310	83.684
22038	36462488	36.078	11221185	83.681
22039	26631226	36.078	7095628	83.672
22040	24806147	36.074	7621328	83.67
22041	23732884	36.073	7532582	83.673
22042	29920771	36.081	7526315	83.679
22043	38608466	36.082	10086523	83.695
22044	28695734	36.079	7726055	83.688
PAH500FCV	12365686	36.068	2631186	83.644

PHYSIS

Initial Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\DATA\O-5024 EI\
 Method File : Q_PAH131107.M
 Title : PAH
 Last Update : Thu Nov 07 13:02:12 2013
 Response Via : Initial Calibration

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Calibration Files

500 =PAH500.D 250 =PAH250.D 1000=PAH1000.D 100 =PAH100.D 50 =PAH50.D 25 =PAH25.D

Compound		500	250	1000	100	50	25	Avg	%RSD

1) I	d10-Anthracene	-----ISTD-----							
2) S	(d8-Naphthalene)	2.323	2.000	1.949	1.977	2.613	2.207	2.178	11.90
3) S	(d10-Acenaphth...	0.992	0.914	0.895	0.888	1.048	0.953	0.948	6.62
4) S	(d10-Phenanthr...	1.205	1.200	1.190	1.182	1.241	1.206	1.204	1.70
5) S	(d12-Chrysene)	1.024	0.946	1.058	0.941	0.938	0.884	0.965	6.61
6) S	(d12-Perylene)	0.826	0.753	0.812	0.762	0.795	0.760	0.785	3.88
7)	Naphthalene	2.201	1.960	1.892	1.847	2.520	2.141	2.094	11.98
8)	2-Methylnaphth...	1.486	1.269	1.292	1.182	1.447	1.380	1.343	8.61
9)	1-Methylnaphth...	1.492	1.311	1.299	1.114	1.501	1.306	1.337	10.77
10)	Biphenyl	1.571	1.410	1.396	1.347	1.531	1.570	1.471	6.67
11)	2,6-Dimethylna...	1.180	1.032	1.084	0.913	1.176	1.161	1.091	9.64
12)	Acenaphthylene	1.397	1.248	1.378	1.146	1.349	1.316	1.306	7.22
13)	Acenaphthene	1.047	0.969	0.979	0.882	1.044	1.053	0.996	6.68
14)	2,3,5-Trimethy...	0.958	0.860	0.932	0.778	0.882	0.841	0.875	7.41
15)	Fluorene	0.958	0.871	0.947	0.798	0.880	0.885	0.890	6.52
16)	Dibenzothiophene	1.362	1.278	1.354	1.221	1.226	1.250	1.282	4.88
17)	Phenanthrene	1.254	1.209	1.250	1.115	1.154	1.234	1.203	4.70
18)	Anthracene	0.537	0.518	0.540	0.495	0.532	0.615	0.540	7.52
19)	1-Methylphenan...	0.821	0.778	0.885	0.681	0.713	0.657	0.756	11.62
20)	Fluoranthene	0.966	0.889	1.058	0.798	0.832	0.790	0.889	11.90
21)	Pyrene	1.018	0.908	1.107	0.817	0.825	0.855	0.922	12.73
22)	Benz[a]anthracene	0.619	0.544	0.702	0.489	0.508	0.552	0.569	13.87
23)	Chrysene	0.842	0.744	0.886	0.703	0.716	0.689	0.763	10.65
24)	Benzo[b]fluora...	0.771	0.653	0.823	0.563	0.582	0.592	0.664	16.37
25)	Benzo[k]fluora...	0.638	0.536	0.786	0.499	0.564	0.625	0.608	16.73
26)	Benzo[e]pyrene	0.896	0.721	0.876	0.639	0.668	0.659	0.743	15.36
27)	Benzo[a]pyrene	0.524	0.456	0.613	0.413	0.505	0.417	0.488	15.59
28)	Perylene	0.633	0.555	0.684	0.500	0.582	0.521	0.579	11.99

29) I	d12-Benzo[g,h,i]pe...	-----ISTD-----							
30)	Indeno[1,2,3-c...	0.890	0.779	0.916	0.738	0.802	0.784	0.818	8.49
31)	Dibenz[a,h]ant...	0.782	0.703	0.907	0.637	0.663	0.643	0.722	14.54
32)	Benzo[g,h,i]pe...	1.262	1.162	1.333	1.112	1.359	1.352	1.263	8.29

(#) = Out of Range

PHYSIS

Continuing Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : SPEX1000MIX.D
 Acq On : 3 Nov 2013 12:30 am
 Operator :
 Sample : SPEX1000MIX
 Misc :
 ALS Vial : 134 Sample Multiplier: 1

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Quant Time: Jan 29 12:55:47 2014
 Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PAH131107.M
 Quant Title : PAH
 QLast Update : Thu Nov 07 13:02:12 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	36.057	188	6654505m	2000.00		0.49
29) d12-Benzo[g,h,i]perylene	83.612	288	1943594m	2000.00		0.65
System Monitoring Compounds						
2) (d8-Naphthalene)	15.104	136	6810064	939.65		0.31
3) (d10-Acenaphthene)	24.221	164	2780250m	881.24		0.45
4) (d10-Phenanthrene)	35.643	188	3815955m	952.48		0.49
5) (d12-Chrysene)	59.615	240	3122527m	972.37		0.47
6) (d12-Perylene)	71.787	264	2139185m	819.26		0.44
Target Compounds						Qvalue
7) Naphthalene	15.176	128	6680038	1027.21		100
8) 2-Methylnaphthalene	18.032	142	3681954	834.07		95
9) 1-Methylnaphthalene	18.565	142	3846343m	865.91		
10) Biphenyl	20.562	154	4176131	878.17		100
11) 2,6-Dimethylnaphthalene	21.469	156	2781669	761.05		96
12) Acenaphthylene	23.162	152	4561634m	998.16		
13) Acenaphthene	24.431	153	3077027m	933.68		
14) 2,3,5-Trimethylnaphtha...	27.319	170	2111788m	680.71		
15) Fluorene	28.105	166	3005097m	956.59		
16) Dibenzothiophene	34.773	184	3474537m	773.27		
17) Phenanthrene	35.827	178	3844571m	926.34		
18) Anthracene	36.204	178	2865067m	1599.77		
19) 1-Methylphenanthrene	41.378	192	2445004m	848.70		
20) Fluoranthene	46.405	202	3596586m	1049.41		
21) Pyrene	48.308	202	3653946m	1018.48		
22) Benz[a]anthracene	59.489	228	2782948m	1235.87		
23) Chrysene	59.835	228	2952751m	1020.88		
24) Benzo[b]fluoranthene	68.856	252	2552499m	955.36		
25) Benzo[k]fluoranthene	69.045	252	2635057m	1064.93		
26) Benzo[e]pyrene	70.953	252	2338536m	807.62		
27) Benzo[a]pyrene	71.315	252	1956846m	1001.62		
28) Perylene	71.981	252	2041037m	920.09		
30) Indeno[1,2,3-c,d]pyrene	81.264	276	1141286m	1300.84		
31) Dibenz[a,h]anthracene	81.699	278	973239m	1149.61		
32) Benzo[g,h,i]perylene	83.901	276	1455796m	1143.57		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : PAH1000CCV.D
 Acq On : 4 Nov 2013 6:22 am
 Operator :
 Sample : PAH1000CCV
 Misc :
 ALS Vial : 132 Sample Multiplier: 1

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Quant Time: Jan 29 12:52:39 2014
 Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PAH131107.M
 Quant Title : PAH
 QLast Update : Thu Nov 07 13:02:12 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	36.068	188	11081824m	2000.00		0.50
29) d12-Benzo[g,h,i]perylene	83.660	288	2661700m	2000.00		0.70
System Monitoring Compounds						
2) (d8-Naphthalene)	15.113	136	9335936	773.53		0.31
3) (d10-Acenaphthene)	24.226	164	4277337m	814.12		0.45
4) (d10-Phenanthrene)	35.654	188	6207254m	930.37		0.50
5) (d12-Chrysene)	59.636	240	4670851m	873.43		0.49
6) (d12-Perylene)	71.813	264	3435900m	790.16		0.47
Target Compounds						Qvalue
7) Naphthalene	15.184	128	9259806	855.04		100
8) 2-Methylnaphthalene	18.041	142	6213246	845.17		97
9) 1-Methylnaphthalene	18.575	142	6219877m	840.83		
10) Biphenyl	20.569	154	6456037	815.22		100
11) 2,6-Dimethylnaphthalene	21.476	156	4769819	783.64		96
12) Acenaphthylene	23.173	152	7571192m	994.82		
13) Acenaphthene	24.441	153	4835535m	881.09		
14) 2,3,5-Trimethylnaphtha...	27.324	170	4539898m	878.74		
15) Fluorene	28.126	166	4966076m	949.26		
16) Dibenzothiophene	34.789	184	6928337m	925.91		
17) Phenanthrene	35.837	178	6393597m	925.07		
18) Anthracene	36.220	178	3187935m	1068.90		
19) 1-Methylphenanthrene	41.394	192	4864396m	1013.93		
20) Fluoranthene	46.421	202	5792136m	1014.85		
21) Pyrene	48.324	202	6039522m	1010.87		
22) Benz[a]anthracene	59.515	228	4050119m	1080.04		
23) Chrysene	59.856	228	4267695m	886.02		
24) Benzo[b]fluoranthene	68.877	252	3782199m	850.06		
25) Benzo[k]fluoranthene	69.071	252	3571384m	866.70		
26) Benzo[e]pyrene	70.969	252	3606665m	747.95		
27) Benzo[a]pyrene	71.341	252	2887265m	887.44		
28) Perylene	71.991	252	3060039m	828.35		
30) Indeno[1,2,3-c,d]pyrene	81.296	276	1723980m	1434.86		
31) Dibenz[a,h]anthracene	81.725	278	1483449m	1279.53		
32) Benzo[g,h,i]perylene	83.953	276	1941777m	1113.80		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : PAH1000FCV.D
 Acq On : 5 Nov 2013 3:21 am
 Operator :
 Sample : PAH1000FCV
 Misc :
 ALS Vial : 132 Sample Multiplier: 1

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Quant Time: Jan 29 12:54:25 2014
 Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PAH131107.M
 Quant Title : PAH
 QLast Update : Thu Nov 07 13:02:12 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	36.068	188	12365686m	2000.00		0.50
29) d12-Benzo[g,h,i]perylene	83.644	288	2631186m	2000.00		0.69
System Monitoring Compounds						
2) (d8-Naphthalene)	15.111	136	10513640	780.67		0.31
3) (d10-Acenaphthene)	24.226	164	4850593m	827.37		0.45
4) (d10-Phenanthrene)	35.648	188	6953169m	933.97		0.50
5) (d12-Chrysene)	59.630	240	4738498m	794.08		0.49
6) (d12-Perylene)	71.808	264	3206223m	660.79		0.46
Target Compounds						Qvalue
7) Naphthalene	15.183	128	10314237	853.52		100
8) 2-Methylnaphthalene	18.040	142	6944273	846.54		96
9) 1-Methylnaphthalene	18.570	142	6970962m	844.53		
10) Biphenyl	20.569	154	7175164	811.96		100
11) 2,6-Dimethylnaphthalene	21.474	156	5952057m	876.34		
12) Acenaphthylene	23.167	152	8507820m	1001.83		
13) Acenaphthene	24.436	153	5473665m	893.81		
14) 2,3,5-Trimethylnaphtha...	27.319	170	5118330m	887.84		
15) Fluorene	28.121	166	5535590m	948.26		
16) Dibenzothiophene	34.784	184	7744357m	927.51		
17) Phenanthrene	35.837	178	7067866m	916.45		
18) Anthracene	36.220	178	3505168m	1053.24		
19) 1-Methylphenanthrene	41.394	192	5449287m	1017.91		
20) Fluoranthene	46.415	202	6309121m	990.66		
21) Pyrene	48.329	202	6552850m	982.92		
22) Benz[a]anthracene	59.510	228	4102595m	980.45		
23) Chrysene	59.861	228	4402124m	819.04		
24) Benzo[b]fluoranthene	68.877	252	3555953m	716.24		
25) Benzo[k]fluoranthene	69.066	252	3464164m	753.40		
26) Benzo[e]pyrene	70.974	252	3231836m	600.63		
27) Benzo[a]pyrene	71.336	252	2617806m	721.08		
28) Perylene	72.002	252	2879503m	698.55		
30) Indeno[1,2,3-c,d]pyrene	81.306	276	1657219m	1395.29		
31) Dibenz[a,h]anthracene	81.725	278	1517787m	1324.33		
32) Benzo[g,h,i]perylene	83.948	276	1743609m	1011.73		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PAH1000 ICV			PAH1000 CCV			PAH1000 FCV		
	11/2/13 9:04 PM			11/4/13 6:22 AM			11/5/13 3:21 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
d8-Naphthalene	1000	1080.24	8	1000	773.53	23	1000	780.67	22
d10-Acenaphthene	1000	964.2	4	1000	814.12	19	1000	827.37	17
d10-Phenanthrene	1000	938.82	6	1000	930.37	7	1000	933.97	7
d10-Chrysene	1000	871.57	13	1000	873.43	13	1000	794.08	21
d12-Perylene	1000	779.52	22	1000	790.16	21	1000	660.79	34
Naphthalene	1000	1167.88	17	1000	855.04	14	1000	853.52	15
2-Methylnaphthalene	1000	1107.91	11	1000	845.17	15	1000	846.54	15
1-Methylnaphthalene	1000	1081.62	8	1000	840.83	16	1000	844.53	16
Biphenyl	1000	1036.67	4	1000	815.22	18	1000	811.96	19
2,6-Dimethylnaphthalene	1000	1049.48	5	1000	783.64	22	1000	876.34	12
Acenaphthylene	1000	1144.08	14	1000	994.82	1	1000	1001.83	0
Acenaphthene	1000	1022.12	2	1000	881.09	12	1000	893.81	11
2,3,5-Trimethylnaphthalene	1000	1016.35	2	1000	878.74	12	1000	887.84	11
Fluorene	1000	1017.41	2	1000	949.26	5	1000	948.26	5
Dibenzothiophene	1000	962.73	4	1000	925.91	7	1000	927.51	7
Phenanthrene	1000	940.7	6	1000	925.07	7	1000	916.45	8
Anthracene	1000	1014.18	1	1000	1068.9	7	1000	1053.24	5
1-Methylphenanthrene	1000	985.5	1	1000	1013.93	1	1000	1017.91	2
Fluoranthene	1000	989.43	1	1000	1014.85	1	1000	990.66	1
Pyrene	1000	977	2	1000	1010.87	1	1000	982.92	2
Benz[a]anthracene	1000	1058.65	6	1000	1080.04	8	1000	980.45	2
Chrysene	1000	875.72	12	1000	886.02	11	1000	819.04	18
Benzo[b]fluoranthene	1000	841.51	16	1000	850.06	15	1000	716.24	28
Benzo[k]fluoranthene	1000	869.81	13	1000	866.7	13	1000	753.4	25
Benzo[e]pyrene	1000	747.3	25	1000	747.95	25	1000	600.63	40
Benzo[a]pyrene	1000	862.88	14	1000	887.44	11	1000	721.08	28
Perylene	1000	789.11	21	1000	828.35	17	1000	698.55	30
Indeno[1,2,3-c,d]pyrene	1000	1189.05	19	1000	1434.86	43	1000	1395.29	40
Dibenz[a,h]anthracene	1000	1194.79	19	1000	1279.53	28	1000	1324.33	32
Benzo[g,h,i]perylene	1000	1082.39	8	1000	1113.8	11	1000	1011.73	1
Average	-	-	10	-	-	14	-	-	16

Organics - GC-MS-NCI

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Innovative Analytical Solutions
(EPA 8270C)

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Instrument Run Log

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Innovative Solutions for Nature

2013 Oct 24 1214 Sequence Log .LOG
Starting sequence Wed Oct 23 14:49:11 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MassHunter\GCMS\1\sequence\131023 NCI . sequence. xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131023 NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
------	------	------	----------	--------	-------------

Limits fail: EM Voltage

1)	Sample	141	HEX	HEX_NCI	HEX
2)	Sample	131	PBDE10	PYR_NCI	PBDE10
3)	Sample	132	PBDE25	PYR_NCI	PBDE25
4)	Sample	133	PBDE50	PYR_NCI	PBDE50
5)	Sample	134	PBDE75	PYR_NCI	PBDE75
6)	Sample	135	PBDE100	PYR_NCI	PBDE100
7)	Sample	136	PBDE200	PYR_NCI	PBDE200
8)	Sample	121	FIP25	PYR_NCI	FIP25
9)	Sample	122	FIP50	PYR_NCI	FIP50
10)	Sample	123	FIP100	PYR_NCI	FIP100
11)	Sample	124	FIP250	PYR_NCI	FIP250
12)	Sample	125	FIP500	PYR_NCI	FIP500
13)	Sample	126	FIP1000	PYR_NCI	FIP1000
14)	Sample	111	PYR25	PYR_NCI	PYR25
15)	Sample	112	PYR50	PYR_NCI	PYR50
16)	Sample	113	PYR100	PYR_NCI	PYR100
17)	Sample	114	PYR250	PYR_NCI	PYR250
18)	Sample	115	PYR500	PYR_NCI	PYR500
19)	Sample	116	PYR1000	PYR_NCI	PYR1000

Thu Oct 24 11:32:11 2013
Fatal sequence error detected.
Failed to write scan record to the data file.

D:\MassHunter\GCMS\1\data\131023 NCI\2013 Oct 23 1449 Sequence Log .LOG

Resuming sequence Thu Oct 24 12:14:18 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MassHunter\GCMS\1\sequence\131023 NCI . sequence. xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131023 NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
------	------	------	----------	--------	-------------

21)	Sample	101	TOX10KICVRR		
	Datafile		TOX10KICVRR		
	Method		PYR_NCI		
22)	Sample	102	TRAL01000ICV		
	Datafile		TRAL01000ICV		
	Method		PYR_NCI		
23)	Sample	103	PYR1000SPEX		
	Datafile		PYR1000SPEX		
	Method		PYR_NCI		

Limits fail: EM Voltage

24)	Sample	141	HEX2	HEX_NCI	HEX2
25)	Sample	1	B_5024	PYR_NCI	B_5024
26)	Sample	2	BS1_5024	PYR_NCI	BS1_5024

```

2013 Oct 24 1214 Sequence Log . LOG
27) Sample      3 BS2_5024 PYR_NCI BS2_5024
28) Sample      4 21958MS1 PYR_NCI 21958MS1
29) Sample      5 21958MS2 PYR_NCI 21958MS2
Limits fail: EM Voltage
30) Sample     141 HEX3      HEX_NCI  HEX3
31) Sample      6 21964      PYR_NCI  21964
32) Sample      7 21957      PYR_NCI  21957
33) Sample      8 21958      PYR_NCI  21958
34) Sample      9 21958R2    PYR_NCI  21958R2
35) Sample     10 21959      PYR_NCI  21959
36) Sample     11 21960      PYR_NCI  21960
37) Sample     12 21961      PYR_NCI  21961
38) Sample     13 21962      PYR_NCI  21962
39) Sample     14 21963      PYR_NCI  21963
40) Sample     116 PYR1000CCV
    Datafile      PYR1000CCV
    Method        PYR_NCI
41) Sample     101 TOX10KCCV
    Datafile      TOX10KCCV
    Method        PYR_NCI
42) Sample     102 TRAL01000CCV
    Datafile      TRAL01000CCV
    Method        PYR_NCI

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Fri Oct 25 10:01:16 2013
 Fatal sequence error detected.
 User aborted run

D:\MassHunter\GCMS\1\data\131023 NCI\2013 Oct 24 1214 Sequence Log . LOG

2013 Oct 25 1635 Sequence Log .LOG
Starting sequence Fri Oct 25 12:55:34 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MassHunter\GCMS\1\sequence\131023 NCI . sequence.xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131023 NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
42)	Sample	102	TRAL01000CCV		
	Datafile		TRAL01000CCV		
	Method		PYR_NCI		
43)	Sample	136	PBDE200CCV		
	Datafile		PBDE200CCV		
	Method		PYR_NCI		
44)	Sample	126	FIP1000CCV		
	Datafile		FIP1000CCV		
	Method		PYR_NCI		

Fri Oct 25 16:34:54 2013
Fatal sequence error detected.
There was no bottle in the gripper.

D:\MassHunter\GCMS\1\data\131023 NCI\2013 Oct 25 1255 Sequence Log .LOG

Resuming sequence Fri Oct 25 16:35:31 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MassHunter\GCMS\1\sequence\131023 NCI . sequence.xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131023 NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
Limits fail: EM Voltage					
46)	Sample	141	HEX4	HEX_NCI	HEX4
47)	Sample	15	22036	PYR_NCI	22036
48)	Sample	16	22037	PYR_NCI	22037
49)	Sample	17	22038	PYR_NCI	22038
50)	Sample	18	22039	PYR_NCI	22039
51)	Sample	19	22040	PYR_NCI	22040
52)	Sample	20	22041	PYR_NCI	22041
53)	Sample	21	22042	PYR_NCI	22042
54)	Sample	22	22043	PYR_NCI	22043
55)	Sample	23	22044	PYR_NCI	22044
56)	Sample	116	PYR1000FCV		
	Datafile		PYR1000FCV		
	Method		PYR_NCI		
57)	Sample	101	TOX10KF CV		
	Datafile		TOX10KF CV		
	Method		PYR_NCI		
58)	Sample	102	TRAL01000FCV		
	Datafile		TRAL01000FCV		
	Method		PYR_NCI		
59)	Sample	136	PBDE200FCV		
	Datafile		PBDE200FCV		
	Method		PYR_NCI		
60)	Sample	126	FIP1000FCV		

Datafile	2013 Oct 25 1635 Sequence Log .LOG
Method	FIP1000FCV PYR_NCI

Sequence completed Sat Oct 26 07:57:56 2013

D:\MassHunter\GCMS\1\data\131023 NCI\2013 Oct 25 1635 Sequence Log .LOG

Fipronil & Degradates

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Initial Calibration Data

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Innovative Solutions for Nature

Quantitative Analysis Calibration Report

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Batch Info

Batch Data Path	C:\Masshunter\Data\131023 NCI\QuantResults\O-5024.batch.bin		
Analysis Time	10/23/2013 1:45 AM	Analyst Name	ryanhong
Report Time	5/29/2014 5:09 PM	Reporter Name	ryanhong
Last Calib Update	10/29/2013 8:44 AM	Batch State	Processed

Calibration Information

Fipronil Desulfinyl

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\131023 NCI CURVES\FIP100.D	Calibration	4	110228	100.0000	1.6732	7.28
C:\msdchem\1\DATA\131023 NCI CURVES\FIP1000.D	Calibration	1	1057587	1000.0000	1.4727	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP25.D	Calibration	6	35165	25.0000	1.5828	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP250.D	Calibration	3	287803	250.0000	1.8380	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP50.D	Calibration	5	52194	50.0000	1.6656	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP500.D	Calibration	2	590187	500.0000	1.6544	

Fipronil Sulfide

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\131023 NCI CURVES\FIP100.D	Calibration	4	89560	100.0000	1.3595	8.74
C:\msdchem\1\DATA\131023 NCI CURVES\FIP1000.D	Calibration	1	937731	1000.0000	1.3058	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP25.D	Calibration	6	28771	25.0000	1.2950	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP250.D	Calibration	3	245957	250.0000	1.5707	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP50.D	Calibration	5	41188	50.0000	1.3144	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP500.D	Calibration	2	545180	500.0000	1.5283	

Fipronil

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\131023 NCI CURVES\FIP100.D	Calibration	4	21093	100.0000	0.3202	9.51
C:\msdchem\1\DATA\131023 NCI CURVES\FIP1000.D	Calibration	1	251955	1000.0000	0.3509	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP25.D	Calibration	6	6342	25.0000	0.2854	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP250.D	Calibration	3	54429	250.0000	0.3476	

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\1310
23 NCI CURVES\FIP50.D Calibration 5 9184 50.0000 0.2931

C:\msdchem\1\DATA\1310
23 NCI CURVES\FIP500.D Calibration 2 127316 500.0000 0.3569

Fipronil Sulfone

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP100.D	Calibration	4	19076	100.0000	0.2896	27.49
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP1000.D	Calibration	1	239084	1000.0000	0.3329	
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP25.D	Calibration	6	2892	25.0000	0.1302	
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP250.D	Calibration	3	47336	250.0000	0.3023	
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP50.D	Calibration	5	9856	50.0000	0.3145	
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP500.D	Calibration	2	122199	500.0000	0.3426	
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2,2',5,5'-Tetrabromobiphenyl

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP100.D	Calibration	4	658798	1000.0000	658.7980	13.95
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP1000.D	Calibration	1	718110	1000.0000	718.1097	
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP25.D	Calibration	6	888686	1000.0000	888.6858	
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP250.D	Calibration	3	626349	1000.0000	626.3489	
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP50.D	Calibration	5	626710	1000.0000	626.7098	
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP500.D	Calibration	2	713454	1000.0000	713.4542	
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PHYSIS

Continuing Calibration Data

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\Masshunter\Data\131023 NCI\QuantResults\O-5024.batch.bin		
Analysis Time	10/25/2013 3:07 PM	Analyst Name	ryanhong
Report Time	5/29/2014 5:09 PM	Reporter Name	ryanhong
Last Calib Update	10/29/2013 8:44 AM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	FIP1000CCV
Level		Data File	FIP1000CCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD 2,2',5,5'-	RT	Response	ISTD Resp	RR	Final Conc	
Fipronil Desulfinyl	Tetrabromobiphenyl	17.571	1202946	1830388	0.6572	430.6303	ng
Fipronil Sulfide	Tetrabromobiphenyl	19.609	1289015	1830388	0.7042	517.5540	ng
Fipronil	Tetrabromobiphenyl	19.930	322647	1830388	0.1763	501.5264	ng
Fipronil Sulfone	Tetrabromobiphenyl	22.246	484225	1830388	0.2645	794.8000	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\Masshunter\Data\131023 NCI\QuantResults\O-5024.batch.bin		
Analysis Time	10/26/2013 6:59 AM	Analyst Name	ryanhong
Report Time	5/29/2014 5:09 PM	Reporter Name	ryanhong
Last Calib Update	10/29/2013 8:44 AM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	FIP1000FCV
Level		Data File	FIP1000FCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD 2,2',5,5'-	RT	Response	ISTD Resp	RR	Final Conc	
Fipronil Desulfinyl	Tetrabromobiphenyl	17.521	1081011	1093032	0.9890	648.0356	ng
Fipronil Sulfide	Tetrabromobiphenyl	19.541	1002757	1093032	0.9174	674.2236	ng
Fipronil	Tetrabromobiphenyl	19.854	272532	1093032	0.2493	709.4040	ng
Fipronil Sulfone	Tetrabromobiphenyl	22.136	378868	1093032	0.3466	1041.3801	ng

	FIP1000 CCV			FIP1000 FCV		
	10/25/13 3:07 PM			10/26/13 6:59 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Fipronil Desulfinyl	1000	430.6303	56.94	1000	648.0356	35.20
Fipronil Sulfide	1000	517.5540	48.24	1000	674.2236	32.58
Fipronil	1000	501.5264	49.85	1000	709.4040	29.06
Fipronil Sulfone	1000	794.8000	20.52	1000	1041.3801	4.14
Average	-	-	43.89	-	-	25.24

PolyBrominated Diphenyl Ethers (PBDEs)

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Summary of Internal Standards

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	2,2',5,5' - Tetrabromobiphenyl	
	Response	Retention Time
PBDE10.D	8420757	16.8053
PBDE25.D	7138104	16.8051
PBDE50.D	6755020	16.8051
PBDE75.D	6636959	16.8051
PBDE100.D	7765091	16.8003
PBDE200.D	11371385	16.8003
PBDE049_90ICV.D	20744851	16.8051
B_5024.D	10777911	16.8004
BS1_5024.D	8213000	16.8003
BS2_5024.D	8212451	16.8003
21958MS1.D	11857487	16.8003
21958MS2.D	8490905	16.8003
21964.D	11309330	16.8392
21957.D	11751888	16.8051
21958.D	10774088	16.8051
21958R2.D	9170704	16.8051
21959.D	9723165	16.8100
21960.D	9572421	16.8100
PBDE100CCV.D	8179220	16.8003
21961.D	8825184	16.8053
21962.D	8772217	16.8100
21963.D	8379874	16.8051
22037.D	9431406	16.8100
22038.D	7534555	16.8051
22039.D	8831017	16.8051
22040.D	6816735	16.8051
22041.D	6922464	16.8051
22042.D	8701208	16.8051
22043.D	8353643	16.8051
22044.D	13173921	16.8051
22036.D	7719963	16.8051
PBDE100FCV.D	7232405	16.8051

PHYSIS

Initial Calibration Data

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Batch Info

Batch Data Path	C:\Masshunter\Data\O-5024 PBDE\QuantResults\O-5024 PBDE.batch.bin		
Analysis Time	10/29/2013 12:57 PM	Analyst Name	eugenechae
Report Time	5/29/2014 7:28 PM	Reporter Name	ryanhong
Last Calib Update	11/1/2013 11:41 AM	Batch State	Processed

Calibration Information*(FTBDE)*

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	362466	50.0000	0.8609	9.34
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	337714	50.0000	0.8698	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	607995	50.0000	1.0693	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	307831	50.0000	0.8625	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	296957	50.0000	0.8792	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	282764	50.0000	0.8521	

PBDE017

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	52253	10.0000	0.6205	6.24
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	528996	100.0000	0.6812	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1704812	200.0000	0.7496	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	123267	25.0000	0.6908	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	223360	50.0000	0.6613	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	332929	75.0000	0.6688	

PBDE028

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	58500	10.0000	0.6947	9.32
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	566816	100.0000	0.7300	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1874211	200.0000	0.8241	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	117608	25.0000	0.6590	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	216999	50.0000	0.6425	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	338205	75.0000	0.6794	

2,2',5,5'Tetrabromobiphenyl

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	8420757	1000.0000	8420.7572	22.14
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	7765091	1000.0000	7765.0915	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	11371385	1000.0000	11371.3849	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	7138104	1000.0000	7138.1044	

C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	6755020	1000.0000	6755.0195
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	6636959	1000.0000	6636.9590

PBDE049

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	61371	10.0000	0.7288	5.22
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	585232	100.0000	0.7537	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1850487	200.0000	0.8137	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	133638	25.0000	0.7489	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	238360	50.0000	0.7057	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	355624	75.0000	0.7144	

PBDE071

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	54217	10.0000	0.6438	8.94
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	493999	100.0000	0.6362	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1680098	200.0000	0.7387	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	110183	25.0000	0.6174	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	192682	50.0000	0.5705	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	301875	75.0000	0.6065	

PBDE047

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	54571	10.0000	0.6481	11.41
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	454915	100.0000	0.5858	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1606336	200.0000	0.7063	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	103036	25.0000	0.5774	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	173451	50.0000	0.5135	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	279045	75.0000	0.5606	

PBDE066

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	76790	10.0000	0.9119	17.54
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	505778	100.0000	0.6513	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1657219	200.0000	0.7287	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	120178	25.0000	0.6734	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	194152	50.0000	0.5748	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	300050	75.0000	0.6028	

PBDE100

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	47004	10.0000	0.5582	9.08
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	424904	100.0000	0.5472	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1356524	200.0000	0.5965	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	92995	25.0000	0.5211	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	155825	50.0000	0.4614	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	246104	75.0000	0.4944	

(DFPBDE)

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	255002	50.0000	0.6057	13.12
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	271392	50.0000	0.6990	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	448005	50.0000	0.7880	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	211378	50.0000	0.5923	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	189019	50.0000	0.5596	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	205194	50.0000	0.6183	

PBDE099

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	50407	10.0000	0.5986	11.90
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	442583	100.0000	0.5700	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1386670	200.0000	0.6097	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	92620	25.0000	0.5190	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	148404	50.0000	0.4394	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	253216	75.0000	0.5087	

PBDE085

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	39462	10.0000	0.4686	10.84
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	360304	100.0000	0.4640	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1060242	200.0000	0.4662	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	72504	25.0000	0.4063	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	120379	50.0000	0.3564	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	199688	75.0000	0.4012	

PBDE154

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
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C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	44515	10.0000	0.5286	9.07
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	412441	100.0000	0.5311	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1209803	200.0000	0.5320	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	83023	25.0000	0.4652	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	142484	50.0000	0.4219	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	243445	75.0000	0.4891	

PBDE153

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	39939	10.0000	0.4743	9.21
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	390618	100.0000	0.5030	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1095420	200.0000	0.4817	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	80633	25.0000	0.4518	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	129283	50.0000	0.3828	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	219510	75.0000	0.4410	

PBDE138

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	33029	10.0000	0.3922	13.44
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	358264	100.0000	0.4614	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	993361	200.0000	0.4368	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	72370	25.0000	0.4055	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	102656	50.0000	0.3039	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	198720	75.0000	0.3992	

PBDE183

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	38071	10.0000	0.4521	13.07
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	311176	100.0000	0.4007	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	846727	200.0000	0.3723	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	66367	25.0000	0.3719	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	101259	50.0000	0.2998	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	185387	75.0000	0.3724	

PBDE190

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	13841	10.0000	0.1644	15.50
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	154666	100.0000	0.1992	

C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	367277	200.0000	0.1615
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	32494	25.0000	0.1821
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	41375	50.0000	0.1225
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	88271	75.0000	0.1773

PBDE209

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	1273	50.0000	0.0030	27.17
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	7426	500.0000	0.0019	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	19867	1000.0000	0.0017	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	2479	125.0000	0.0028	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	2622	250.0000	0.0016	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	5048	375.0000	0.0020	

PHYSIS

Continuing Calibration Data

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path C:\Masshunter\Data\O-5024 PBDE\QuantResults\O-5024 PBDE.batch.bin
Analysis Time 10/30/2013 1:40 AM **Analyst Name** eugenechae
Report Time 5/29/2014 7:28 PM **Reporter Name** ryanhong
Last Calib Update 11/1/2013 11:41 AM **Batch State** Processed

Analysis Info

Acq Time
Level
Position
Sample Type Sample
Dilution 1
Sample Name PBDE100CCV
Data File PBDE100CCV.D
Acq Method File NCI-15m PBDE.M
Sample Info
Comment

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphe nyl	15.255	361252	8179220	0.0442	49.1303	ng
PBDE017	2,2',5,5'Tetrabromobiphe nyl	15.812	567255	8179220	0.0694	95.5705	ng
PBDE028	2,2',5,5'Tetrabromobiphe nyl	16.161	585951	8179220	0.0716	91.3086	ng
PBDE049	2,2',5,5'Tetrabromobiphe nyl	18.147	554960	8179220	0.0679	86.0425	ng
PBDE071	2,2',5,5'Tetrabromobiphe nyl	18.239	492586	8179220	0.0602	86.0257	ng
PBDE047	2,2',5,5'Tetrabromobiphe nyl	18.539	438121	8179220	0.0536	80.8832	ng
PBDE066	2,2',5,5'Tetrabromobiphe nyl	18.873	486967	8179220	0.0595	85.4564	ng
PBDE100	2,2',5,5'Tetrabromobiphe nyl	20.375	392074	8179220	0.0479	83.8421	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphe nyl	20.709	245451	8179220	0.0300	46.6121	ng
PBDE099	2,2',5,5'Tetrabromobiphe nyl	20.878	402964	8179220	0.0493	84.2037	ng
PBDE085	2,2',5,5'Tetrabromobiphe nyl	21.740	319782	8179220	0.0391	86.0584	ng
PBDE154	2,2',5,5'Tetrabromobiphe nyl	22.336	367466	8179220	0.0449	86.0130	ng
PBDE153	2,2',5,5'Tetrabromobiphe nyl	23.048	343166	8179220	0.0420	87.9811	ng
PBDE138	2,2',5,5'Tetrabromobiphe nyl	23.910	304044	8179220	0.0372	86.1837	ng
PBDE183	2,2',5,5'Tetrabromobiphe nyl	25.058	277466	8179220	0.0339	90.6554	ng
PBDE190	2,2',5,5'Tetrabromobiphe nyl	26.206	140904	8179220	0.0172	102.5555	ng
PBDE209	2,2',5,5'Tetrabromobiphe nyl	30.119	9009	8179220	0.0011	609.5662	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\Masshunter\Data\O-5024 PBDE\QuantResults\O-5024 PBDE.batch.bin	Analyst Name	eugenechae
Analysis Time	10/30/2013 10:38 AM	Reporter Name	ryanhong
Report Time	5/29/2014 7:28 PM	Batch State	Processed
Last Calib Update	11/1/2013 11:41 AM		

Analysis Info

Acq Time		Sample Name	PBDE100FCV
Level		Data File	PBDE100FCV.D
Position		Acq Method File	NCI-15m PBDE.M
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphenyl	15.255	309637	7232405	0.0428	47.6234	ng
PBDE017	2,2',5,5'Tetrabromobiphenyl	15.812	486269	7232405	0.0672	92.6512	ng
PBDE028	2,2',5,5'Tetrabromobiphenyl	16.161	501377	7232405	0.0693	88.3577	ng
PBDE049	2,2',5,5'Tetrabromobiphenyl	18.152	491320	7232405	0.0679	86.1479	ng
PBDE071	2,2',5,5'Tetrabromobiphenyl	18.234	425242	7232405	0.0588	83.9869	ng
PBDE047	2,2',5,5'Tetrabromobiphenyl	18.544	375716	7232405	0.0519	78.4429	ng
PBDE066	2,2',5,5'Tetrabromobiphenyl	18.873	403822	7232405	0.0558	80.1428	ng
PBDE100	2,2',5,5'Tetrabromobiphenyl	20.375	328147	7232405	0.0454	79.3583	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphenyl	20.704	204635	7232405	0.0283	43.9482	ng
PBDE099	2,2',5,5'Tetrabromobiphenyl	20.878	337006	7232405	0.0466	79.6402	ng
PBDE085	2,2',5,5'Tetrabromobiphenyl	21.740	268715	7232405	0.0372	81.7824	ng
PBDE154	2,2',5,5'Tetrabromobiphenyl	22.336	294971	7232405	0.0408	78.0829	ng
PBDE153	2,2',5,5'Tetrabromobiphenyl	23.048	275923	7232405	0.0382	80.0022	ng
PBDE138	2,2',5,5'Tetrabromobiphenyl	23.910	245449	7232405	0.0339	78.6828	ng
PBDE183	2,2',5,5'Tetrabromobiphenyl	25.058	226894	7232405	0.0314	83.8371	ng
PBDE190	2,2',5,5'Tetrabromobiphenyl	26.211	119439	7232405	0.0165	98.3133	ng
PBDE209	2,2',5,5'Tetrabromobiphenyl	30.119	9660	7232405	0.0013	739.1707	ng

	PBDE100 CCV			PBDE100 FCV		
	10/30/13 1:40 AM			10/30/13 10:38 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PBDE017	100	95.5705	4.43	100	92.6512	7.35
PBDE028	100	91.3086	8.69	100	88.3577	11.64
PBDE049	100	86.0425	13.96	100	86.1479	13.85
PBDE071	100	86.0257	13.97	100	83.9869	16.01
PBDE047	100	80.8832	19.12	100	78.4429	21.56
PBDE066	100	85.4564	14.54	100	80.1428	19.86
PBDE100	100	83.8421	16.16	100	79.3583	20.64
PBDE099	100	84.2037	15.80	100	79.6402	20.36
PBDE085	100	86.0584	13.94	100	81.7824	18.22
PBDE154	100	86.0130	13.99	100	78.0829	21.92
PBDE153	100	87.9811	12.02	100	80.0022	20.00
PBDE138	100	86.1837	13.82	100	78.6828	21.32
PBDE183	100	90.6554	9.34	100	83.8371	16.16
PBDE190	100	102.5555	2.56	100	98.3133	1.69
PBDE209	500	609.5662	21.91	500	739.1707	47.83
Average	-	-	12.95	-	-	18.56

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Pyrethroids

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	2,2',5,5' - Tetrabromobiphenyl	
	Response	Retention Time
TRALO1000ICV.D	659337	25.1376
PYR1000SPEX.D	771891	25.0953
B_5024.D	1468891	25.0362
BS1_5024.D	1703336	25.0108
BS2_5024.D	1700302	25.0023
21958MS1.D	2108317	24.9854
21958MS2.D	2115480	24.9770
21964.D	1451439	24.9939
21957.D	2276267	24.9516
21958.D	1904097	24.9432
21958R2.D	1829360	24.9347
21959.D	1899326	24.9178
21960.D	1927079	24.9178
21961.D	1971899	24.9009
21962.D	1560273	24.8924
21963.D	1733017	24.8755
PYR1000CCV.D	977217	24.8924
TRALO1000CCV.D	1818447	24.8679
22036.D	2727498	24.8080
22037.D	2407241	24.7995
22038.D	2819943	24.7825
22039.D	2476010	24.7825
22040.D	2320762	24.7741
22041.D	2606261	24.7656
22042.D	2077278	24.7656
22043.D	2419115	24.7572
22044.D	2449562	24.7487
PYR1000FCV.D	1431015	24.7572
TRALO1000FCV.D	1210736	24.7572

PHYSIS

Initial Calibration Data

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Quantitative Analysis Calibration Report

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Batch Info

Batch Data Path	C:\Masshunter\Data\131023 NCI\QuantResults\O-5024 PYR.batch.bin		
Analysis Time	10/24/2013 11:32 AM	Analyst Name	ryanhong
Report Time	5/29/2014 4:41 PM	Reporter Name	ryanhong
Last Calib Update	11/1/2013 4:40 PM	Batch State	Processed

Calibration Information

Allethrin

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\131023 NCI CURVES\PYR100.D	Calibration	4	9647	100.0000	0.1369	20.88
C:\msdchem\1\DATA\131023 NCI CURVES\PYR1000.D	Calibration	1	172858	1000.0000	0.2266	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR25.D	Calibration	6	2758	25.0000	0.1438	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR250.D	Calibration	3	34927	250.0000	0.1731	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR50.D	Calibration	5	4284	50.0000	0.1462	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR500.D	Calibration	2	67821	500.0000	0.1984	

Prallethrin

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\131023 NCI CURVES\PYR100.D	Calibration	4	69544	100.0000	0.9870	20.29
C:\msdchem\1\DATA\131023 NCI CURVES\PYR1000.D	Calibration	1	1171056	1000.0000	1.5350	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR25.D	Calibration	6	20849	25.0000	1.0866	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR250.D	Calibration	3	220363	250.0000	1.0924	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR50.D	Calibration	5	32147	50.0000	1.0974	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR500.D	Calibration	2	528290	500.0000	1.5451	

Resmethrin

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\131023 NCI CURVES\PYR100.D	Calibration	4	53933	100.0000	0.7655	21.24
C:\msdchem\1\DATA\131023 NCI CURVES\PYR1000.D	Calibration	1	987470	1000.0000	1.2944	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR25.D	Calibration	6	16197	25.0000	0.8441	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR250.D	Calibration	3	190465	250.0000	0.9442	

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\1310
23 NCI CURVES\PYR50.D Calibration 5 24359 50.0000 0.8315

C:\msdchem\1\DATA\1310
23 NCI CURVES\PYR500.D Calibration 2 390386 500.0000 1.1418

(PCB112)

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	81282	400.0000	0.2884	6.29
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	92596	400.0000	0.3034	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	92570	400.0000	0.3015	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	83027	400.0000	0.2572	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	71872	400.0000	0.3067	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	78506	400.0000	0.2870	

TBBP

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	704570	1000.0000	704.5701	10.99
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	762895	1000.0000	762.8955	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	767526	1000.0000	767.5256	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	806894	1000.0000	806.8945	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	585883	1000.0000	585.8831	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	683807	1000.0000	683.8073	

Bifenthrin

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	15943	100.0000	0.2263	8.30
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	207118	1000.0000	0.2715	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	5597	25.0000	0.2917	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	54132	250.0000	0.2683	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	7466	50.0000	0.2549	

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\1310
23 NCI CURVES\PYR500.D Calibration 2 92740 500.0000 0.2712

Danitol (Fenpropathrin)

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	41260	100.0000	0.5856	9.57
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	456874	1000.0000	0.5989	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	10217	25.0000	0.5324	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	140017	250.0000	0.6941	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	16234	50.0000	0.5542	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	195180	500.0000	0.5709	

L-Cyhalothrin

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	12893	100.0000	0.1830	4.83
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	139416	1000.0000	0.1827	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	3676	25.0000	0.1916	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	39462	250.0000	0.1956	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	5313	50.0000	0.1814	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	58149	500.0000	0.1701	

(PCB198)

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	16701	400.0000	0.0593	4.66
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	16665	400.0000	0.0546	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	19143	400.0000	0.0624	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	19647	400.0000	0.0609	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	13810	400.0000	0.0589	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	15614	400.0000	0.0571	

Quantitative Analysis Calibration Report

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Permethrin-cis

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	937	26.7000	0.0498	20.80
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	6757	267.0000	0.0332	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	0	6.6750	0.0000	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	2133	66.7500	0.0396	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	0	13.3500	0.0000	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	3895	133.5000	0.0427	

Permethrin-trans

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	509	71.6000	0.0101	26.76
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	8519	716.0000	0.0156	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	0	17.9000	0.0000	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	2908	179.0000	0.0201	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	0	35.8000	0.0000	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	4187	358.0000	0.0171	

Cyfluthrin-1

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	3127	100.0000	0.0444	11.47
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	32457	1000.0000	0.0425	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	1106	25.0000	0.0576	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	10021	250.0000	0.0497	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	1589	50.0000	0.0542	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	17106	500.0000	0.0500	

Cyfluthrin-2

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
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Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	2924	100.0000	0.0415	23.41
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	35356	1000.0000	0.0463	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	495	25.0000	0.0258	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	10536	250.0000	0.0522	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	981	50.0000	0.0335	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	13703	500.0000	0.0401	

Cyfluthrin-3

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	2609	100.0000	0.0370	16.52
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	36133	1000.0000	0.0474	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	949	25.0000	0.0495	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	11450	250.0000	0.0568	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	1093	50.0000	0.0373	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	15971	500.0000	0.0467	

Cyfluthrin-4

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	3791	100.0000	0.0538	13.06
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	32506	1000.0000	0.0426	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	1036	25.0000	0.0540	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	10673	250.0000	0.0529	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	1761	50.0000	0.0601	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	15016	500.0000	0.0439	

Cypermethrin-1

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	2824	100.0000	0.0401	17.57

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR1000.D	Calibration	1	32317	1000.0000	0.0424
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR25.D	Calibration	6	1147	25.0000	0.0598
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR250.D	Calibration	3	9461	250.0000	0.0469
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR50.D	Calibration	5	1125	50.0000	0.0384
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR500.D	Calibration	2	14122	500.0000	0.0413

Cypermethrin-2

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	1826	100.0000	0.0259	13.11
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	23026	1000.0000	0.0302	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	437	25.0000	0.0227	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	6126	250.0000	0.0304	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	659	50.0000	0.0225	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	8778	500.0000	0.0257	

Cypermethrin-3

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	2796	100.0000	0.0397	15.04
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	37574	1000.0000	0.0493	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	940	25.0000	0.0490	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	10159	250.0000	0.0504	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	984	50.0000	0.0336	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	14712	500.0000	0.0430	

Cypermethrin-4

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	3896	100.0000	0.0553	15.08
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	28965	1000.0000	0.0380	

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR25.D	Calibration	6	979	25.0000	0.0510
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR250.D	Calibration	3	8097	250.0000	0.0401
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR50.D	Calibration	5	1234	50.0000	0.0421
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR500.D	Calibration	2	14584	500.0000	0.0427

Fenvalerate

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	27418	100.0000	0.3891	8.66
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	304380	1000.0000	0.3990	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	7130	25.0000	0.3716	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	93152	250.0000	0.4618	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	11057	50.0000	0.3775	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	127444	500.0000	0.3727	

Fluvalinate

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	7547	100.0000	0.1071	9.98
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	72859	1000.0000	0.0955	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	0	25.0000	0.0000	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	23491	250.0000	0.1165	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	3563	50.0000	0.1216	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	34426	500.0000	0.1007	

Esfenvalerate

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	22383	100.0000	0.3177	12.60
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	250308	1000.0000	0.3281	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	8227	25.0000	0.4287	

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR250.D	Calibration	3	78571	250.0000	0.3895
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR50.D	Calibration	5	9777	50.0000	0.3338
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR500.D	Calibration	2	111866	500.0000	0.3272

Deltamethrin/Tralomethrin

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	262	100.0000	0.0037	139.98
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	4920	1000.0000	0.0064	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	1050	25.0000	0.0547	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	423	250.0000	0.0021	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	637	50.0000	0.0218	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	319	500.0000	0.0009	

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Continuing Calibration Data

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path C:\Masshunter\Data\131023 NCI\QuantResults\O-5024 PYR.batch.bin
Analysis Time 10/24/2013 2:24 PM **Analyst Name** ryanhong
Report Time 5/29/2014 4:41 PM **Reporter Name** ryanhong
Last Calib Update 11/1/2013 4:40 PM **Batch State** Processed

Analysis Info

Acq Time
Level
Position
Sample Type Sample
Dilution 1

Sample Name PYR1000SPEX
Data File PYR1000SPEX.D
Acq Method File PYR_NCI.m
Sample Info
Comment

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
Allethrin	TBBP	19.778	0	771891	0.0000	0.0000	ng/ml
Prallethrin	TBBP	19.778	1064186	771891	1.3787	912.4943	ng/ml
Resmethrin	TBBP	20.226	642521	771891	0.8324	669.1240	ng/ml
(PCB112)	TBBP	21.629	81175	771891	0.1052	361.7364	ng/ml
Bifenthrin	TBBP	27.386	195897	771891	0.2538	936.7243	ng
Danitol (Fenpropathrin)	TBBP	27.961	485741	771891	0.6293	1052.5647	ng
L-Cyhalothrin	TBBP	30.413	147485	771891	0.1911	1055.8262	ng
(PCB198)	TBBP	30.709	16960	771891	0.0220	373.3472	ng/ml
Permethrin-cis	TBBP	32.839	4825	771891	0.0063	177.0095	ng
Permethrin-trans	TBBP	33.279	11098	771891	0.0144	897.7420	ng/ml
Cyfluthrin-1	TBBP	34.843	33505	771891	0.0434	979.0330	ng
Cyfluthrin-2	TBBP	35.181	37898	771891	0.0491	1082.1694	ng
Cyfluthrin-3	TBBP	35.409	37308	771891	0.0483	1015.6713	ng
Cyfluthrin-4	TBBP	35.570	37582	771891	0.0487	1120.1940	ng
Cypermethrin-1	TBBP	35.916	36789	771891	0.0477	1125.1668	ng
Cypermethrin-2	TBBP	36.280	29217	771891	0.0379	1292.2407	ng
Cypermethrin-3	TBBP	36.500	40263	771891	0.0522	1086.0487	ng
Cypermethrin-4	TBBP	36.660	35238	771891	0.0457	1167.5893	ng
Fenvalerate	TBBP	39.475	356048	771891	0.4613	1162.2754	ng
Esfenvalerate	TBBP	40.354	303390	771891	0.3930	1188.1614	ng
Fluvalinate	TBBP	40.464	93467	771891	0.1211	1241.1525	ng
Deltamethrin/Tralomethrin	TBBP	43.026	4962	771891		1228.1959	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\Masshunter\Data\131023 NCI\QuantResults\O-5024 PYR.batch.bin		
Analysis Time	10/25/2013 7:26 AM	Analyst Name	ryanhong
Report Time	5/29/2014 4:41 PM	Reporter Name	ryanhong
Last Calib Update	11/1/2013 4:40 PM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	PYR1000CCV
Level		Data File	PYR1000CCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
Allethrin	TBBP	19.592	234483	977217	0.2400	1101.3257	ng/ml
Prallethrin	TBBP	19.668	1189883	977217	1.2176	805.9011	ng/ml
Resmethrin	TBBP	20.099	1113414	977217	1.1394	915.8852	ng/ml
(PCB112)	TBBP	21.494	98104	977217	0.1004	345.3224	ng/ml
Bifenthrin	TBBP	27.200	202488	977217	0.2072	764.8004	ng
Danitol (Fenpropathrin)	TBBP	27.741	612144	977217	0.6264	1047.7612	ng
L-Cyhalothrin	TBBP	30.176	197728	977217	0.2023	1118.0932	ng
(PCB198)	TBBP	30.480	16583	977217	0.0170	288.3462	ng/ml
Permethrin-cis	TBBP	32.585	8465	977217	0.0087	245.2872	ng
Permethrin-trans	TBBP	33.008	11283	977217	0.0115	720.9218	ng/ml
Cyfluthrin-1	TBBP	34.564	56332	977217	0.0576	1300.1901	ng
Cyfluthrin-2	TBBP	34.885	56127	977217	0.0574	1265.9282	ng
Cyfluthrin-3	TBBP	35.130	52212	977217	0.0534	1122.7618	ng
Cyfluthrin-4	TBBP	35.282	47590	977217	0.0487	1120.4463	ng
Cypermethrin-1	TBBP	35.629	50688	977217	0.0519	1224.5124	ng
Cypermethrin-2	TBBP	35.975	37468	977217	0.0383	1308.9934	ng
Cypermethrin-3	TBBP	36.212	53137	977217	0.0544	1132.1591	ng
Cypermethrin-4	TBBP	36.356	40336	977217	0.0413	1055.6936	ng
Fenvalerate	TBBP	39.103	406889	977217	0.4164	1049.1598	ng
Esfenvalerate	TBBP	39.949	336838	977217	0.3447	1041.9794	ng
Fluvalinate	TBBP	40.050	100918	977217	0.1033	1058.5306	ng
Deltamethrin/Tralomethrin	TBBP	41.437	6373	977217		1245.8860	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\Masshunter\Data\131023 NCI\QuantResults\O-5024 PYR.batch.bin		
Analysis Time	10/26/2013 2:43 AM	Analyst Name	ryanhong
Report Time	5/29/2014 4:41 PM	Reporter Name	ryanhong
Last Calib Update	11/1/2013 4:40 PM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	PYR1000FCV
Level		Data File	PYR1000FCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
Allethrin	TBBP	19.524	292035	1431015	0.2041	936.6663	ng/ml
Prallethrin	TBBP	19.592	1404663	1431015	0.9816	649.6753	ng/ml
Resmethrin	TBBP	20.015	1292049	1431015	0.9029	725.7888	ng/ml
(PCB112)	TBBP	21.384	129636	1431015	0.0906	311.6078	ng/ml
Bifenthrin	TBBP	27.082	219616	1431015	0.1535	566.4474	ng
Danitol (Fenpropathrin)	TBBP	27.589	801838	1431015	0.5603	937.2216	ng
L-Cyhalothrin	TBBP	30.015	320028	1431015	0.2236	1235.7882	ng
(PCB198)	TBBP	30.320	27885	1431015	0.0195	331.1051	ng/ml
Permethrin-cis	TBBP	32.416	10875	1431015	0.0076	215.1983	ng
Permethrin-trans	TBBP	32.831	14836	1431015	0.0104	647.3129	ng/ml
Cyfluthrin-1	TBBP	34.378	109148	1431015	0.0763	1720.3517	ng
Cyfluthrin-2	TBBP	34.699	106205	1431015	0.0742	1635.8097	ng
Cyfluthrin-3	TBBP	34.944	100552	1431015	0.0703	1476.5670	ng
Cyfluthrin-4	TBBP	35.088	90635	1431015	0.0633	1457.1901	ng
Cypermethrin-1	TBBP	35.443	97146	1431015	0.0679	1602.6294	ng
Cypermethrin-2	TBBP	35.781	73643	1431015	0.0515	1756.9342	ng
Cypermethrin-3	TBBP	36.026	99835	1431015	0.0698	1452.5819	ng
Cypermethrin-4	TBBP	36.161	77342	1431015	0.0540	1382.3115	ng
Fenvalerate	TBBP	38.858	838919	1431015	0.5862	1477.1775	ng
Esfenvalerate	TBBP	39.695	698434	1431015	0.4881	1475.4033	ng
Fluvalinate	TBBP	39.797	185823	1431015	0.1299	1331.0039	ng
Deltamethrin/Tralomethrin	TBBP	41.158	16031	1431015		2140.0946	ng

	PYR1000 ICV			PYR1000 CCV			PYR1000 FCV		
	10/24/13 2:24 PM			10/25/13 7:26 AM			10/26/13 2:43 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Allethrin	0	0.0000	NA	1000	1101.3257	10.13	1000	936.6663	6.33
Prallethrin	1000	912.4943	8.75	1000	805.9011	19.41	1000	649.6753	35.03
Resmethrin	1000	669.1240	33.09	1000	915.8852	8.41	1000	725.7888	27.42
(PCB112)	400	361.7364	9.57	400	345.3224	13.67	400	311.6078	22.10
Bifenthrin	1000	936.7243	6.33	1000	764.8004	23.52	1000	566.4474	43.36
Danitol (Fenpropathrin)	1000	1052.5647	5.26	1000	1047.7612	4.78	1000	937.2216	6.28
L-Cyhalothrin	1000	1055.8262	5.58	1000	1118.0932	11.81	1000	1235.7882	23.58
(PCB198)	400	373.3472	6.66	400	288.3462	27.91	400	331.1051	17.22
Permethrin-cis	267	177.0095	33.70	267	245.2872	8.13	267	215.1983	19.40
Permethrin-trans	716	897.7420	25.38	716	720.9218	0.69	716	647.3129	9.59
Cyfluthrin-1	1000	979.0330	2.10	1000	1300.1901	30.02	1000	1720.3517	72.04
Cyfluthrin-2	1000	1082.1694	8.22	1000	1265.9282	26.59	1000	1635.8097	63.58
Cyfluthrin-3	1000	1015.6713	1.57	1000	1122.7618	12.28	1000	1476.5670	47.66
Cyfluthrin-4	1000	1120.1940	12.02	1000	1120.4463	12.04	1000	1457.1901	45.72
Cypermethrin-1	1000	1125.1668	12.52	1000	1224.5124	22.45	1000	1602.6294	60.26
Cypermethrin-2	1000	1292.2407	29.22	1000	1308.9934	30.90	1000	1756.9342	75.69
Cypermethrin-3	1000	1086.0487	8.60	1000	1132.1591	13.22	1000	1452.5819	45.26
Cypermethrin-4	1000	1167.5893	16.76	1000	1055.6936	5.57	1000	1382.3115	38.23
Fenvalerate	1000	1162.2754	16.23	1000	1049.1598	4.92	1000	1477.1775	47.72
Fluvalinate	1000	1188.1614	18.82	1000	1041.9794	4.20	1000	1475.4033	47.54
Esfenvalerate	1000	1241.1525	24.12	1000	1058.5306	5.85	1000	1331.0039	33.10
Deltamethrin/Tralomethrin	1000	1228.1959	22.82	1000	1245.8860	24.59	1000	2140.0946	114.01
Average	-	-	14.63	-	-	14.59	-	-	40.96

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Summary of Internal Standards

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	2,2',5,5' - Tetrabromobiphenyl	
	Response	Retention Time
TOX10KICV.D	553142	19.6173
TOX10KICVRR.D	836752	25.1377
B_5024.D	1470030	25.0362
BS1_5024.D	114583	23.6751
BS2_5024.D	125579	23.6582
21958MS1.D	169144	23.6497
21958MS2.D	171616	23.6413
21964.D	1453956	24.9939
21957.D	2275965	24.9516
21958.D	1905244	24.9432
21958R2.D	1829815	24.9347
21959.D	1899725	24.9178
21960.D	1927128	24.9178
21961.D	1972556	24.9009
21962.D	1561715	24.8924
21963.D	1734166	24.8755
TOX10KCCV.D	982463	24.8840
22036.D	2728323	24.8080
22037.D	2408711	24.7995
22038.D	2821018	24.7825
22039.D	2476812	24.7825
22040.D	2322072	24.7741
22041.D	2607301	24.7656
22042.D	2078019	24.7656
22043.D	2420267	24.7572
22044.D	2451852	24.7487
TOX10KFCV.D	1266400	24.7487

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	TOX10000 CCV			TOX10000 FCV		
	10/25/13 8:29 PM			10/26/13 3:47 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Toxaphene	10000	8427.6801	15.72	10000	8260.3746	17.40

February 0 , 2014

Chris Stransky
 AMEC
 9210 Sky Park Court
 Suite 200
 San Diego, CA 92123-

Project Name: RHMP B'13
 Physis Project ID: 1307002-002

Dear Chris,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 8/6/2013. A total of 7 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventionals
Percent Solids by SM 2540B
Ammonia as N by SM 4500-NH ₃ D
Acid Volatile Sulfides by Plumb, 1981 and TERL
Elements
Trace Metals by EPA 6020
Trace Mercury by EPA 245.7
Total Phosphorus by EPA 6020
Simultaneously Extracted Metals Analysis by EPA 200.8
Organics
Toxaphene w/ OCPs by EPA 8270C-NCI
Synthetic Pyrethroid Pesticides by EPA 8270C-NCI
Polynuclear Aromatic Hydrocarbons by EPA 8270C
PBDE Congeners by EPA 8270C-NCI
Organochlorine Pesticides & PCB Congeners/Aroclors by EPA 8270C
Fipronil & Degradates by EPA 8270C-NCI
Subcontract
Total Organic Carbon by SM 5310 B
Total Nitrogen by SM 4500-N

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity

to provide you with our analytical and support services.

Regards,

Misty Mercier
Extension 202
714-335-5918 cell
mistymercier@physislabs.com

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and are used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use was assessed through the analysis of procedural blanks at a minimum frequency of one per batch. Physis' QM requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the procedural blanks be flagged in the project sample results with a B qualifier.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS1/MS2, BS1/BS2, LCS1/LCS2, LCM1/LCM2, CRM1/CRM2, surrogate spikes and/or replicate project sample analysis (R1/R2) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

MATRIX SPIKES: MS samples were employed to assess the effect a particular project sample matrix has on the accuracy of a measurement. It is prepared by adding a known amount of the target analyte(s) to an aliquot of the project sample. Matrix spikes indicate the bias of analytical measurements due to chemical interferences inherent in the sample matrix. If the matrix spike recovery does not fall within the specified acceptance limits, it may be an indication of sample matrix interference in the specific project sample used for the MS. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

BLANK SPIKES: BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

CERTIFIED REFERENCE MATERIALS: CRMs are pre-homogenized materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of a preparation and analytical method. CRMs are analyzed to provide evidence that the laboratory method produces results that are comparable to those obtained by an independent organization.

SURROGATES: Where CRMs are unavailable, target analyte recovery can be assessed by monitoring added surrogate compounds/elements. A surrogate is a pure analyte unlikely to be found in any project sample and most often used with organic analytical procedures. Percent recovery is calculated for each surrogate and is used to monitor method performance within each discrete sample and is indicative of the procedure's ability to recover the actual analytes of interest.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's

concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes. Physis' QM requires that all samples analyzed beyond the method recommended holding time be flagged in the sample results with an H qualifier.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
*	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified recovery and/or RPD acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore MS recovery and/or RPD acceptance limits do not apply
SL	analyte results for R1 and/or R2 were lower than 10 times the MDL, therefore RPD acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore MS recovery and/or RPD were outside the specified acceptance limits
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples



CASE NARRATIVE

QUALIFIER NOTES

In addition to the use of analyte specific Physis Qualifier Codes where applicable, the following were also noted.

ELEMENTS CRM: Five elements, Aluminum (Al), Antimony (Sb), Beryllium (Be), Chromium (Cr) and Iron (Fe) were above the specified acceptance limits in one or more CRM - RTC 016-050 and/or CRM - ERA 540. This occurred as a result of a more rigorous digestion employed by Physis, which causes a higher yield for some lithogenous elements. These values are in agreement with past internal results for CRM - RTC 016-050 and CRM - ERA 540.

ELEMENTS: A calibration point in the middle of the curve (50 PPB mix) was not used for the calibration of the instrument. This was due to the calibration solution not being spiked with internal standard.

ORGANICS TUNE: Physis uses the software supplied with its Agilent GCMS systems to tune its instruments. Moreover, with today's technology software algorithms provided by the instrument manufacturer provide a more stable system across a wider mass range than manual tuning to achieve specific tuning targets such as DFTPP. The following quote is from EPA Method 8270D Section 11.3.1.

“The analyst is always free to choose criteria that are tighter than those included in this method or to use other documented criteria provided they are used consistently throughout the initial calibration, calibration verification, and sample analyses.”

The key here is that the instrument is tuned and that those tune settings are used for the subsequent analysis of the calibration curve, calibration verification, and samples. Moreover, another key reason for tuning to specific criteria is to insure that the GCMS is generating spectra that match the spectra in the NIST Library for confirming the identification of the target analyte. Physis can provide library search results for our calibration standards indicating a very high match quality with the NIST library spectra.

Physis did analyze the DFTPP tune solution with each batch (except for the first batch where the tune solution was mis-injected) and the passing tune reports have been provided indicating that using the instrument tuning software is closely matched to DFTPP tune requirements.



ORGANICS CALIBRATION: A calibration point in the middle of the curve (250 ng) for DCPA (Dacthal) and Dicofol were not used for the calibration of the instrument. This was an error of the analyst that has since been corrected.

ORGANICS CCVS: CCVs for Fipronils, Pyrethroids, PAHs and Chlorinated Pesticides were done at 1000 ng, while the CCVs for PCBs were done at 500 ng. These values are either at or above the high point of the calibration. This was an error of the analyst that has since been corrected.

Revisions 6/17/2014-

- Aroclors:
 - Updated Aroclor MDLs/RLs from 10/20 to 1/2
 - Added Aroclor 1262 and Aroclor 1268
 - After review of the data, the Technical Director made a decision to revise the data for the Aroclors
- RPDs:
 - Reviewed and updated all RPDs to 25%, per the RHMP QAPP. Revised Passes to Fails and added QA Qualifiers, where needed due to update.
- Acceptance Ranges:
 - Reviewed and updated all Acceptance ranges per the RHMP QAPP. Revised Passes to Fails and added QA Qualifier, where needed due to update.
- Level 3 reports:
 - Toxaphene CCV Drift table was revised.

Revisions 8/18/2014-

- Analytical Report:
 - Revised Date Analyzed for Chlorinated Pesticides, PCBs, and PAHs.
 - Added Time Analyzed to all analysis.
- Level 3 reports:
 - Added instrument tune report.

Performance-Based Chemistry-

The chemistry results provided in this report are derived from “performance-based” chemistry rather than the use of specific EPA published laboratory methods. This does not eliminate our responsibility to use Good Laboratory Practices. It does allow for incorporation of improvements in technology or the use of laboratory preferences for techniques that improve the efficiency and sensitivity of the laboratory and maintain or enhance the quality of the data.



“The Environmental Protection Agency (EPA) is actively working to implement the President’s program for reinventing government and reforming regulatory policy. As part of this program, EPA has been working at breaking down barriers to using new monitoring techniques. One barrier is the requirement to use specific measurement methods or technologies in complying with some of the Agency’s regulations. EPA’s Environmental Monitoring Management Council (EMMC), members of the regulated community, and Congress agree that EPA needs to change the way it specifies monitoring requirements in regulations and permits. There is broad acceptance for Agency-wide use of a nonprescriptive performance-based measurement system (PBMS)”. PBMS conveys "what" needs to be accomplished, but not prescriptively "how" to do it. EPA defines PBMS as a set of processes wherein the data needs, mandates, or limitations of a program or project are specified, and serve as criteria for selecting appropriate methods to meet those needs in a cost-effective manner. The criteria may be published in regulations, technical guidance documents, permits, work plans, or enforcement orders. Under a performance-based approach, EPA would specify:

- Questions to be answered by monitoring.
- Decisions to be supported by the data.
- Level of uncertainty acceptable for making decisions.
- Documentation to be generated to support this approach in the RCRA monitoring program.

(Taken from OSWER PBMS Implementation Plan, October 9, 1998, A Cooperative Effort Among: OSW, OERR, OUST, TIO, FFROL and CEPPO).”

The US EPA has included references to being “performance-based” in many of their newer methods. The use of performance-based methods is even more critical for programs like this study in order to allow the laboratory to adapt methods that optimize the goal of the project in terms of achieving ultra-low sensitivity and analysis of new chemicals of concern. I would also like to quote US EPA Method 8270-

“In addition, SW-846 methods, with the exception of required method use for the analysis of method-defined parameters, are intended to be guidance methods which contain general information on how to perform an analytical procedure or technique which a laboratory can use as a basic starting point for generating its own detailed Standard Operating Procedure (SOP), either for its own general use or for a specific project application.”

Performance-based chemistry was first used for NOAA’s National Status and Trends Program in the early 1980’s which is now operated under the US EPA as the National Coastal Condition Assessment



Program (NCCA). The NS&T program included 3 large well-established laboratories for the analysis of samples from each of 3 regions of the United States. It was concluded at the beginning of this program that a significant improvement in the quality and comparability of the results would be achieved by allowing the participating laboratories to optimize their own individual methods. The key to this approach and any subsequent performance-based chemistry programs is the successful inclusion of an interlaboratory comparison as well as the clear detailed specification of data quality objectives (DQOs) for the project. All the Bight Survey projects from 1994 to 2013 have been performance-based and each of the surveys included interlaboratory comparisons as a key component for ensuring high quality data that is comparable between laboratories over time.

The one area that has not evolved along with the advent of performance-based chemistry is the data validation process. Today's data validation process still relies upon collecting and evaluating laboratory analytical information and comparing it to the details of a specific EPA analytical method such as EPA 8270 for GCMS analysis or EPA 6020 for ICPMS analysis. This can occur even when the requirement in the method is out-dated and based on old technology. Data validation procedures need to be adapted to performance-based chemistry allowing for any individual laboratory to use or not use any method or any part of a method they choose as long as they can demonstrate their ability to successfully pass interlaboratory comparisons, performance evaluation samples, and meet the data quality objectives of the project QA Plan.

EPA Method Modifications-

With reference to performance-based methods, the following information is provided as a basis of comparison between the Physis methods used for this study and the associated EPA Method. Its purpose is solely to provide information and is not intended to highlight errors. Physis has successfully participated in several interlaboratory comparison studies including the Bight 13 Project demonstrating the viability of our analytical process. Physis has included the QAQC data in this report necessary to show that the results comply with the project QA Plan and indicate acceptable accuracy and precision.

1. Internal Laboratory QAQC Frequency for GCMS Analyses- Physis uses GC columns that are longer and narrower and the GC oven is programmed at a very slow rate of 2.5°C per minute both of which are not typically used by most laboratories. The purpose for this is to maximize separation of the 100's to 1000's of compounds present in environmental samples reducing co-elution with interfering compounds, reducing background noise, and enhancing the accuracy of quantitation. At the same time this process extends the run-time for each sample to ca. 90 minutes as compared to the 15-30 minutes with typical conditions. At 90



minutes per run, the maximum number of runs for any 12-hour period is 8. Each batch of samples typically includes the DFTPP tune solution and the initial calibration verification of from 1 to 4 solutions (Depending on the target parameters) for a total of 2-5 runs leaving an opening for 3-6 samples before having to redo the QA samples if the 12-hour constraint is applied. At this rate it's not economically viable to follow the 12-hour rule and complete the analyses of the samples.

Since the 12-hour criteria was established when the state-of-the-art was GCs equipped with packed columns and GCMS systems were not anywhere near as stable as the electronics of today. Physis does follow the criteria's intent by analyzing the calibration verification standards at the beginning, middle, and end of each batch of no more than 20 samples rather than every 12 hours.

2. Calibration and Quantitation- Physis bases its calibration curve on the mass of each compound rather than concentration. Using the internal standard method of quantitation, use of mass rather than concentration eliminates the extract or digestate volume term from the formula used to calculate concentrations in the samples. Therefore there is no need to measure the precise volume of the extract or digestate. For GCMS analysis, extract volumes can be quite low and small volume changes will be reflected in increased variation of the internal standard response from sample to sample due to differences in the extract volume and not due to the instability of the GCMS. Through long-term experience, Physis chemists are trained to take into consideration this change in volume when evaluating whether a change in the internal standard response is caused by a change in the GCMS sensitivity or extract volume.

The "recovery" of the Internal Standard and its variability is reported in Form VII SV-1 for reporting IS peak areas. For the sample IS compared to the ICV/CCV IS peak area, this form has a wide acceptance range at 50-200% which is considerably larger than the variation in the nominal estimate made of our extract volumes. Therefore significant deviations from expected IS responses are clearly obvious to the analyst and would require corrective action and re-analysis. The difficulty is the fact that Form VII SV-1 does not accommodate volumes and therefore does not allow for evaluation of the sample IS as it compares to the ICV/CCV on an even basis.

3. Negative Chemical Ionization- Some target analytes are analyzed using the GCMS in the Negative Chemical Ionization Mode (NCI). This results in non-standard mass spectra that cannot be compared to the EI spectra in the NIST library.



4. Aroclor PCBs- Physis analyzes PCBs using a congener-based calibration standard composed of 52 or more different congeners representing ca. 75-80% of the PCBs discharged into the environment. Physis uses the results from the congener analysis to estimate Aroclor concentrations. To do this, Physis determines the Aroclor mixture present in the sample, sums the results for the congeners present in that Aroclor mixture then corrects the result to account for the missing mass based on a previous comparison of an Aroclor calibration standard to the congener mixture. Physis does not perform blank or matrix spikes using Aroclor mixtures since PCB spiking is done via the congener solution. Aroclor-based quantitation is inherently inaccurate and imprecise and results based on our process are as accurate if not more accurate than the Aroclor-based process since the quantitation is based on individual peaks rather than summing peaks.
5. Pyrethroid/Fipronil Surrogates- Physis spikes all samples with a surrogate solution containing TCMX, PCB030, PCB112, and PCB198 for the Chlorinated Pesticides, Congener PCBs, Pyrethroids, and Fipronils; d8-Naphthalene, d10-Acenaphthene, d10-Phenanthrene, d12-Chrysene, and d12-Perylene for the PAHs; and FBDE-3002, FBDE-5004, and FBDE-8001 for the PBDEs. Since Pyrethroids and Fipronils are quantified using NCI, only the PCB112 and PCB198 surrogates are used as surrogates for these compounds.
6. Sample Preservation - According to the Standard Operating Procedure for Sample Logistics, sediment and tissue samples were placed in a freezer maintained at $-20 \pm 4^{\circ}\text{C}$ until preserved or processed.

ANALYTICAL REPORT

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CA ELAP #2769

Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21957-R1 B13-8233 Oceanside Matrix: Sediment Sampled: 06-Aug-13 8:46 Received: 06-Aug-13 Method: EPA 8270C Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 03-Nov-13 0:00						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	4	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	
Sample ID: 21958-R1 B13-8236 Oceanside Matrix: Sediment Sampled: 06-Aug-13 10:12 Received: 06-Aug-13 Method: EPA 8270C Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 03-Nov-13 0:00						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	ND	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	
Sample ID: 21959-R1 B13-8239 Oceanside Matrix: Sediment Sampled: 06-Aug-13 11:30 Received: 06-Aug-13 Method: EPA 8270C Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 03-Nov-13 0:00						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	



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Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1260	NA	ND	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 21960-R1**B13-8267 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 11:45****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	6.9	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 21961-R1**B13-8265 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 13:01****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	1.9	1	2	ng/dry g	J
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 21962-R1**B13-8263 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 15:25****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	



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Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	ND	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 21963-R1**B13-8259 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 10:02****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	1.3	1	2	ng/dry g	J
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 21957-R1</div> <div>B13-8233 Oceanside</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5024</div> </div> <div> <div>Sampled: 06-Aug-13 8:46</div> <div>Prepared: 16-Oct-13</div> </div> <div> <div>Received: 06-Aug-13</div> <div>Analyzed: 03-Nov-13 14:57</div> </div>						
(PCB030)	NA	81			% Recovery	
(PCB112)	NA	86			% Recovery	
(PCB198)	NA	60			% Recovery	
(TCMX)	NA	75			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	1.73	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 22:53

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
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Sample ID: 21958-R1**B13-8236 Oceanside****Matrix: Sediment****Sampled: 06-Aug-13 10:12****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 16:40

(PCB030)	NA	82			% Recovery
(PCB112)	NA	85			% Recovery
(PCB198)	NA	56			% Recovery
(TCMX)	NA	74			% Recovery
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g
4,4'-DDE	NA	0.63	0.05	0.1	ng/dry g
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g
Aldrin	NA	ND	0.05	0.1	ng/dry g
BHC-alpha	NA	ND	0.05	0.1	ng/dry g
BHC-beta	NA	ND	0.05	0.1	ng/dry g
BHC-delta	NA	ND	0.05	0.1	ng/dry g
BHC-gamma	NA	ND	0.05	0.1	ng/dry g
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g
Dicofol	NA	ND	0.05	0.1	ng/dry g
Dieldrin	NA	ND	0.05	0.1	ng/dry g



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 23:57

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
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Sample ID: 21959-R1**B13-8239 Oceanside****Matrix: Sediment****Sampled: 06-Aug-13 11:30****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 20:06

(PCB030)	NA	75			% Recovery	
(PCB112)	NA	90			% Recovery	
(PCB198)	NA	67			% Recovery	
(TCMX)	NA	68			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	0.8	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 2:05

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
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Sample ID: 21960-R1**B13-8267 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 11:45****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 21:48

(PCB030)	NA	68			% Recovery	
(PCB112)	NA	82			% Recovery	
(PCB198)	NA	63			% Recovery	
(TCMX)	NA	67			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	2.66	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	0.35	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	0.85	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	0.13	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	0.31	0.05	0.1	ng/dry g	
Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 25-Oct-13 3:10						
Toxaphene	NA	ND	0.1	0.2	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21961-R1		B13-8265 Dana Point		Matrix: Sediment		Sampled: 05-Aug-13 13:01
Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13		Received: 06-Aug-13
(PCB030)	NA	79			% Recovery	Analyzed: 03-Nov-13 23:31
(PCB112)	NA	92			% Recovery	
(PCB198)	NA	63			% Recovery	
(TCMX)	NA	76			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	1.8	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 4:14

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
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Sample ID: 21962-R1**B13-8263 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 15:25****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 1:14

(PCB030)	NA	79			% Recovery	
(PCB112)	NA	85			% Recovery	
(PCB198)	NA	62			% Recovery	
(TCMX)	NA	76			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	1.56	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 5:17

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
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Sample ID: 21963-R1**B13-8259 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 10:02****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 2:57

(PCB030)	NA	77			% Recovery	
(PCB112)	NA	87			% Recovery	
(PCB198)	NA	65			% Recovery	
(TCMX)	NA	71			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	1.07	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
Method: EPA 8270C-NCI		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 25-Oct-13 6:22
Toxaphene	NA	ND	0.1	0.2	ng/dry g	



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Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21957-R1		B13-8233 Oceanside	Matrix: Sediment	Sampled: 06-Aug-13 8:46	Received: 06-Aug-13	
	Method: SM 2540B	Batch ID: C-14028		Prepared: 24-Sep-13	Analyzed: 25-Sep-13 0:00	
Percent Solids	NA	44	0.1	0.1	% Dry Weight	
	Method: Plumb, 1981 and TERL	Batch ID: C-14036		Prepared: 27-Sep-13	Analyzed: 27-Sep-13 0:00	
Acid Volatile Sulfides	NA	174.63	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14038		Prepared: 24-Sep-13	Analyzed: 26-Sep-13 0:00	
Ammonia as N	NA	3.95	0.02	0.03	mg/dry kg	
	Method: EPA 6020	Batch ID: E-5145		Prepared: 25-Sep-13	Analyzed: 02-Oct-13 15:06	
Total Phosphorus	NA	977.412	0.016	0.05	µg/dry g	
Sample ID: 21958-R1		B13-8236 Oceanside	Matrix: Sediment	Sampled: 06-Aug-13 10:12	Received: 06-Aug-13	
	Method: SM 2540B	Batch ID: C-14028		Prepared: 24-Sep-13	Analyzed: 25-Sep-13 0:00	
Percent Solids	NA	49.2	0.1	0.1	% Dry Weight	
	Method: Plumb, 1981 and TERL	Batch ID: C-14036		Prepared: 27-Sep-13	Analyzed: 27-Sep-13 0:00	
Acid Volatile Sulfides	NA	74.85	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14038		Prepared: 24-Sep-13	Analyzed: 26-Sep-13 0:00	
Ammonia as N	NA	4.36	0.02	0.03	mg/dry kg	
	Method: EPA 6020	Batch ID: E-5145		Prepared: 25-Sep-13	Analyzed: 02-Oct-13 15:15	
Total Phosphorus	NA	728.906	0.016	0.05	µg/dry g	
Sample ID: 21959-R1		B13-8239 Oceanside	Matrix: Sediment	Sampled: 06-Aug-13 11:30	Received: 06-Aug-13	
	Method: SM 2540B	Batch ID: C-14028		Prepared: 24-Sep-13	Analyzed: 25-Sep-13 0:00	
Percent Solids	NA	51.5	0.1	0.1	% Dry Weight	
	Method: Plumb, 1981 and TERL	Batch ID: C-14036		Prepared: 27-Sep-13	Analyzed: 27-Sep-13 0:00	
Acid Volatile Sulfides	NA	405.09	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14038		Prepared: 24-Sep-13	Analyzed: 26-Sep-13 0:00	
Ammonia as N	NA	6.26	0.02	0.03	mg/dry kg	
	Method: EPA 6020	Batch ID: E-5145		Prepared: 25-Sep-13	Analyzed: 02-Oct-13 15:20	
Total Phosphorus	NA	574.024	0.016	0.05	µg/dry g	
Sample ID: 21960-R1		B13-8267 Dana Point	Matrix: Sediment	Sampled: 05-Aug-13 11:45	Received: 06-Aug-13	
	Method: SM 2540B	Batch ID: C-14028		Prepared: 24-Sep-13	Analyzed: 25-Sep-13 0:00	
Percent Solids	NA	40.9	0.1	0.1	% Dry Weight	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Acid Volatile Sulfides	Method: Plumb, 1981 and TERL	Batch ID: C-14036		Prepared: 27-Sep-13		Analyzed: 27-Sep-13 0:00
	NA	173.22	0.05	0.1	mg/dry kg	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14038		Prepared: 24-Sep-13		Analyzed: 26-Sep-13 0:00
	NA	4.22	0.02	0.03	mg/dry kg	
Total Phosphorus	Method: EPA 6020	Batch ID: E-5145		Prepared: 25-Sep-13		Analyzed: 02-Oct-13 15:24
	NA	935.481	0.016	0.05	µg/dry g	
Sample ID: 21961-R1		B13-8265 Dana Point	Matrix: Sediment	Sampled: 05-Aug-13 13:01	Received: 06-Aug-13	
Percent Solids	Method: SM 2540B	Batch ID: C-14028		Prepared: 24-Sep-13		Analyzed: 25-Sep-13 0:00
	NA	55.6	0.1	0.1	% Dry Weight	
Acid Volatile Sulfides	Method: Plumb, 1981 and TERL	Batch ID: C-14036		Prepared: 27-Sep-13		Analyzed: 27-Sep-13 0:00
	NA	102.79	0.05	0.1	mg/dry kg	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14038		Prepared: 24-Sep-13		Analyzed: 26-Sep-13 0:00
	NA	1.78	0.02	0.03	mg/dry kg	
Total Phosphorus	Method: EPA 6020	Batch ID: E-5145		Prepared: 25-Sep-13		Analyzed: 02-Oct-13 15:29
	NA	968.251	0.016	0.05	µg/dry g	
Sample ID: 21962-R1		B13-8263 Dana Point	Matrix: Sediment	Sampled: 05-Aug-13 15:25	Received: 06-Aug-13	
Percent Solids	Method: SM 2540B	Batch ID: C-14028		Prepared: 24-Sep-13		Analyzed: 25-Sep-13 0:00
	NA	61.2	0.1	0.1	% Dry Weight	
Acid Volatile Sulfides	Method: Plumb, 1981 and TERL	Batch ID: C-14036		Prepared: 27-Sep-13		Analyzed: 27-Sep-13 0:00
	NA	58.1	0.05	0.1	mg/dry kg	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14038		Prepared: 24-Sep-13		Analyzed: 26-Sep-13 0:00
	NA	3.18	0.02	0.03	mg/dry kg	
Total Phosphorus	Method: EPA 6020	Batch ID: E-5145		Prepared: 25-Sep-13		Analyzed: 02-Oct-13 15:33
	NA	606.013	0.016	0.05	µg/dry g	
Sample ID: 21963-R1		B13-8259 Dana Point	Matrix: Sediment	Sampled: 05-Aug-13 10:02	Received: 06-Aug-13	
Percent Solids	Method: SM 2540B	Batch ID: C-14028		Prepared: 24-Sep-13		Analyzed: 25-Sep-13 0:00
	NA	46.7	0.1	0.1	% Dry Weight	
Acid Volatile Sulfides	Method: Plumb, 1981 and TERL	Batch ID: C-14036		Prepared: 27-Sep-13		Analyzed: 27-Sep-13 0:00
	NA	59.09	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14038		Prepared: 24-Sep-13		Analyzed: 26-Sep-13 0:00



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Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Ammonia as N	NA	2.31	0.02	0.03	mg/dry kg	
Method: EPA 6020		Batch ID: E-5145		Prepared: 25-Sep-13		Analyzed: 02-Oct-13 15:38
Total Phosphorus	NA	762.381	0.016	0.05	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21957-R1 B13-8233 Oceanside Matrix: Sediment Sampled: 06-Aug-13 8:46 Received: 06-Aug-13 Method: EPA 6020 Batch ID: E-5145 Prepared: 25-Sep-13 Analyzed: 02-Oct-13 21:55						
Aluminum (Al)	NA	41528.4	1	5	µg/dry g	
Antimony (Sb)	NA	0.37	0.025	0.05	µg/dry g	
Arsenic (As)	NA	12.354	0.025	0.05	µg/dry g	
Barium (Ba)	NA	164.943	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.767	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2748	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	65.9446	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	364.0016	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	42545.7	1	5	µg/dry g	
Lead (Pb)	NA	22.3711	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	23.89	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.441	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.22	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	317.303	0.025	0.05	µg/dry g	
Method: EPA 245-7 Batch ID: E-6029 Prepared: 04-Oct-13 Analyzed: 04-Oct-13 0:00						
Mercury (Hg)	NA	0.3211	0.00001	0.00002	µg/dry g	
Sample ID: 21958-R1 B13-8236 Oceanside Matrix: Sediment Sampled: 06-Aug-13 10:12 Received: 06-Aug-13 Method: EPA 6020 Batch ID: E-5145 Prepared: 25-Sep-13 Analyzed: 02-Oct-13 22:05						
Aluminum (Al)	NA	35384.5	1	5	µg/dry g	
Antimony (Sb)	NA	0.256	0.025	0.05	µg/dry g	
Arsenic (As)	NA	9.411	0.025	0.05	µg/dry g	
Barium (Ba)	NA	150.1	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.625	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2546	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	54.9885	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	144.5629	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	35802	1	5	µg/dry g	
Lead (Pb)	NA	14.7792	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	20.31	0.01	0.02	µg/dry g	



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	NA	0.334	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.12	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	185.403	0.025	0.05	µg/dry g	
Method: EPA 245.7		Batch ID: E-6029		Prepared: 04-Oct-13		Analyzed: 04-Oct-13 0:00
Mercury (Hg)	NA	0.1491	0.00001	0.00002	µg/dry g	

Sample ID: 21959-R1**B13-8239 Oceanside****Matrix: Sediment****Sampled: 06-Aug-13 11:30****Received: 06-Aug-13**

Method: EPA 6020

Batch ID: E-5145

Prepared: 25-Sep-13

Analyzed: 02-Oct-13 22:09

Aluminum (Al)	NA	21140.2	1	5	µg/dry g	
Antimony (Sb)	NA	0.184	0.025	0.05	µg/dry g	
Arsenic (As)	NA	6.827	0.025	0.05	µg/dry g	
Barium (Ba)	NA	135.032	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.427	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2708	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	41.6437	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	46.1926	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	26810.9	1	5	µg/dry g	
Lead (Pb)	NA	7.8927	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	16.88	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.325	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.06	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	106.293	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.0255	0.00001	0.00002	µg/dry g	
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Sample ID: 21960-R1**B13-8267 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 11:45****Received: 06-Aug-13**

Method: EPA 6020

Batch ID: E-5145

Prepared: 25-Sep-13

Analyzed: 02-Oct-13 22:14

Aluminum (Al)	NA	32301.8	1	5	µg/dry g	
Antimony (Sb)	NA	0.481	0.025	0.05	µg/dry g	
Arsenic (As)	NA	11.984	0.025	0.05	µg/dry g	
Barium (Ba)	NA	188.252	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.747	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.346	0.0025	0.005	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	NA	67.2514	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	402.0081	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	27688.4	1	5	µg/dry g	
Lead (Pb)	NA	26.9608	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	22.69	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.664	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.22	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	275.439	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.0711	0.00001	0.00002	µg/dry g	
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Sample ID: 21961-R1**B13-8265 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 13:01****Received: 06-Aug-13**

Method: EPA 6020

Batch ID: E-5145

Prepared: 25-Sep-13

Analyzed: 02-Oct-13 22:19

Aluminum (Al)	NA	20312.5	1	5	µg/dry g	
Antimony (Sb)	NA	0.287	0.025	0.05	µg/dry g	
Arsenic (As)	NA	7.756	0.025	0.05	µg/dry g	
Barium (Ba)	NA	140.993	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.474	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2709	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	49.8047	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	113.0255	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	17696.7	1	5	µg/dry g	
Lead (Pb)	NA	10.7257	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	17.35	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.838	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.14	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	120.434	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.0314	0.00001	0.00002	µg/dry g	
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Sample ID: 21962-R1**B13-8263 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 15:25****Received: 06-Aug-13**

Method: EPA 6020

Batch ID: E-5145

Prepared: 25-Sep-13

Analyzed: 02-Oct-13 22:23

Aluminum (Al)	NA	12027.5	1	5	µg/dry g	
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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Antimony (Sb)	NA	0.211	0.025	0.05	µg/dry g	
Arsenic (As)	NA	4.567	0.025	0.05	µg/dry g	
Barium (Ba)	NA	81.102	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.288	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.3847	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	34.3016	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	37.3778	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	12887.2	1	5	µg/dry g	
Lead (Pb)	NA	8.2454	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	14.97	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.347	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.07	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	73.513	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.02	0.00001	0.00002	µg/dry g	
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Sample ID: 21963-R1**B13-8259 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 10:02****Received: 06-Aug-13**

Method: EPA 6020

Batch ID: E-5145

Prepared: 25-Sep-13

Analyzed: 02-Oct-13 22:28

Aluminum (Al)	NA	28163.7	1	5	µg/dry g	
Antimony (Sb)	NA	0.302	0.025	0.05	µg/dry g	
Arsenic (As)	NA	9.731	0.025	0.05	µg/dry g	
Barium (Ba)	NA	219.01	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.656	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2004	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	51.607	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	292.6334	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	24258.2	1	5	µg/dry g	
Lead (Pb)	NA	17.8741	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	16.67	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.631	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.14	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	224.97	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Mercury (Hg)	NA	0.0685	0.00001	0.00002	µg/dry g	



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21957-R1 B13-8233 Oceanside Matrix: Sediment Sampled: 06-Aug-13 8:46 Received: 06-Aug-13 Method: EPA 200.8 Batch ID: E-5152 Prepared: 08-Oct-13 Analyzed: 10-Oct-13 13:52						
Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu)	NA	1.1645	0.0062	0.0124	µmol/dry g	
Lead (Pb)	NA	0.0598	0.0002	0.0004	µmol/dry g	
Nickel (Ni)	NA	0.0165	0.0033	0.0066	µmol/dry g	
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn)	NA	3.0582	0.0015	0.003	µmol/dry g	
Sample ID: 21958-R1 B13-8236 Oceanside Matrix: Sediment Sampled: 06-Aug-13 10:12 Received: 06-Aug-13 Method: EPA 200.8 Batch ID: E-5152 Prepared: 08-Oct-13 Analyzed: 10-Oct-13 14:01						
Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu)	NA	0.5715	0.0062	0.0124	µmol/dry g	
Lead (Pb)	NA	0.0455	0.0002	0.0004	µmol/dry g	
Nickel (Ni)	NA	0.014	0.0033	0.0066	µmol/dry g	
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn)	NA	1.4277	0.0015	0.003	µmol/dry g	
Sample ID: 21959-R1 B13-8239 Oceanside Matrix: Sediment Sampled: 06-Aug-13 11:30 Received: 06-Aug-13 Method: EPA 200.8 Batch ID: E-5152 Prepared: 08-Oct-13 Analyzed: 10-Oct-13 14:06						
Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu)	NA	0.0361	0.0062	0.0124	µmol/dry g	
Lead (Pb)	NA	0.0243	0.0002	0.0004	µmol/dry g	
Nickel (Ni)	NA	0.0162	0.0033	0.0066	µmol/dry g	
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn)	NA	0.4542	0.0015	0.003	µmol/dry g	
Sample ID: 21960-R1 B13-8267 Dana Point Matrix: Sediment Sampled: 05-Aug-13 11:45 Received: 06-Aug-13 Method: EPA 200.8 Batch ID: E-5152 Prepared: 08-Oct-13 Analyzed: 10-Oct-13 14:11						
Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu)	NA	1.074	0.0062	0.0124	µmol/dry g	
Lead (Pb)	NA	0.0634	0.0002	0.0004	µmol/dry g	
Nickel (Ni)	NA	0.0168	0.0033	0.0066	µmol/dry g	



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn)	NA	2.4011	0.0015	0.003	µmol/dry g	

Sample ID: 21961-R1**B13-8265 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 13:01****Received: 06-Aug-13**

Method: EPA 200.8

Batch ID: E-5152

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 14:17

Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu)	NA	0.5888	0.0062	0.0124	µmol/dry g	
Lead (Pb)	NA	0.0314	0.0002	0.0004	µmol/dry g	
Nickel (Ni)	NA	0.0178	0.0033	0.0066	µmol/dry g	
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn)	NA	1.0226	0.0015	0.003	µmol/dry g	

Sample ID: 21962-R1**B13-8263 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 15:25****Received: 06-Aug-13**

Method: EPA 200.8

Batch ID: E-5152

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 14:22

Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu)	NA	0.1252	0.0062	0.0124	µmol/dry g	
Lead (Pb)	NA	0.0205	0.0002	0.0004	µmol/dry g	
Nickel (Ni)	NA	0.0129	0.0033	0.0066	µmol/dry g	
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn)	NA	0.5316	0.0015	0.003	µmol/dry g	

Sample ID: 21963-R1**B13-8259 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 10:02****Received: 06-Aug-13**

Method: EPA 200.8

Batch ID: E-5152

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 14:26

Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu)	NA	1.0581	0.0062	0.0124	µmol/dry g	
Lead (Pb)	NA	0.042	0.0002	0.0004	µmol/dry g	
Nickel (Ni)	NA	0.0132	0.0033	0.0066	µmol/dry g	
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn)	NA	2.1419	0.0015	0.003	µmol/dry g	



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Fipronil & Degradates**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21957-R1 B13-8233 Oceanside Matrix: Sediment Sampled: 06-Aug-13 8:46 Received: 06-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 24-Oct-13 22:53						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 21958-R1 B13-8236 Oceanside Matrix: Sediment Sampled: 06-Aug-13 10:12 Received: 06-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 24-Oct-13 23:57						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 21959-R1 B13-8239 Oceanside Matrix: Sediment Sampled: 06-Aug-13 11:30 Received: 06-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 25-Oct-13 2:05						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 21960-R1 B13-8267 Dana Point Matrix: Sediment Sampled: 05-Aug-13 11:45 Received: 06-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 25-Oct-13 3:10						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 21961-R1 B13-8265 Dana Point Matrix: Sediment Sampled: 05-Aug-13 13:01 Received: 06-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 25-Oct-13 4:14						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

Fipronil & Degradates

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 21962-R1**B13-8263 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 15:25****Received: 06-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 5:17

Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 21963-R1**B13-8259 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 10:02****Received: 06-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 6:22

Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 21957-R1</div> <div>B13-8233 Oceanside</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5024</div> </div> <div> <div>Sampled: 06-Aug-13 8:46</div> <div>Prepared: 16-Oct-13</div> </div> <div> <div>Received: 06-Aug-13</div> <div>Analyzed: 03-Nov-13 14:57</div> </div>						
PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.33	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.53	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.42	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.02	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	0.27	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	0.62	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 21958-R1

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 16:40

PCB003	NA	ND	0.05	0.1	ng/dry g	
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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	ND	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 21959-R1**B13-8239 Oceanside****Matrix: Sediment****Sampled: 06-Aug-13 11:30****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 20:06

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	ND	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 21960-R1**B13-8267 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 11:45****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 21:48

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.3	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.48	0.05	0.1	ng/dry g	
PCB101	NA	0.95	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.75	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.85	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	0.41	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	0.81	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 21961-R1**B13-8265 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 13:01****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 23:31

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.13	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	0.41	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.55	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.45	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	ND	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 21962-R1**B13-8263 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 15:25****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 1:14

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	ND	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 21963-R1**B13-8259 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 10:02****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 2:57

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	0.24	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.34	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	0.3	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	0.2	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21957-R1		B13-8233 Oceanside		Matrix: Sediment		Sampled: 06-Aug-13 8:46
		Method: EPA 8270C-NCI		Batch ID: O-5024		Received: 06-Aug-13
				Prepared: 16-Oct-13		Analyzed: 29-Oct-13 22:25
(DFPBDE)	NA	70			% Recovery	
(FTBDE)	NA	99			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.51	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 21958-R1		B13-8236 Oceanside		Matrix: Sediment		Sampled: 06-Aug-13 10:12
		Method: EPA 8270C-NCI		Batch ID: O-5024		Received: 06-Aug-13
				Prepared: 16-Oct-13		Analyzed: 29-Oct-13 23:04
(DFPBDE)	NA	74			% Recovery	
(FTBDE)	NA	96			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.55	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 21959-R1

B13-8239 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 11:30

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 30-Oct-13 0:22

(DFPBDE)	NA	75			% Recovery	
(FTBDE)	NA	106			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.46	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 21960-R1

B13-8267 Dana Point

Matrix: Sediment

Sampled: 05-Aug-13 11:45

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 30-Oct-13 1:01

(DFPBDE)	NA	73			% Recovery	
(FTBDE)	NA	92			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	



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PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	0.29	0.05	0.1	ng/dry g	
PBDE154	NA	0.27	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 21961-R1

B13-8265 Dana Point

Matrix: Sediment

Sampled: 05-Aug-13 13:01

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 30-Oct-13 2:50

(DFPBDE)	NA	66			% Recovery
(FTBDE)	NA	98			% Recovery
PBDE017	NA	0.24	0.05	0.1	ng/dry g
PBDE028	NA	0.17	0.05	0.1	ng/dry g
PBDE047	NA	0.42	0.05	0.1	ng/dry g
PBDE049	NA	ND	0.05	0.1	ng/dry g
PBDE066	NA	0.51	0.05	0.1	ng/dry g
PBDE071	NA	0.22	0.05	0.1	ng/dry g
PBDE085	NA	ND	0.05	0.1	ng/dry g
PBDE099	NA	0.19	0.05	0.1	ng/dry g
PBDE100	NA	ND	0.05	0.1	ng/dry g
PBDE138	NA	ND	0.05	0.1	ng/dry g
PBDE153	NA	ND	0.05	0.1	ng/dry g
PBDE154	NA	0.1	0.05	0.1	ng/dry g
PBDE183	NA	ND	0.05	0.1	ng/dry g
PBDE190	NA	ND	0.05	0.1	ng/dry g



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PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE209	NA	ND	0.05	0.1	ng/dry g	
Sample ID: 21962-R1 B13-8263 Dana Point Matrix: Sediment Sampled: 05-Aug-13 15:25 Received: 06-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 30-Oct-13 3:29						
(DFPBDE)	NA	61			% Recovery	
(FTBDE)	NA	92			% Recovery	
PBDE017	NA	0.19	0.05	0.1	ng/dry g	
PBDE028	NA	0.11	0.05	0.1	ng/dry g	
PBDE047	NA	0.15	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.36	0.05	0.1	ng/dry g	
PBDE071	NA	0.3	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	0.17	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	0.05	0.05	0.1	ng/dry g	J
PBDE154	NA	0.08	0.05	0.1	ng/dry g	J
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 21963-R1 B13-8259 Dana Point Matrix: Sediment Sampled: 05-Aug-13 10:02 Received: 06-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 30-Oct-13 4:08						
(DFPBDE)	NA	73			% Recovery	
(FTBDE)	NA	96			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	0.08	0.05	0.1	ng/dry g	J
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.51	0.05	0.1	ng/dry g	
PBDE071	NA	0.21	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	



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PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE099	NA	0.14	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	0.07	0.05	0.1	ng/dry g	J
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 21957-R1</div> <div>B13-8233 Oceanside</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5024</div> </div> <div> <div>Sampled: 06-Aug-13 8:46</div> <div>Prepared: 16-Oct-13</div> </div> <div> <div>Received: 06-Aug-13</div> <div>Analyzed: 03-Nov-13 14:57</div> </div>						
(d10-Acenaphthene)	NA	50			% Recovery	
(d10-Phenanthrene)	NA	64			% Recovery	
(d12-Chrysene)	NA	70			% Recovery	
(d8-Naphthalene)	NA	25			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	1.7	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	2.7	1	5	ng/dry g	J
Benz[a]anthracene	NA	5.4	1	5	ng/dry g	
Benzo[a]pyrene	NA	6.4	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	5.6	1	5	ng/dry g	
Benzo[e]pyrene	NA	4.4	1	5	ng/dry g	J
Benzo[g,h,i]perylene	NA	9.6	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	3.4	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	6.7	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	3.3	1	5	ng/dry g	J
Dibenzothiophene	NA	ND	1	5	ng/dry g	
Fluoranthene	NA	12.8	1	5	ng/dry g	
Fluorene	NA	1.2	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	9.7	1	5	ng/dry g	
Naphthalene	NA	1	1	5	ng/dry g	J
Perylene	NA	2.3	1	5	ng/dry g	J
Phenanthrene	NA	9.3	1	5	ng/dry g	
Pyrene	NA	11.8	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21958-R1		B13-8236 Oceanside		Matrix: Sediment		Sampled: 06-Aug-13 10:12
	Method: EPA 8270C	Batch ID: O-5024		Prepared: 16-Oct-13		Received: 06-Aug-13
						Analyzed: 03-Nov-13 16:40
(d10-Acenaphthene)	NA	51			% Recovery	
(d10-Phenanthrene)	NA	74			% Recovery	
(d12-Chrysene)	NA	71			% Recovery	
(d8-Naphthalene)	NA	25			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	1	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	2.1	1	5	ng/dry g	J
Benz[a]anthracene	NA	6.2	1	5	ng/dry g	
Benzo[a]pyrene	NA	3.4	1	5	ng/dry g	J
Benzo[b]fluoranthene	NA	3.7	1	5	ng/dry g	J
Benzo[e]pyrene	NA	2.4	1	5	ng/dry g	J
Benzo[g,h,i]perylene	NA	3.6	1	5	ng/dry g	J
Benzo[k]fluoranthene	NA	2	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	7.1	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	1.8	1	5	ng/dry g	J
Dibenzothiophene	NA	1.2	1	5	ng/dry g	J
Fluoranthene	NA	14.6	1	5	ng/dry g	
Fluorene	NA	1.1	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	4.1	1	5	ng/dry g	J
Naphthalene	NA	ND	1	5	ng/dry g	
Perylene	NA	1.2	1	5	ng/dry g	J
Phenanthrene	NA	8.8	1	5	ng/dry g	
Pyrene	NA	13.3	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 21959-R1</div> <div>B13-8239 Oceanside</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5024</div> </div> <div> <div>Sampled: 06-Aug-13 11:30</div> <div>Prepared: 16-Oct-13</div> </div> <div> <div>Received: 06-Aug-13</div> <div>Analyzed: 03-Nov-13 20:06</div> </div>						
(d10-Acenaphthene)	NA	52			% Recovery	
(d10-Phenanthrene)	NA	73			% Recovery	
(d12-Chrysene)	NA	82			% Recovery	
(d8-Naphthalene)	NA	29			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	1.7	1	5	ng/dry g	J
Benz[a]anthracene	NA	1.7	1	5	ng/dry g	J
Benzo[a]pyrene	NA	1.8	1	5	ng/dry g	J
Benzo[b]fluoranthene	NA	2.1	1	5	ng/dry g	J
Benzo[e]pyrene	NA	1.3	1	5	ng/dry g	J
Benzo[g,h,i]perylene	NA	2.1	1	5	ng/dry g	J
Benzo[k]fluoranthene	NA	1.4	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	3	1	5	ng/dry g	J
Dibenz[a,h]anthracene	NA	1.2	1	5	ng/dry g	J
Dibenzothiophene	NA	ND	1	5	ng/dry g	
Fluoranthene	NA	7.7	1	5	ng/dry g	
Fluorene	NA	ND	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	2.1	1	5	ng/dry g	J
Naphthalene	NA	ND	1	5	ng/dry g	
Perylene	NA	2.5	1	5	ng/dry g	J
Phenanthrene	NA	5.9	1	5	ng/dry g	
Pyrene	NA	5.8	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 21960-R1</div> <div>B13-8267 Dana Point</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5024</div> </div> <div> <div>Sampled: 05-Aug-13 11:45</div> <div>Prepared: 16-Oct-13</div> </div> <div> <div>Received: 06-Aug-13</div> <div>Analyzed: 03-Nov-13 21:48</div> </div>						
(d10-Acenaphthene)	NA	52			% Recovery	
(d10-Phenanthrene)	NA	69			% Recovery	
(d12-Chrysene)	NA	85			% Recovery	
(d8-Naphthalene)	NA	27			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	1	1	5	ng/dry g	J
Acenaphthene	NA	1.1	1	5	ng/dry g	J
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	11.1	1	5	ng/dry g	
Benz[a]anthracene	NA	63.9	1	5	ng/dry g	
Benzo[a]pyrene	NA	68.3	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	55.7	1	5	ng/dry g	
Benzo[e]pyrene	NA	38.4	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	70	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	33.9	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	77.1	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	19.6	1	5	ng/dry g	
Dibenzothiophene	NA	2.2	1	5	ng/dry g	J
Fluoranthene	NA	127.9	1	5	ng/dry g	
Fluorene	NA	2.3	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	93.3	1	5	ng/dry g	
Naphthalene	NA	1.9	1	5	ng/dry g	J
Perylene	NA	22.6	1	5	ng/dry g	
Phenanthrene	NA	36.1	1	5	ng/dry g	
Pyrene	NA	122.7	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21961-R1		B13-8265 Dana Point		Matrix: Sediment		Sampled: 05-Aug-13 13:01
	Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13	Received: 06-Aug-13
						Analyzed: 03-Nov-13 23:31
(d10-Acenaphthene)	NA	59			% Recovery	
(d10-Phenanthrene)	NA	76			% Recovery	
(d12-Chrysene)	NA	79			% Recovery	
(d8-Naphthalene)	NA	38			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	1.7	1	5	ng/dry g	J
Benz[a]anthracene	NA	3.8	1	5	ng/dry g	J
Benzo[a]pyrene	NA	4.2	1	5	ng/dry g	J
Benzo[b]fluoranthene	NA	4	1	5	ng/dry g	J
Benzo[e]pyrene	NA	3.4	1	5	ng/dry g	J
Benzo[g,h,i]perylene	NA	5.8	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	2.5	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	5.7	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	1.3	1	5	ng/dry g	J
Dibenzothiophene	NA	ND	1	5	ng/dry g	
Fluoranthene	NA	11.1	1	5	ng/dry g	
Fluorene	NA	1.1	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	5.9	1	5	ng/dry g	
Naphthalene	NA	ND	1	5	ng/dry g	
Perylene	NA	34.2	1	5	ng/dry g	
Phenanthrene	NA	7.1	1	5	ng/dry g	
Pyrene	NA	10.5	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21962-R1		B13-8263 Dana Point		Matrix: Sediment		Sampled: 05-Aug-13 15:25
Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13		Received: 06-Aug-13
						Analyzed: 04-Nov-13 1:14
(d10-Acenaphthene)	NA	57			% Recovery	
(d10-Phenanthrene)	NA	73			% Recovery	
(d12-Chrysene)	NA	74			% Recovery	
(d8-Naphthalene)	NA	38			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	1.4	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	5.4	1	5	ng/dry g	
Benz[a]anthracene	NA	10.1	1	5	ng/dry g	
Benzo[a]pyrene	NA	9.7	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	7.4	1	5	ng/dry g	
Benzo[e]pyrene	NA	5.3	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	8.1	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	5.3	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	10	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	2.6	1	5	ng/dry g	J
Dibenzothiophene	NA	1.2	1	5	ng/dry g	J
Fluoranthene	NA	23.4	1	5	ng/dry g	
Fluorene	NA	1.6	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	9.4	1	5	ng/dry g	
Naphthalene	NA	ND	1	5	ng/dry g	
Perylene	NA	18.9	1	5	ng/dry g	
Phenanthrene	NA	15.5	1	5	ng/dry g	
Pyrene	NA	20	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 21963-R1 B13-8259 Dana Point Matrix: Sediment Sampled: 05-Aug-13 10:02 Received: 06-Aug-13 Method: EPA 8270C Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 04-Nov-13 2:57						
(d10-Acenaphthene)	NA	54			% Recovery	
(d10-Phenanthrene)	NA	76			% Recovery	
(d12-Chrysene)	NA	84			% Recovery	
(d8-Naphthalene)	NA	31			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	2.1	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	1.1	1	5	ng/dry g	J
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	4	1	5	ng/dry g	J
Benz[a]anthracene	NA	8.8	1	5	ng/dry g	
Benzo[a]pyrene	NA	8.9	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	7.7	1	5	ng/dry g	
Benzo[e]pyrene	NA	6.2	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	9.8	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	4.8	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	9.5	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	3.2	1	5	ng/dry g	J
Dibenzothiophene	NA	1.3	1	5	ng/dry g	J
Fluoranthene	NA	23	1	5	ng/dry g	
Fluorene	NA	1.8	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	11.9	1	5	ng/dry g	
Naphthalene	NA	1.2	1	5	ng/dry g	J
Perylene	NA	5.2	1	5	ng/dry g	
Phenanthrene	NA	18.4	1	5	ng/dry g	
Pyrene	NA	19.3	1	5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Sample ID: 21957-R1

B13-8233 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 8:46

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 22:53

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 21958-R1

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 23:57

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Resmethrin	NA	ND	0.25	0.5	ng/dry g	
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Sample ID: 21959-R1

B13-8239 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 11:30

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 2:05

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 21960-R1

B13-8267 Dana Point

Matrix: Sediment

Sampled: 05-Aug-13 11:45

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 3:10

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	1.19	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 21961-R1

B13-8265 Dana Point

Matrix: Sediment

Sampled: 05-Aug-13 13:01

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 4:14

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	0.37	0.25	0.5	ng/dry g	J
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 21962-R1

B13-8263 Dana Point

Matrix: Sediment

Sampled: 05-Aug-13 15:25

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 5:17

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

Pyrethroids**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 21963-R1**B13-8259 Dana Point****Matrix: Sediment****Sampled: 05-Aug-13 10:02****Received: 06-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 6:22

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

QUALITY CONTROL REPORT

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CA ELAP #2769

Aroclor PCBs**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 21956-B1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g					
Aroclor 1221	NA	ND	1	2	ng/dry g					
Aroclor 1232	NA	ND	1	2	ng/dry g					
Aroclor 1242	NA	ND	1	2	ng/dry g					
Aroclor 1248	NA	ND	1	2	ng/dry g					
Aroclor 1254	NA	ND	1	2	ng/dry g					
Aroclor 1260	NA	ND	1	2	ng/dry g					
Aroclor 1262	NA	ND	1	2	ng/dry g					
Aroclor 1268	NA	ND	1	2	ng/dry g					

Sample ID: 21958-R2**B13-8236 Oceanside****Matrix: Sediment****Sampled: 06-Aug-13 10:12****Received: 06-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g			0	25	PASS
Aroclor 1221	NA	ND	1	2	ng/dry g			0	25	PASS
Aroclor 1232	NA	ND	1	2	ng/dry g			0	25	PASS
Aroclor 1242	NA	ND	1	2	ng/dry g			0	25	PASS
Aroclor 1248	NA	ND	1	2	ng/dry g			0	25	PASS
Aroclor 1254	NA	ND	1	2	ng/dry g			0	25	PASS
Aroclor 1260	NA	ND	1	2	ng/dry g			0	25	PASS
Aroclor 1262	NA	ND	1	2	ng/dry g			0	25	PASS
Aroclor 1268	NA	ND	1	2	ng/dry g			0	25	PASS



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 21956-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 2:30		
(PCB030)	NA	82			% Recovery	100		82 50 - 150% PASS		
(PCB112)	NA	90			% Recovery	100		90 50 - 150% PASS		
(PCB198)	NA	70			% Recovery	100		70 50 - 150% PASS		
(TCMX)	NA	79			% Recovery	100		79 50 - 150% PASS		
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g					
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g					
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g					
Aldrin	NA	ND	0.05	0.1	ng/dry g					
BHC-alpha	NA	ND	0.05	0.1	ng/dry g					
BHC-beta	NA	ND	0.05	0.1	ng/dry g					
BHC-delta	NA	ND	0.05	0.1	ng/dry g					
BHC-gamma	NA	ND	0.05	0.1	ng/dry g					
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g					
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g					
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g					
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g					
Dicofol	NA	ND	0.05	0.1	ng/dry g					
Dieldrin	NA	ND	0.05	0.1	ng/dry g					
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g					
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g					
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g					
Endrin	NA	ND	0.05	0.1	ng/dry g					
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g					
Endrin ketone	NA	ND	0.05	0.1	ng/dry g					
Heptachlor	NA	ND	0.05	0.1	ng/dry g					



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CA ELAP #2769

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g					
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g					
Methoxychlor	NA	ND	0.05	0.1	ng/dry g					
Mirex	NA	ND	0.05	0.1	ng/dry g					
Oxychlordane	NA	ND	0.05	0.1	ng/dry g					
Perthane	NA	ND	0.05	0.1	ng/dry g					
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g					
Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 24-Oct-13 15:59										
Toxaphene	NA	ND	0.1	0.2	ng/dry g					

Sample ID: 21956-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 4:13

(PCB030)	NA	96			% Recovery	100	0	96	70 - 130%	PASS
(PCB112)	NA	108			% Recovery	100	0	108	70 - 130%	PASS
(PCB198)	NA	85			% Recovery	100	0	85	70 - 130%	PASS
(TCMX)	NA	92			% Recovery	100	0	92	70 - 130%	PASS
2,4'-DDD	NA	1048.21	0.05	0.1	ng/dry g	1000	0	105	70 - 130%	PASS
2,4'-DDE	NA	1078.83	0.05	0.1	ng/dry g	1000	0	108	70 - 130%	PASS
2,4'-DDT	NA	1114.34	0.05	0.1	ng/dry g	1000	0	111	70 - 130%	PASS
4,4'-DDD	NA	1031.02	0.05	0.1	ng/dry g	1000	0	103	70 - 130%	PASS
4,4'-DDE	NA	1033.69	0.05	0.1	ng/dry g	1000	0	103	70 - 130%	PASS
4,4'-DDMU	NA	1166.17	0.05	0.1	ng/dry g	1000	0	117	70 - 130%	PASS
4,4'-DDT	NA	1164.04	0.05	0.1	ng/dry g	1000	0	116	70 - 130%	PASS
Aldrin	NA	966.58	0.05	0.1	ng/dry g	1000	0	97	70 - 130%	PASS
BHC-alpha	NA	914.36	0.05	0.1	ng/dry g	1000	0	91	70 - 130%	PASS
BHC-beta	NA	1011.69	0.05	0.1	ng/dry g	1000	0	101	70 - 130%	PASS
BHC-delta	NA	959.35	0.05	0.1	ng/dry g	1000	0	96	70 - 130%	PASS
BHC-gamma	NA	1036.03	0.05	0.1	ng/dry g	1000	0	104	70 - 130%	PASS
Chlordane-alpha	NA	997.49	0.05	0.1	ng/dry g	1000	0	100	70 - 130%	PASS
Chlordane-gamma	NA	1023.31	0.05	0.1	ng/dry g	1000	0	102	70 - 130%	PASS
cis-Nonachlor	NA	951	0.05	0.1	ng/dry g	1000	0	95	70 - 130%	PASS
DCPA (Dacthal)	NA	1025.69	0.05	0.1	ng/dry g	1000	0	103	70 - 130%	PASS



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Chlorinated Pesticides**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Dicofol	NA	1255.93	0.05	0.1	ng/dry g	1000	0	126 70 - 130% PASS		
Dieldrin	NA	1092.57	0.05	0.1	ng/dry g	1000	0	109 70 - 130% PASS		
Endosulfan sulfate	NA	880.09	0.05	0.1	ng/dry g	1000	0	88 70 - 130% PASS		
Endosulfan-I	NA	787.54	0.05	0.1	ng/dry g	1000	0	79 70 - 130% PASS		
Endosulfan-II	NA	737.32	0.05	0.1	ng/dry g	1000	0	74 70 - 130% PASS		
Endrin	NA	1011.9	0.05	0.1	ng/dry g	1000	0	101 70 - 130% PASS		
Endrin aldehyde	NA	784.38	0.05	0.1	ng/dry g	1000	0	78 70 - 130% PASS		
Endrin ketone	NA	915.65	0.05	0.1	ng/dry g	1000	0	92 70 - 130% PASS		
Heptachlor	NA	1082.83	0.05	0.1	ng/dry g	1000	0	108 70 - 130% PASS		
Heptachlor epoxide	NA	997.66	0.05	0.1	ng/dry g	1000	0	100 70 - 130% PASS		
Hexachlorobenzene	NA	926.22	0.05	0.1	ng/dry g	1000	0	93 70 - 130% PASS		
Methoxychlor	NA	1195.58	0.05	0.1	ng/dry g	1000	0	120 70 - 130% PASS		
Mirex	NA	949.93	0.05	0.1	ng/dry g	1000	0	95 70 - 130% PASS		
Oxychlordane	NA	886.54	0.05	0.1	ng/dry g	1000	0	89 70 - 130% PASS		
Perthane	NA	1099.87	0.05	0.1	ng/dry g	1000	0	110 70 - 130% PASS		
trans-Nonachlor	NA	987.91	0.05	0.1	ng/dry g	1000	0	99 70 - 130% PASS		
		Method: EPA 8270C-NCI		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 24-Oct-13 17:02		
Toxaphene	NA	9296.6	0.1	0.2	ng/dry g	10000	0	93 70 - 130% PASS		

Sample ID: 21956-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 5:55

(PCB030)	NA	90			% Recovery	100	0	90 70 - 130% PASS	6	25	PASS
(PCB112)	NA	103			% Recovery	100	0	103 70 - 130% PASS	5	25	PASS
(PCB198)	NA	85			% Recovery	100	0	85 70 - 130% PASS	0	25	PASS
(TCMX)	NA	80			% Recovery	100	0	80 70 - 130% PASS	14	25	PASS
2,4'-DDD	NA	1016.64	0.05	0.1	ng/dry g	1000	0	102 70 - 130% PASS	3	25	PASS
2,4'-DDE	NA	1004.07	0.05	0.1	ng/dry g	1000	0	100 70 - 130% PASS	8	25	PASS
2,4'-DDT	NA	1085.16	0.05	0.1	ng/dry g	1000	0	109 70 - 130% PASS	2	25	PASS
4,4'-DDD	NA	1031.19	0.05	0.1	ng/dry g	1000	0	103 70 - 130% PASS	0	25	PASS
4,4'-DDE	NA	1050.6	0.05	0.1	ng/dry g	1000	0	105 70 - 130% PASS	2	25	PASS
4,4'-DDMU	NA	1158.53	0.05	0.1	ng/dry g	1000	0	116 70 - 130% PASS	1	25	PASS
4,4'-DDT	NA	1187.71	0.05	0.1	ng/dry g	1000	0	119 70 - 130% PASS	3	25	PASS



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CA ELAP #2769

Chlorinated Pesticides**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Aldrin	NA	901.82	0.05	0.1	ng/dry g	1000	0	90	70 - 130% PASS	7	25	PASS
BHC-alpha	NA	854.29	0.05	0.1	ng/dry g	1000	0	85	70 - 130% PASS	7	25	PASS
BHC-beta	NA	992.16	0.05	0.1	ng/dry g	1000	0	99	70 - 130% PASS	2	25	PASS
BHC-delta	NA	1005.47	0.05	0.1	ng/dry g	1000	0	101	70 - 130% PASS	5	25	PASS
BHC-gamma	NA	924.91	0.05	0.1	ng/dry g	1000	0	92	70 - 130% PASS	12	25	PASS
Chlordane-alpha	NA	941.04	0.05	0.1	ng/dry g	1000	0	94	70 - 130% PASS	6	25	PASS
Chlordane-gamma	NA	945.53	0.05	0.1	ng/dry g	1000	0	95	70 - 130% PASS	7	25	PASS
cis-Nonachlor	NA	929.35	0.05	0.1	ng/dry g	1000	0	93	70 - 130% PASS	2	25	PASS
DCPA (Dacthal)	NA	996.98	0.05	0.1	ng/dry g	1000	0	100	70 - 130% PASS	3	25	PASS
Dicofol	NA	1268.85	0.05	0.1	ng/dry g	1000	0	127	70 - 130% PASS	1	25	PASS
Dieldrin	NA	1009.46	0.05	0.1	ng/dry g	1000	0	101	70 - 130% PASS	8	25	PASS
Endosulfan sulfate	NA	928.71	0.05	0.1	ng/dry g	1000	0	93	70 - 130% PASS	6	25	PASS
Endosulfan-I	NA	738.31	0.05	0.1	ng/dry g	1000	0	74	70 - 130% PASS	7	25	PASS
Endosulfan-II	NA	738.67	0.05	0.1	ng/dry g	1000	0	74	70 - 130% PASS	0	25	PASS
Endrin	NA	1010.07	0.05	0.1	ng/dry g	1000	0	101	70 - 130% PASS	0	25	PASS
Endrin aldehyde	NA	796.98	0.05	0.1	ng/dry g	1000	0	80	70 - 130% PASS	3	25	PASS
Endrin ketone	NA	927.89	0.05	0.1	ng/dry g	1000	0	93	70 - 130% PASS	1	25	PASS
Heptachlor	NA	973.8	0.05	0.1	ng/dry g	1000	0	97	70 - 130% PASS	11	25	PASS
Heptachlor epoxide	NA	953.52	0.05	0.1	ng/dry g	1000	0	95	70 - 130% PASS	5	25	PASS
Hexachlorobenzene	NA	884.73	0.05	0.1	ng/dry g	1000	0	88	70 - 130% PASS	6	25	PASS
Methoxychlor	NA	1211.94	0.05	0.1	ng/dry g	1000	0	121	70 - 130% PASS	1	25	PASS
Mirex	NA	947.18	0.05	0.1	ng/dry g	1000	0	95	70 - 130% PASS	0	25	PASS
Oxychlordane	NA	869.78	0.05	0.1	ng/dry g	1000	0	87	70 - 130% PASS	2	25	PASS
Perthane	NA	1090.01	0.05	0.1	ng/dry g	1000	0	109	70 - 130% PASS	1	25	PASS
trans-Nonachlor	NA	924.13	0.05	0.1	ng/dry g	1000	0	92	70 - 130% PASS	7	25	PASS

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 18:06

Toxaphene	NA	9665.5	0.1	0.2	ng/dry g	10000	0	97	70 - 130% PASS	4	25	PASS
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Sample ID: 21958-MS1

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 7:38

(PCB030)	NA	88			% Recovery	100	0	88	50 - 150% PASS			
(PCB112)	NA	103			% Recovery	100	0	103	70 - 130% PASS			



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
(PCB198)	NA	78			% Recovery	100	0	78 50 - 150% PASS		
(TCMX)	NA	80			% Recovery	100	0	80 50 - 150% PASS		
2,4'-DDD	NA	141.38	0.05	0.1	ng/dry g	134.6	0	105 50 - 150% PASS		
2,4'-DDE	NA	146.44	0.05	0.1	ng/dry g	134.6	0	109 50 - 150% PASS		
2,4'-DDT	NA	148.72	0.05	0.1	ng/dry g	134.6	0	110 25 - 125% PASS		
4,4'-DDD	NA	139.82	0.05	0.1	ng/dry g	134.6	0	104 50 - 150% PASS		
4,4'-DDE	NA	140.94	0.05	0.1	ng/dry g	134.6	0.89	104 50 - 150% PASS		
4,4'-DDMU	NA	174.41	0.05	0.1	ng/dry g	134.6	0	130 50 - 150% PASS		
4,4'-DDT	NA	155.91	0.05	0.1	ng/dry g	134.6	0	116 25 - 125% PASS		
Aldrin	NA	86.7	0.05	0.1	ng/dry g	134.6	0	64 50 - 150% PASS		
BHC-alpha	NA	118.83	0.05	0.1	ng/dry g	134.6	0	88 50 - 150% PASS		
BHC-beta	NA	131.12	0.05	0.1	ng/dry g	134.6	0	97 50 - 150% PASS		
BHC-delta	NA	131.61	0.05	0.1	ng/dry g	134.6	0	98 50 - 150% PASS		
BHC-gamma	NA	127.64	0.05	0.1	ng/dry g	134.6	0	95 50 - 150% PASS		
Chlordane-alpha	NA	136.2	0.05	0.1	ng/dry g	134.6	0	101 50 - 150% PASS		
Chlordane-gamma	NA	140.35	0.05	0.1	ng/dry g	134.6	0	104 50 - 150% PASS		
cis-Nonachlor	NA	123.5	0.05	0.1	ng/dry g	134.6	0	92 50 - 150% PASS		
DCPA (Dacthal)	NA	128.12	0.05	0.1	ng/dry g	134.6	0	95 50 - 150% PASS		
Dicofol	NA	219.23	0.05	0.1	ng/dry g	134.6	0	163 50 - 150% FAIL		M
Dieldrin	NA	130.16	0.05	0.1	ng/dry g	134.6	0	97 50 - 150% PASS		
Endosulfan sulfate	NA	120.11	0.05	0.1	ng/dry g	134.6	0	89 50 - 150% PASS		
Endosulfan-I	NA	58.77	0.05	0.1	ng/dry g	134.6	0	44 50 - 150% FAIL		M
Endosulfan-II	NA	87.98	0.05	0.1	ng/dry g	134.6	0	65 50 - 150% PASS		
Endrin	NA	147.99	0.05	0.1	ng/dry g	134.6	0	110 25 - 125% PASS		
Endrin aldehyde	NA	8.74	0.05	0.1	ng/dry g	134.6	0	6 0 - 125% PASS		
Endrin ketone	NA	114.38	0.05	0.1	ng/dry g	134.6	0	85 25 - 125% PASS		
Heptachlor	NA	139.03	0.05	0.1	ng/dry g	134.6	0	103 50 - 150% PASS		
Heptachlor epoxide	NA	129.23	0.05	0.1	ng/dry g	134.6	0	96 50 - 150% PASS		
Hexachlorobenzene	NA	119.03	0.05	0.1	ng/dry g	134.6	0	88 50 - 150% PASS		
Methoxychlor	NA	150.75	0.05	0.1	ng/dry g	134.6	0	112 50 - 150% PASS		
Mirex	NA	117.66	0.05	0.1	ng/dry g	134.6	0	87 50 - 150% PASS		



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CA ELAP #2769

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Oxychlorthane	NA	124.35	0.05	0.1	ng/dry g	134.6	0	92	50 - 150%	PASS		
Perthane	NA	149.84	0.05	0.1	ng/dry g	134.6	0	111	50 - 150%	PASS		
trans-Nonachlor	NA	133.37	0.05	0.1	ng/dry g	134.6	0	99	50 - 150%	PASS		
Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 24-Oct-13 19:10												
Toxaphene	NA	9082.1	0.1	0.2	ng/dry g	10000	0	91	50 - 150%	PASS		

Sample ID: 21958-MS2

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 9:21

(PCB030)	NA	84			% Recovery	100	0	84	50 - 150%	PASS	5	25	PASS	
(PCB112)	NA	95			% Recovery	100	0	95	70 - 130%	PASS	8	25	PASS	
(PCB198)	NA	76			% Recovery	100	0	76	50 - 150%	PASS	3	25	PASS	
(TCMX)	NA	77			% Recovery	100	0	77	50 - 150%	PASS	4	25	PASS	
2,4'-DDD	NA	138.5	0.05	0.1	ng/dry g	132.3	0	105	50 - 150%	PASS	0	25	PASS	
2,4'-DDE	NA	137.86	0.05	0.1	ng/dry g	132.3	0	104	50 - 150%	PASS	5	25	PASS	
2,4'-DDT	NA	145.44	0.05	0.1	ng/dry g	132.3	0	110	25 - 125%	PASS	0	25	PASS	
4,4'-DDD	NA	143.2	0.05	0.1	ng/dry g	132.3	0	108	50 - 150%	PASS	4	25	PASS	
4,4'-DDE	NA	139.17	0.05	0.1	ng/dry g	132.3	0.89	105	50 - 150%	PASS	1	25	PASS	
4,4'-DDMU	NA	160.04	0.05	0.1	ng/dry g	132.3	0	121	50 - 150%	PASS	7	25	PASS	
4,4'-DDT	NA	149.87	0.05	0.1	ng/dry g	132.3	0	113	25 - 125%	PASS	3	25	PASS	
Aldrin	NA	99.11	0.05	0.1	ng/dry g	132.3	0	75	50 - 150%	PASS	16	25	PASS	
BHC-alpha	NA	122.31	0.05	0.1	ng/dry g	132.3	0	92	50 - 150%	PASS	4	25	PASS	
BHC-beta	NA	136.67	0.05	0.1	ng/dry g	132.3	0	103	50 - 150%	PASS	6	25	PASS	
BHC-delta	NA	138.52	0.05	0.1	ng/dry g	132.3	0	105	50 - 150%	PASS	7	25	PASS	
BHC-gamma	NA	130.16	0.05	0.1	ng/dry g	132.3	0	98	50 - 150%	PASS	3	25	PASS	
Chlordane-alpha	NA	125.57	0.05	0.1	ng/dry g	132.3	0	95	50 - 150%	PASS	6	25	PASS	
Chlordane-gamma	NA	129	0.05	0.1	ng/dry g	132.3	0	98	50 - 150%	PASS	6	25	PASS	
cis-Nonachlor	NA	126.22	0.05	0.1	ng/dry g	132.3	0	95	50 - 150%	PASS	3	25	PASS	
DCEPA (Dacthal)	NA	136.23	0.05	0.1	ng/dry g	132.3	0	103	50 - 150%	PASS	8	25	PASS	
Dicofol	NA	229.34	0.05	0.1	ng/dry g	132.3	0	173	50 - 150%	FAIL	6	25	PASS	M
Dieldrin	NA	141.92	0.05	0.1	ng/dry g	132.3	0	107	50 - 150%	PASS	10	25	PASS	
Endosulfan sulfate	NA	123.9	0.05	0.1	ng/dry g	132.3	0	94	50 - 150%	PASS	5	25	PASS	
Endosulfan-I	NA	54.91	0.05	0.1	ng/dry g	132.3	0	42	50 - 150%	FAIL	5	25	PASS	M



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Endosulfan-II	NA	94.04	0.05	0.1	ng/dry g	132.3	0	71 50 - 150% PASS	9 25 PASS	
Endrin	NA	147.56	0.05	0.1	ng/dry g	132.3	0	112 25 - 125% PASS	2 25 PASS	
Endrin aldehyde	NA	14.03	0.05	0.1	ng/dry g	132.3	0	11 0 - 125% PASS	59 25 FAIL	M
Endrin ketone	NA	124.04	0.05	0.1	ng/dry g	132.3	0	94 25 - 125% PASS	10 25 PASS	
Heptachlor	NA	132.33	0.05	0.1	ng/dry g	132.3	0	100 50 - 150% PASS	3 25 PASS	
Heptachlor epoxide	NA	131.96	0.05	0.1	ng/dry g	132.3	0	100 50 - 150% PASS	4 25 PASS	
Hexachlorobenzene	NA	120.49	0.05	0.1	ng/dry g	132.3	0	91 50 - 150% PASS	3 25 PASS	
Methoxychlor	NA	151.13	0.05	0.1	ng/dry g	132.3	0	114 50 - 150% PASS	2 25 PASS	
Mirex	NA	126.11	0.05	0.1	ng/dry g	132.3	0	95 50 - 150% PASS	9 25 PASS	
Oxychlorodane	NA	135.76	0.05	0.1	ng/dry g	132.3	0	103 50 - 150% PASS	11 25 PASS	
Perthane	NA	148.6	0.05	0.1	ng/dry g	132.3	0	112 50 - 150% PASS	1 25 PASS	
trans-Nonachlor	NA	125.91	0.05	0.1	ng/dry g	132.3	0	95 50 - 150% PASS	4 25 PASS	
Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 24-Oct-13 20:14										
Toxaphene	NA	9120.2	0.1	0.2	ng/dry g	10000	0	91 50 - 150% PASS	0 25 PASS	

Sample ID: 21958-R2

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 18:23

(PCB030)	NA	79			% Recovery	100	79	50 - 150% PASS	4 25 PASS	
(PCB112)	NA	91			% Recovery	100	91	50 - 150% PASS	7 25 PASS	
(PCB198)	NA	73			% Recovery	100	73	50 - 150% PASS	26 25 FAIL	
(TCMX)	NA	77			% Recovery	100	77	50 - 150% PASS	4 25 PASS	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
4,4'-DDE	NA	1.15	0.05	0.1	ng/dry g				58 25 FAIL	SL
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Aldrin	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
BHC-beta	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
BHC-delta	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
BHC-gamma	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Dicofol	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Dieldrin	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endrin	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Heptachlor	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Mirex	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Perthane	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 1:01

Toxaphene	NA	ND	0.1	0.2	ng/dry g				0 25 PASS	
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Sample ID: 21964-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 13:15

(PCB030)	NA	91			% Recovery	100	91	60 - 140%	PASS	
(PCB112)	NA	107			% Recovery	100	107	60 - 140%	PASS	
(PCB198)	NA	60			% Recovery	100	60	60 - 140%	PASS	
(TCMX)	NA	88			% Recovery	100	88	60 - 140%	PASS	
2,4'-DDD	NA	39.75	0.05	0.1	ng/dry g	38	105	60 - 140%	PASS	
2,4'-DDE	NA	22.28	0.05	0.1	ng/dry g	19	117	60 - 140%	PASS	



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Chlorinated Pesticides**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
4,4'-DDD	NA	118.53	0.05	0.1	ng/dry g	108		110 60 - 140% PASS		
4,4'-DDE	NA	88.1	0.05	0.1	ng/dry g	86		102 60 - 140% PASS		
4,4'-DDT	NA	129.1	0.05	0.1	ng/dry g	119		108 60 - 140% PASS		
Chlordane-alpha	NA	19.65	0.05	0.1	ng/dry g	16.5		119 60 - 140% PASS		
Chlordane-gamma	NA	10.29	0.05	0.1	ng/dry g	8		129 60 - 140% PASS		
cis-Nonachlor	NA	4.68	0.05	0.1	ng/dry g	3.7		126 60 - 140% PASS		
Hexachlorobenzene	NA	5.44	0.05	0.1	ng/dry g	6		91 60 - 140% PASS		
trans-Nonachlor	NA	10.04	0.05	0.1	ng/dry g	8.2		122 60 - 140% PASS		



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CA ELAP #2769

Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
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Acid Volatile Sulfides

Method: Plumb, 1981 and TERL

Fraction: NA

21956-B1	QAQC Procedural Blank	C-14036 ND	0.05	0.1	mg/dry kg							
		Prepared: 27-Sep-13			Analyzed: 27-Sep-13 0:00							
21956-BS1	QAQC Procedural Blank	C-14036 18.1	0.05	0.1	mg/dry kg	18.29	0	99	80 - 120% PASS			
		Prepared: 27-Sep-13			Analyzed: 27-Sep-13 0:00							
21956-BS2	QAQC Procedural Blank	C-14036 18.85	0.05	0.1	mg/dry kg	18.29	0	103	80 - 120% PASS	4	25	PASS
		Prepared: 27-Sep-13			Analyzed: 27-Sep-13 0:00							
21957-R2	B13-8233	C-14036 146.7	0.05	0.1	mg/dry kg					17	25	PASS
		Prepared: 27-Sep-13			Analyzed: 27-Sep-13 0:00							

Ammonia as N

Method: SM 4500-NH₃ D

Fraction: NA

21956-B1	QAQC Procedural Blank	C-14038 ND	0.02	0.03	mg/dry kg							
		Prepared: 24-Sep-13			Analyzed: 26-Sep-13 0:00							
21956-BS1	QAQC Procedural Blank	C-14038 4.34	0.02	0.03	mg/dry kg	4.02	0	108	80 - 120% PASS			
		Prepared: 24-Sep-13			Analyzed: 26-Sep-13 0:00							
21956-BS2	QAQC Procedural Blank	C-14038 4.34	0.02	0.03	mg/dry kg	4.02	0	108	80 - 120% PASS	0	25	PASS
		Prepared: 24-Sep-13			Analyzed: 26-Sep-13 0:00							
21957-MS1	B13-8233	C-14038 7.68	0.02	0.03	mg/dry kg	3.89	4.39	85	70 - 130% PASS			
		Prepared: 24-Sep-13			Analyzed: 26-Sep-13 0:00							
21957-MS2	B13-8233	C-14038 6.76	0.02	0.03	mg/dry kg	4.05	4.39	59	70 - 130% FAIL	36	25	FAIL SH
		Prepared: 24-Sep-13			Analyzed: 26-Sep-13 0:00							
21957-R2	B13-8233	C-14038 4.83	0.02	0.03	mg/dry kg					20	25	PASS
		Prepared: 24-Sep-13			Analyzed: 26-Sep-13 0:00							

Percent Solids

Method: SM 2540B

Fraction: NA

21956-B1	QAQC Procedural Blank	C-14028 ND	0.1	0.1	% Dry Weight							
		Prepared: 24-Sep-13			Analyzed: 25-Sep-13 0:00							
21957-R2	B13-8233	C-14028 44.1	0.1	0.1	% Dry Weight					0	25	PASS
		Prepared: 24-Sep-13			Analyzed: 25-Sep-13 0:00							

Total Phosphorus

Method: EPA 6020

Fraction: NA

21956-B1	QAQC Procedural Blank	E-5145 ND	0.016	0.05	µg/dry g							
		Prepared: 25-Sep-13			Analyzed: 02-Oct-13 14:52							



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Conventional

QUALITY CONTROL REPORT

SAMPLE ID		BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
21956-BS1	QAQC Procedural Blank	E-5145	50.015	0.016	0.05	µg/dry g	50	0	100	80 - 120% PASS			
		Prepared: 25-Sep-13				Analyzed: 02-Oct-13 16:02							
21956-BS2	QAQC Procedural Blank	E-5145	48.975	0.016	0.05	µg/dry g	50	0	98	80 - 120% PASS	2	25	PASS
		Prepared: 25-Sep-13				Analyzed: 02-Oct-13 16:06							
21957-MS1	B13-8233	E-5145	2675.034	0.016	0.05	µg/dry g	1670.5	922.744	105	70 - 130% PASS			
		Prepared: 25-Sep-13				Analyzed: 02-Oct-13 16:20							
21957-MS2	B13-8233	E-5145	2679.812	0.016	0.05	µg/dry g	1670.5	922.744	105	70 - 130% PASS	0	25	PASS
		Prepared: 25-Sep-13				Analyzed: 02-Oct-13 16:24							
21957-R2	B13-8233	E-5145	868.076	0.016	0.05	µg/dry g					12	25	PASS
		Prepared: 25-Sep-13				Analyzed: 02-Oct-13 15:10							



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CA ELAP #2769

Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
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Sample ID: 21956-B1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 6020

Batch ID: E-5145

Prepared: 25-Sep-13

Analyzed: 02-Oct-13 21:41

Aluminum (Al)	NA	ND	1	5	µg/dry g					
Antimony (Sb)	NA	ND	0.025	0.05	µg/dry g					
Arsenic (As)	NA	ND	0.025	0.05	µg/dry g					
Barium (Ba)	NA	ND	0.025	0.05	µg/dry g					
Beryllium (Be)	NA	ND	0.025	0.05	µg/dry g					
Cadmium (Cd)	NA	ND	0.0025	0.005	µg/dry g					
Chromium (Cr)	NA	ND	0.0025	0.005	µg/dry g					
Copper (Cu)	NA	ND	0.0025	0.005	µg/dry g					
Iron (Fe)	NA	ND	1	5	µg/dry g					
Lead (Pb)	NA	ND	0.0025	0.005	µg/dry g					
Nickel (Ni)	NA	ND	0.01	0.02	µg/dry g					
Selenium (Se)	NA	ND	0.025	0.05	µg/dry g					
Silver (Ag)	NA	ND	0.01	0.02	µg/dry g					
Zinc (Zn)	NA	ND	0.025	0.05	µg/dry g					

Method: EPA 245.7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	ND	0.00001	0.00002	µg/dry g					
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Sample ID: 21956-BS1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 6020

Batch ID: E-5145

Prepared: 25-Sep-13

Analyzed: 02-Oct-13 22:52

Aluminum (Al)	NA	2	1	5	µg/dry g	2	0	100	80 - 120%	PASS
Antimony (Sb)	NA	2.04	0.025	0.05	µg/dry g	2	0	102	80 - 120%	PASS
Arsenic (As)	NA	2.053	0.025	0.05	µg/dry g	2	0	103	80 - 120%	PASS
Barium (Ba)	NA	2.036	0.025	0.05	µg/dry g	2	0	102	80 - 120%	PASS
Beryllium (Be)	NA	1.992	0.025	0.05	µg/dry g	2	0	100	80 - 120%	PASS
Cadmium (Cd)	NA	2.0444	0.0025	0.005	µg/dry g	2	0	102	80 - 120%	PASS
Chromium (Cr)	NA	2.0532	0.0025	0.005	µg/dry g	2	0	103	80 - 120%	PASS
Copper (Cu)	NA	2.1713	0.0025	0.005	µg/dry g	2	0	109	80 - 120%	PASS
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS
Lead (Pb)	NA	2.05	0.0025	0.005	µg/dry g	2	0	102	80 - 120%	PASS



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Nickel (Ni)	NA	2.01	0.01	0.02	µg/dry g	2	0	100	80 - 120%	PASS		
Selenium (Se)	NA	2.211	0.025	0.05	µg/dry g	2	0	111	80 - 120%	PASS		
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	0.2	0	100	80 - 120%	PASS		
Zinc (Zn)	NA	2.13	0.025	0.05	µg/dry g	2	0	107	80 - 120%	PASS		

Method: EPA 245-7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.994	0.00001	0.00002	µg/dry g	1	0	99	80 - 120%	PASS		
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Sample ID: 21956-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 6020

Batch ID: E-5145

Prepared: 25-Sep-13

Analyzed: 02-Oct-13 22:56

Aluminum (Al)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS	5	25	PASS
Antimony (Sb)	NA	2.001	0.025	0.05	µg/dry g	2	0	100	80 - 120%	PASS	2	25	PASS
Arsenic (As)	NA	1.985	0.025	0.05	µg/dry g	2	0	99	80 - 120%	PASS	4	25	PASS
Barium (Ba)	NA	2.008	0.025	0.05	µg/dry g	2	0	100	80 - 120%	PASS	2	25	PASS
Beryllium (Be)	NA	1.996	0.025	0.05	µg/dry g	2	0	100	80 - 120%	PASS	0	25	PASS
Cadmium (Cd)	NA	2.0076	0.0025	0.005	µg/dry g	2	0	100	80 - 120%	PASS	2	25	PASS
Chromium (Cr)	NA	2.0224	0.0025	0.005	µg/dry g	2	0	101	80 - 120%	PASS	2	25	PASS
Copper (Cu)	NA	2.1213	0.0025	0.005	µg/dry g	2	0	106	80 - 120%	PASS	3	25	PASS
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS	0	25	PASS
Lead (Pb)	NA	2.035	0.0025	0.005	µg/dry g	2	0	102	80 - 120%	PASS	0	25	PASS
Nickel (Ni)	NA	1.97	0.01	0.02	µg/dry g	2	0	99	80 - 120%	PASS	1	25	PASS
Selenium (Se)	NA	2.194	0.025	0.05	µg/dry g	2	0	110	80 - 120%	PASS	1	25	PASS
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	0.2	0	100	80 - 120%	PASS	5	25	PASS
Zinc (Zn)	NA	2.098	0.025	0.05	µg/dry g	2	0	105	80 - 120%	PASS	2	25	PASS

Method: EPA 245-7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.982	0.00001	0.00002	µg/dry g	1	0	98	80 - 120%	PASS	1	25	PASS
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Sample ID: 21957-MS1

B13-8233 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 8:46

Received: 06-Aug-13

Method: EPA 6020

Batch ID: E-5145

Prepared: 25-Sep-13

Analyzed: 02-Oct-13 23:01

Aluminum (Al)	NA	44883.4	1	5	µg/dry g	1337	43274	120	75 - 125%	PASS			
Antimony (Sb)	NA	65.904	0.025	0.05	µg/dry g	66.82	0.333	98	75 - 125%	PASS			
Arsenic (As)	NA	80.225	0.025	0.05	µg/dry g	66.82	12.006	102	75 - 125%	PASS			
Barium (Ba)	NA	232.143	0.025	0.05	µg/dry g	66.82	167.765	96	75 - 125%	PASS			



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Beryllium (Be)	NA	72.647	0.025	0.05	µg/dry g	66.82	0.773	108	75 - 125% PASS	
Cadmium (Cd)	NA	65.0579	0.0025	0.005	µg/dry g	66.82	0.2979	97	75 - 125% PASS	
Chromium (Cr)	NA	138.6326	0.0025	0.005	µg/dry g	66.82	67.1664	107	75 - 125% PASS	
Copper (Cu)	NA	436.4899	0.0025	0.005	µg/dry g	66.82	363.75	109	75 - 125% PASS	
Iron (Fe)	NA	45198.2	1	5	µg/dry g	1337	43008.2	164	75 - 125% FAIL	SH
Lead (Pb)	NA	84.1467	0.0025	0.005	µg/dry g	66.82	22.2206	93	75 - 125% PASS	
Nickel (Ni)	NA	91.58	0.01	0.02	µg/dry g	66.82	23.96	101	75 - 125% PASS	
Selenium (Se)	NA	78.818	0.025	0.05	µg/dry g	66.82	0.437	117	75 - 125% PASS	
Silver (Ag)	NA	6.67	0.01	0.02	µg/dry g	6.68	0.22	97	75 - 125% PASS	
Zinc (Zn)	NA	370.204	0.025	0.05	µg/dry g	66.82	315.997	81	75 - 125% PASS	

Method: EPA 245-7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.68598	0.00001	0.00002	µg/dry g	0.333	0.31215	112	75 - 125% PASS	
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Sample ID: 21957-MS2**B13-8233 Oceanside****Matrix: Sediment****Sampled: 06-Aug-13 8:46****Received: 06-Aug-13**

Method: EPA 6020

Batch ID: E-5145

Prepared: 25-Sep-13

Analyzed: 02-Oct-13 23:06

Aluminum (Al)	NA	47993.1	1	5	µg/dry g	1337	43274	353	75 - 125% FAIL	99	25	FAIL	SH
Antimony (Sb)	NA	65.258	0.025	0.05	µg/dry g	66.82	0.333	97	75 - 125% PASS	1	25	PASS	
Arsenic (As)	NA	81.023	0.025	0.05	µg/dry g	66.82	12.006	103	75 - 125% PASS	1	25	PASS	
Barium (Ba)	NA	230.37	0.025	0.05	µg/dry g	66.82	167.765	94	75 - 125% PASS	2	25	PASS	
Beryllium (Be)	NA	72.357	0.025	0.05	µg/dry g	66.82	0.773	107	75 - 125% PASS	1	25	PASS	
Cadmium (Cd)	NA	65.0304	0.0025	0.005	µg/dry g	66.82	0.2979	97	75 - 125% PASS	0	25	PASS	
Chromium (Cr)	NA	137.9423	0.0025	0.005	µg/dry g	66.82	67.1664	106	75 - 125% PASS	1	25	PASS	
Copper (Cu)	NA	439.7504	0.0025	0.005	µg/dry g	66.82	363.75	114	75 - 125% PASS	4	25	PASS	
Iron (Fe)	NA	48253.5	1	5	µg/dry g	1337	43008.2	392	75 - 125% FAIL	82	25	FAIL	SH
Lead (Pb)	NA	83.9126	0.0025	0.005	µg/dry g	66.82	22.2206	92	75 - 125% PASS	1	25	PASS	
Nickel (Ni)	NA	92.24	0.01	0.02	µg/dry g	66.82	23.96	102	75 - 125% PASS	1	25	PASS	
Selenium (Se)	NA	79.149	0.025	0.05	µg/dry g	66.82	0.437	118	75 - 125% PASS	1	25	PASS	
Silver (Ag)	NA	6.77	0.01	0.02	µg/dry g	6.68	0.22	98	75 - 125% PASS	1	25	PASS	
Zinc (Zn)	NA	367.832	0.025	0.05	µg/dry g	66.82	315.997	78	75 - 125% PASS	4	25	PASS	

Method: EPA 245-7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.68598	0.00001	0.00002	µg/dry g	0.333	0.31215	112	75 - 125% PASS	0	25	PASS	
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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 21957-R2		B13-8233 Oceanside		Matrix: Sediment		Sampled: 06-Aug-13 8:46		Received: 06-Aug-13		
		Method: EPA 6020		Batch ID: E-5145		Prepared: 25-Sep-13		Analyzed: 02-Oct-13 22:00		
Aluminum (Al)	NA	45019.5	1	5	µg/dry g			8	25	PASS
Antimony (Sb)	NA	0.296	0.025	0.05	µg/dry g			22	25	PASS
Arsenic (As)	NA	11.657	0.025	0.05	µg/dry g			6	25	PASS
Barium (Ba)	NA	170.587	0.025	0.05	µg/dry g			3	25	PASS
Beryllium (Be)	NA	0.779	0.025	0.05	µg/dry g			2	25	PASS
Cadmium (Cd)	NA	0.3209	0.0025	0.005	µg/dry g			15	25	PASS
Chromium (Cr)	NA	68.3881	0.0025	0.005	µg/dry g			4	25	PASS
Copper (Cu)	NA	363.4984	0.0025	0.005	µg/dry g			0	25	PASS
Iron (Fe)	NA	43470.8	1	5	µg/dry g			2	25	PASS
Lead (Pb)	NA	22.07	0.0025	0.005	µg/dry g			1	25	PASS
Nickel (Ni)	NA	24.03	0.01	0.02	µg/dry g			1	25	PASS
Selenium (Se)	NA	0.432	0.025	0.05	µg/dry g			2	25	PASS
Silver (Ag)	NA	0.21	0.01	0.02	µg/dry g			5	25	PASS
Zinc (Zn)	NA	314.69	0.025	0.05	µg/dry g			1	25	PASS
		Method: EPA 245-7		Batch ID: E-6029		Prepared: 04-Oct-13		Analyzed: 04-Oct-13 0:00		
Mercury (Hg)	NA	0.3032	0.00001	0.00002	µg/dry g			6	25	PASS
Sample ID: 21965-CRM1		QAQC CRM - RTC 016-050		Matrix: Sediment		Sampled:		Received:		
		Method: EPA 6020		Batch ID: E-5145		Prepared: 25-Sep-13		Analyzed: 02-Oct-13 22:38		
Aluminum (Al)	NA	24142	1	5	µg/dry g	8920	271	80 - 120%	FAIL	*
Arsenic (As)	NA	9.028	0.025	0.05	µg/dry g	7.76	116	80 - 120%	PASS	
Beryllium (Be)	NA	0.89	0.025	0.05	µg/dry g	0.49	182	80 - 120%	FAIL	*
Cadmium (Cd)	NA	0.3829	0.0025	0.005	µg/dry g	0.47	81	80 - 120%	PASS	
Chromium (Cr)	NA	38.7038	0.0025	0.005	µg/dry g	14.5	267	80 - 120%	FAIL	*
Copper (Cu)	NA	17.0695	0.0025	0.005	µg/dry g	15.5	110	80 - 120%	PASS	
Iron (Fe)	NA	19754.6	1	5	µg/dry g	16800	118	80 - 120%	PASS	
Lead (Pb)	NA	16.1577	0.0025	0.005	µg/dry g	14.01	115	80 - 120%	PASS	
Nickel (Ni)	NA	20.47	0.01	0.02	µg/dry g	16.7	123	80 - 120%	FAIL	R
Zinc (Zn)	NA	77.729	0.025	0.05	µg/dry g	69.7	112	80 - 120%	PASS	



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE	
Method: EPA 245.7		Batch ID: E-6029		Prepared: 04-Oct-13		Analyzed: 04-Oct-13		0:00			
Mercury (Hg)	NA	0.1681	0.00001	0.00002	µg/dry g	0.158	106	80 - 120%	PASS		
Sample ID: 21966-CRM1		QAQC CRM - ERA 540		Matrix: Sediment		Sampled:		Received:			
Method: EPA 6020		Batch ID: E-5145		Prepared: 25-Sep-13		Analyzed: 02-Oct-13		22:42			
Aluminum (Al)	NA	18716.9	1	5	µg/dry g	9060	207	80 - 120%	FAIL	*	
Antimony (Sb)	NA	184.878	0.025	0.05	µg/dry g	106	174	80 - 120%	FAIL	*	
Arsenic (As)	NA	184.375	0.025	0.05	µg/dry g	182	101	80 - 120%	PASS		
Beryllium (Be)	NA	99.035	0.025	0.05	µg/dry g	98.3	101	80 - 120%	PASS		
Cadmium (Cd)	NA	58.7588	0.0025	0.005	µg/dry g	60.4	97	80 - 120%	PASS		
Chromium (Cr)	NA	141.9028	0.0025	0.005	µg/dry g	125	114	80 - 120%	PASS		
Copper (Cu)	NA	82.2413	0.0025	0.005	µg/dry g	80.1	103	80 - 120%	PASS		
Iron (Fe)	NA	17969.8	1	5	µg/dry g	12900	139	80 - 120%	FAIL	*	
Lead (Pb)	NA	130.4607	0.0025	0.005	µg/dry g	136	96	80 - 120%	PASS		
Nickel (Ni)	NA	127.52	0.01	0.02	µg/dry g	128	100	80 - 120%	PASS		
Selenium (Se)	NA	99.896	0.025	0.05	µg/dry g	85.9	116	80 - 120%	PASS		
Silver (Ag)	NA	60.06	0.01	0.02	µg/dry g	61.3	98	80 - 120%	PASS		
Zinc (Zn)	NA	207.751	0.025	0.05	µg/dry g	204	102	80 - 120%	PASS		
Method: EPA 245.7		Batch ID: E-6029		Prepared: 04-Oct-13		Analyzed: 04-Oct-13		0:00			
Mercury (Hg)	NA	9.4949	0.00001	0.00002	µg/dry g	9.25	103	80 - 120%	PASS	25	



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Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 21956-B1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 200.8

Batch ID: E-5152

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 13:33

Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g					
Copper (Cu)	NA	ND	0.0062	0.0124	µmol/dry g					
Lead (Pb)	NA	ND	0.0002	0.0004	µmol/dry g					
Nickel (Ni)	NA	ND	0.0033	0.0066	µmol/dry g					
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g					
Zinc (Zn)	NA	ND	0.0015	0.003	µmol/dry g					

Sample ID: 21956-BS1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 200.8

Batch ID: E-5152

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 14:36

Cadmium (Cd)	NA	0.0185	0.0018	0.0036	µmol/dry g	0.0178	0	104	75 - 130%	PASS
Copper (Cu)	NA	0.0316	0.0062	0.0124	µmol/dry g	0.0315	0	100	70 - 130%	PASS
Lead (Pb)	NA	0.01	0.0002	0.0004	µmol/dry g	0.0097	0	103	65 - 135%	PASS
Nickel (Ni)	NA	0.0341	0.0033	0.0066	µmol/dry g	0.0341	0	100	70 - 130%	PASS
Silver (Ag)	NA	0.0018	0.0047	0.0094	µmol/dry g	0.0019	0	95	50 - 155%	PASS
Zinc (Zn)	NA	0.0313	0.0015	0.003	µmol/dry g	0.0306	0	102	50 - 150%	PASS

Sample ID: 21956-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 200.8

Batch ID: E-5152

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 14:41

Cadmium (Cd)	NA	0.0186	0.0018	0.0036	µmol/dry g	0.0178	0	104	75 - 130%	PASS	4	25	PASS
Copper (Cu)	NA	0.0321	0.0062	0.0124	µmol/dry g	0.0315	0	102	70 - 130%	PASS	6	25	PASS
Lead (Pb)	NA	0.0099	0.0002	0.0004	µmol/dry g	0.0097	0	102	65 - 135%	PASS	1	25	PASS
Nickel (Ni)	NA	0.0346	0.0033	0.0066	µmol/dry g	0.0341	0	101	70 - 130%	PASS	1	25	PASS
Silver (Ag)	NA	0.0018	0.0047	0.0094	µmol/dry g	0.0019	0	95	50 - 155%	PASS	5	25	PASS
Zinc (Zn)	NA	0.032	0.0015	0.003	µmol/dry g	0.0306	0	105	50 - 150%	PASS	3	25	PASS

Sample ID: 21957-MS1**B13-8233 Oceanside****Matrix: Sediment****Sampled: 06-Aug-13 8:46****Received: 06-Aug-13**

Method: EPA 200.8

Batch ID: E-5152

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 14:45

Cadmium (Cd)	NA	1.0926	0.0018	0.0036	µmol/dry g	1.0362	0	105	75 - 130%	PASS			
Copper (Cu)	NA	3.0593	0.0062	0.0124	µmol/dry g	1.8332	1.1603	104	70 - 130%	PASS			
Lead (Pb)	NA	0.6192	0.0002	0.0004	µmol/dry g	0.5622	0.0601	99	65 - 135%	PASS			



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Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Nickel (Ni)	NA	2.0554	0.0033	0.0066	µmol/dry g	1.9847	0.0156	103 70 - 130% PASS		
Silver (Ag)	NA	0.1044	0.0047	0.0094	µmol/dry g	0.108	0	97 50 - 155% PASS		
Zinc (Zn)	NA	4.8726	0.0015	0.003	µmol/dry g	1.7816	3.0366	103 50 - 150% PASS		

Sample ID: 21957-MS2**B13-8233 Oceanside****Matrix: Sediment****Sampled: 06-Aug-13 8:46****Received: 06-Aug-13**

Method: EPA 200.8

Batch ID: E-5152

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 14:50

Cadmium (Cd)	NA	1.087	0.0018	0.0036	µmol/dry g	1.0362	0	105 75 - 130% PASS	0 25 PASS	
Copper (Cu)	NA	3.0484	0.0062	0.0124	µmol/dry g	1.8332	1.1603	103 70 - 130% PASS	1 25 PASS	
Lead (Pb)	NA	0.6172	0.0002	0.0004	µmol/dry g	0.5622	0.0601	99 65 - 135% PASS	0 25 PASS	
Nickel (Ni)	NA	2.0314	0.0033	0.0066	µmol/dry g	1.9847	0.0156	102 70 - 130% PASS	1 25 PASS	
Silver (Ag)	NA	0.1037	0.0047	0.0094	µmol/dry g	0.108	0	96 50 - 155% PASS	1 25 PASS	
Zinc (Zn)	NA	4.8463	0.0015	0.003	µmol/dry g	1.7816	3.0366	102 50 - 150% PASS	1 25 PASS	

Sample ID: 21957-R2**B13-8233 Oceanside****Matrix: Sediment****Sampled: 06-Aug-13 8:46****Received: 06-Aug-13**

Method: EPA 200.8

Batch ID: E-5152

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 13:57

Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g				0 25 PASS	
Copper (Cu)	NA	1.1562	0.0062	0.0124	µmol/dry g				1 25 PASS	
Lead (Pb)	NA	0.0604	0.0002	0.0004	µmol/dry g				1 25 PASS	
Nickel (Ni)	NA	0.0147	0.0033	0.0066	µmol/dry g				12 25 PASS	
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g				0 25 PASS	
Zinc (Zn)	NA	3.0149	0.0015	0.003	µmol/dry g				1 25 PASS	



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CA ELAP #2769

Fipronil & Degradates

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Sample ID: 21956-B1 QAQC Procedural Blank Matrix: DI Water Sampled: Received: Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 24-Oct-13 15:59												
Fipronil	NA	ND	0.25	0.5	ng/dry g							
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g							
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g							
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g							
Sample ID: 21956-BS1 QAQC Procedural Blank Matrix: DI Water Sampled: Received: Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 24-Oct-13 17:02												
Fipronil	NA	752.31	0.25	0.5	ng/dry g	1000	0	75	70 - 130% PASS			
Fipronil Desulfinyl	NA	725.9	0.25	0.5	ng/dry g	1000	0	73	70 - 130% PASS			
Fipronil Sulfide	NA	779.1	0.25	0.5	ng/dry g	1000	0	78	70 - 130% PASS			
Fipronil Sulfone	NA	852.24	0.25	0.5	ng/dry g	1000	0	85	70 - 130% PASS			
Sample ID: 21956-BS2 QAQC Procedural Blank Matrix: DI Water Sampled: Received: Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 24-Oct-13 18:06												
Fipronil	NA	772.62	0.25	0.5	ng/dry g	1000	0	77	70 - 130% PASS	3	25	PASS
Fipronil Desulfinyl	NA	736.97	0.25	0.5	ng/dry g	1000	0	74	70 - 130% PASS	1	25	PASS
Fipronil Sulfide	NA	683.72	0.25	0.5	ng/dry g	1000	0	68	70 - 130% FAIL	14	25	PASS R
Fipronil Sulfone	NA	844.43	0.25	0.5	ng/dry g	1000	0	84	70 - 130% PASS	1	25	PASS
Sample ID: 21958-MS1 B13-8236 Oceanside Matrix: Sediment Sampled: 06-Aug-13 10:12 Received: 06-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 24-Oct-13 19:10												
Fipronil	NA	93.39	0.25	0.5	ng/dry g	134.6	0	69	70 - 130% FAIL			M
Fipronil Desulfinyl	NA	65.4	0.25	0.5	ng/dry g	134.6	0	49	70 - 130% FAIL			M
Fipronil Sulfide	NA	73.87	0.25	0.5	ng/dry g	134.6	0	55	70 - 130% FAIL			M
Fipronil Sulfone	NA	93.88	0.25	0.5	ng/dry g	134.6	0	70	70 - 130% PASS			
Sample ID: 21958-MS2 B13-8236 Oceanside Matrix: Sediment Sampled: 06-Aug-13 10:12 Received: 06-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 24-Oct-13 20:14												
Fipronil	NA	95.02	0.25	0.5	ng/dry g	132.3	0	72	70 - 130% PASS	4	25	PASS
Fipronil Desulfinyl	NA	63.68	0.25	0.5	ng/dry g	132.3	0	48	70 - 130% FAIL	2	25	PASS M



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CA ELAP #2769

Fipronil & Degradates

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Fipronil Sulfide	NA	72.92	0.25	0.5	ng/dry g	132.3	0	55 70 - 130% FAIL	0 25 PASS	M
Fipronil Sulfone	NA	98.72	0.25	0.5	ng/dry g	132.3	0	75 70 - 130% PASS	7 25 PASS	

Sample ID: 21958-R2

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 1:01

Fipronil	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 21956-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 2:30		
PCB003	NA	ND	0.05	0.1	ng/dry g					
PCB005	NA	ND	0.05	0.1	ng/dry g					
PCB008	NA	ND	0.05	0.1	ng/dry g					
PCB015	NA	ND	0.05	0.1	ng/dry g					
PCB018	NA	ND	0.05	0.1	ng/dry g					
PCB027	NA	ND	0.05	0.1	ng/dry g					
PCB028	NA	ND	0.05	0.1	ng/dry g					
PCB029	NA	ND	0.05	0.1	ng/dry g					
PCB031	NA	ND	0.05	0.1	ng/dry g					
PCB033	NA	ND	0.05	0.1	ng/dry g					
PCB037	NA	ND	0.05	0.1	ng/dry g					
PCB044	NA	ND	0.05	0.1	ng/dry g					
PCB049	NA	ND	0.05	0.1	ng/dry g					
PCB052	NA	ND	0.05	0.1	ng/dry g					
PCB056(060)	NA	ND	0.1	0.2	ng/dry g					
PCB066	NA	ND	0.05	0.1	ng/dry g					
PCB070	NA	ND	0.05	0.1	ng/dry g					
PCB074	NA	ND	0.05	0.1	ng/dry g					
PCB077	NA	ND	0.05	0.1	ng/dry g					
PCB081	NA	ND	0.05	0.1	ng/dry g					
PCB087	NA	ND	0.05	0.1	ng/dry g					
PCB095	NA	ND	0.05	0.1	ng/dry g					
PCB097	NA	ND	0.05	0.1	ng/dry g					
PCB099	NA	ND	0.05	0.1	ng/dry g					
PCB101	NA	ND	0.05	0.1	ng/dry g					
PCB105	NA	ND	0.05	0.1	ng/dry g					
PCB110	NA	ND	0.05	0.1	ng/dry g					
PCB114	NA	ND	0.05	0.1	ng/dry g					
PCB118	NA	ND	0.05	0.1	ng/dry g					



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB119	NA	ND	0.05	0.1	ng/dry g					
PCB123	NA	ND	0.05	0.1	ng/dry g					
PCB126	NA	ND	0.05	0.1	ng/dry g					
PCB128	NA	ND	0.05	0.1	ng/dry g					
PCB137	NA	ND	0.05	0.1	ng/dry g					
PCB138	NA	ND	0.05	0.1	ng/dry g					
PCB141	NA	ND	0.05	0.1	ng/dry g					
PCB149	NA	ND	0.05	0.1	ng/dry g					
PCB151	NA	ND	0.05	0.1	ng/dry g					
PCB153	NA	ND	0.05	0.1	ng/dry g					
PCB156	NA	ND	0.05	0.1	ng/dry g					
PCB157	NA	ND	0.05	0.1	ng/dry g					
PCB158	NA	ND	0.05	0.1	ng/dry g					
PCB167	NA	ND	0.05	0.1	ng/dry g					
PCB168+132	NA	ND	0.1	0.2	ng/dry g					
PCB169	NA	ND	0.05	0.1	ng/dry g					
PCB170	NA	ND	0.05	0.1	ng/dry g					
PCB174	NA	ND	0.05	0.1	ng/dry g					
PCB177	NA	ND	0.05	0.1	ng/dry g					
PCB180	NA	ND	0.05	0.1	ng/dry g					
PCB183	NA	ND	0.05	0.1	ng/dry g					
PCB187	NA	ND	0.05	0.1	ng/dry g					
PCB189	NA	ND	0.05	0.1	ng/dry g					
PCB194	NA	ND	0.05	0.1	ng/dry g					
PCB195	NA	ND	0.05	0.1	ng/dry g					
PCB199(200)	NA	ND	0.1	0.2	ng/dry g					
PCB201	NA	ND	0.05	0.1	ng/dry g					
PCB203	NA	ND	0.05	0.1	ng/dry g					
PCB206	NA	ND	0.05	0.1	ng/dry g					
PCB209	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 21956-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

PHYSIS Project ID: 1307002-002

Client: AMEC

Project: RHMP Bight '13

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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 4:13				
PCB003	NA	207.88	0.05	0.1	ng/dry g	200	0	104 70 - 130% PASS		
PCB005	NA	181.12	0.05	0.1	ng/dry g	200	0	91 70 - 130% PASS		
PCB008	NA	210.35	0.05	0.1	ng/dry g	200	0	105 70 - 130% PASS		
PCB015	NA	222.91	0.05	0.1	ng/dry g	200	0	111 70 - 130% PASS		
PCB018	NA	194.51	0.05	0.1	ng/dry g	200	0	97 70 - 130% PASS		
PCB027	NA	197.77	0.05	0.1	ng/dry g	200	0	99 70 - 130% PASS		
PCB028	NA	223.99	0.05	0.1	ng/dry g	200	0	112 70 - 130% PASS		
PCB029	NA	217.42	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS		
PCB031	NA	244.35	0.05	0.1	ng/dry g	200	0	122 70 - 130% PASS		
PCB033	NA	239.69	0.05	0.1	ng/dry g	200	0	120 70 - 130% PASS		
PCB037	NA	232.99	0.05	0.1	ng/dry g	200	0	116 70 - 130% PASS		
PCB044	NA	215.69	0.05	0.1	ng/dry g	200	0	108 70 - 130% PASS		
PCB049	NA	211.01	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS		
PCB052	NA	214.12	0.05	0.1	ng/dry g	200	0	107 70 - 130% PASS		
PCB056(060)	NA	236.1	0.1	0.2	ng/dry g	200	0	118 70 - 130% PASS		
PCB066	NA	209.97	0.05	0.1	ng/dry g	200	0	105 70 - 130% PASS		
PCB070	NA	230.28	0.05	0.1	ng/dry g	200	0	115 70 - 130% PASS		
PCB074	NA	241.2	0.05	0.1	ng/dry g	200	0	121 70 - 130% PASS		
PCB077	NA	218.95	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS		
PCB081	NA	210.78	0.05	0.1	ng/dry g	200	0	105 70 - 130% PASS		
PCB087	NA	191.91	0.05	0.1	ng/dry g	200	0	96 70 - 130% PASS		
PCB095	NA	181.37	0.05	0.1	ng/dry g	200	0	91 70 - 130% PASS		
PCB097	NA	206.05	0.05	0.1	ng/dry g	200	0	103 70 - 130% PASS		
PCB099	NA	215.55	0.05	0.1	ng/dry g	200	0	108 70 - 130% PASS		
PCB101	NA	212.2	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS		
PCB105	NA	196.6	0.05	0.1	ng/dry g	200	0	98 70 - 130% PASS		
PCB110	NA	208.32	0.05	0.1	ng/dry g	200	0	104 70 - 130% PASS		
PCB114	NA	221.47	0.05	0.1	ng/dry g	200	0	111 70 - 130% PASS		
PCB118	NA	205.7	0.05	0.1	ng/dry g	200	0	103 70 - 130% PASS		
PCB119	NA	217.68	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS		



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB123	NA	213.35	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	
PCB126	NA	237.68	0.05	0.1	ng/dry g	200	0	119	70 - 130% PASS	
PCB128	NA	188.63	0.05	0.1	ng/dry g	200	0	94	70 - 130% PASS	
PCB137	NA	217.73	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	
PCB138	NA	213.29	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	
PCB141	NA	180.57	0.05	0.1	ng/dry g	200	0	90	70 - 130% PASS	
PCB149	NA	185.75	0.05	0.1	ng/dry g	200	0	93	70 - 130% PASS	
PCB151	NA	191.38	0.05	0.1	ng/dry g	200	0	96	70 - 130% PASS	
PCB153	NA	223.52	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	
PCB156	NA	227.55	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	
PCB157	NA	203.21	0.05	0.1	ng/dry g	200	0	102	70 - 130% PASS	
PCB158	NA	195.04	0.05	0.1	ng/dry g	200	0	98	70 - 130% PASS	
PCB167	NA	210.77	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	
PCB168+132	NA	377.6	0.1	0.2	ng/dry g	400	0	94	70 - 130% PASS	
PCB169	NA	246.62	0.05	0.1	ng/dry g	200	0	123	70 - 130% PASS	
PCB170	NA	212.45	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	
PCB174	NA	198.12	0.05	0.1	ng/dry g	200	0	99	70 - 130% PASS	
PCB177	NA	203.72	0.05	0.1	ng/dry g	200	0	102	70 - 130% PASS	
PCB180	NA	225.18	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	
PCB183	NA	199.71	0.05	0.1	ng/dry g	200	0	100	70 - 130% PASS	
PCB187	NA	205.13	0.05	0.1	ng/dry g	200	0	103	70 - 130% PASS	
PCB189	NA	231.04	0.05	0.1	ng/dry g	200	0	116	70 - 130% PASS	
PCB194	NA	206.26	0.05	0.1	ng/dry g	200	0	103	70 - 130% PASS	
PCB195	NA	197.36	0.05	0.1	ng/dry g	200	0	99	70 - 130% PASS	
PCB199(200)	NA	171.4	0.1	0.2	ng/dry g	200	0	86	70 - 130% PASS	
PCB201	NA	206.33	0.05	0.1	ng/dry g	200	0	103	70 - 130% PASS	
PCB203	NA	188.47	0.05	0.1	ng/dry g	200	0	94	70 - 130% PASS	
PCB206	NA	184.15	0.05	0.1	ng/dry g	200	0	92	70 - 130% PASS	
PCB209	NA	164.42	0.05	0.1	ng/dry g	200	0	82	70 - 130% PASS	

Sample ID: 21956-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 5:55

PHYSIS Project ID: 1307002-002

Client: AMEC

Project: RHMP Bight '13

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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
PCB003	NA	198.27	0.05	0.1	ng/dry g	200	0	99	70 - 130% PASS	5	25	PASS
PCB005	NA	161.62	0.05	0.1	ng/dry g	200	0	81	70 - 130% PASS	12	25	PASS
PCB008	NA	209.16	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	0	25	PASS
PCB015	NA	219.92	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	1	25	PASS
PCB018	NA	190.63	0.05	0.1	ng/dry g	200	0	95	70 - 130% PASS	2	25	PASS
PCB027	NA	182.18	0.05	0.1	ng/dry g	200	0	91	70 - 130% PASS	8	25	PASS
PCB028	NA	209.39	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	6	25	PASS
PCB029	NA	215.35	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	1	25	PASS
PCB031	NA	219.82	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	10	25	PASS
PCB033	NA	218.27	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	10	25	PASS
PCB037	NA	241.26	0.05	0.1	ng/dry g	200	0	121	70 - 130% PASS	4	25	PASS
PCB044	NA	209.56	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	3	25	PASS
PCB049	NA	214.53	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	1	25	PASS
PCB052	NA	210.18	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	2	25	PASS
PCB056(060)	NA	239.4	0.1	0.2	ng/dry g	200	0	120	70 - 130% PASS	2	25	PASS
PCB066	NA	226.94	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	7	25	PASS
PCB070	NA	227.19	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	1	25	PASS
PCB074	NA	248.18	0.05	0.1	ng/dry g	200	0	124	70 - 130% PASS	2	25	PASS
PCB077	NA	232.46	0.05	0.1	ng/dry g	200	0	116	70 - 130% PASS	6	25	PASS
PCB081	NA	234.73	0.05	0.1	ng/dry g	200	0	117	70 - 130% PASS	11	25	PASS
PCB087	NA	206.31	0.05	0.1	ng/dry g	200	0	103	70 - 130% PASS	7	25	PASS
PCB095	NA	184.84	0.05	0.1	ng/dry g	200	0	92	70 - 130% PASS	1	25	PASS
PCB097	NA	227.17	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	10	25	PASS
PCB099	NA	218.37	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	1	25	PASS
PCB101	NA	222.55	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	5	25	PASS
PCB105	NA	206.1	0.05	0.1	ng/dry g	200	0	103	70 - 130% PASS	5	25	PASS
PCB110	NA	214.7	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	3	25	PASS
PCB114	NA	244.28	0.05	0.1	ng/dry g	200	0	122	70 - 130% PASS	9	25	PASS
PCB118	NA	218.21	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	6	25	PASS
PCB119	NA	225.26	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	4	25	PASS
PCB123	NA	237.26	0.05	0.1	ng/dry g	200	0	119	70 - 130% PASS	11	25	PASS



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB126	NA	253.1	0.05	0.1	ng/dry g	200	0	127 70 - 130% PASS	7 25 PASS	
PCB128	NA	202.1	0.05	0.1	ng/dry g	200	0	101 70 - 130% PASS	7 25 PASS	
PCB137	NA	224.08	0.05	0.1	ng/dry g	200	0	112 70 - 130% PASS	3 25 PASS	
PCB138	NA	218.26	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS	2 25 PASS	
PCB141	NA	190.22	0.05	0.1	ng/dry g	200	0	95 70 - 130% PASS	5 25 PASS	
PCB149	NA	198.91	0.05	0.1	ng/dry g	200	0	99 70 - 130% PASS	6 25 PASS	
PCB151	NA	211.23	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS	10 25 PASS	
PCB153	NA	228.46	0.05	0.1	ng/dry g	200	0	114 70 - 130% PASS	2 25 PASS	
PCB156	NA	242.55	0.05	0.1	ng/dry g	200	0	121 70 - 130% PASS	6 25 PASS	
PCB157	NA	219.55	0.05	0.1	ng/dry g	200	0	110 70 - 130% PASS	8 25 PASS	
PCB158	NA	207.7	0.05	0.1	ng/dry g	200	0	104 70 - 130% PASS	6 25 PASS	
PCB167	NA	216.86	0.05	0.1	ng/dry g	200	0	108 70 - 130% PASS	3 25 PASS	
PCB168+132	NA	394.9	0.1	0.2	ng/dry g	400	0	99 70 - 130% PASS	5 25 PASS	
PCB169	NA	261.79	0.05	0.1	ng/dry g	200	0	131 70 - 130% FAIL	6 25 PASS	R
PCB170	NA	217.82	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS	3 25 PASS	
PCB174	NA	209.16	0.05	0.1	ng/dry g	200	0	105 70 - 130% PASS	6 25 PASS	
PCB177	NA	204.6	0.05	0.1	ng/dry g	200	0	102 70 - 130% PASS	0 25 PASS	
PCB180	NA	233.62	0.05	0.1	ng/dry g	200	0	117 70 - 130% PASS	3 25 PASS	
PCB183	NA	207.74	0.05	0.1	ng/dry g	200	0	104 70 - 130% PASS	4 25 PASS	
PCB187	NA	211.52	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS	3 25 PASS	
PCB189	NA	234.41	0.05	0.1	ng/dry g	200	0	117 70 - 130% PASS	1 25 PASS	
PCB194	NA	212.54	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS	3 25 PASS	
PCB195	NA	204.1	0.05	0.1	ng/dry g	200	0	102 70 - 130% PASS	3 25 PASS	
PCB199(200)	NA	188.3	0.1	0.2	ng/dry g	200	0	94 70 - 130% PASS	9 25 PASS	
PCB201	NA	218.85	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS	6 25 PASS	
PCB203	NA	194.78	0.05	0.1	ng/dry g	200	0	97 70 - 130% PASS	3 25 PASS	
PCB206	NA	196.05	0.05	0.1	ng/dry g	200	0	98 70 - 130% PASS	6 25 PASS	
PCB209	NA	172.01	0.05	0.1	ng/dry g	200	0	86 70 - 130% PASS	5 25 PASS	

Sample ID: 21958-MS1

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 7:38

PCB003	NA	26.57	0.05	0.1	ng/dry g	26.92	0	99 50 - 150% PASS		
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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB005	NA	23.5	0.05	0.1	ng/dry g	26.92	0	87	50 - 150% PASS	
PCB008	NA	26.89	0.05	0.1	ng/dry g	26.92	0	100	50 - 150% PASS	
PCB015	NA	29.2	0.05	0.1	ng/dry g	26.92	0	108	50 - 150% PASS	
PCB018	NA	25.28	0.05	0.1	ng/dry g	26.92	0	94	50 - 150% PASS	
PCB027	NA	26.46	0.05	0.1	ng/dry g	26.92	0	98	50 - 150% PASS	
PCB028	NA	29.91	0.05	0.1	ng/dry g	26.92	0	111	50 - 150% PASS	
PCB029	NA	30.48	0.05	0.1	ng/dry g	26.92	0	113	50 - 150% PASS	
PCB031	NA	29.54	0.05	0.1	ng/dry g	26.92	0	110	50 - 150% PASS	
PCB033	NA	28.66	0.05	0.1	ng/dry g	26.92	0	106	50 - 150% PASS	
PCB037	NA	30.27	0.05	0.1	ng/dry g	26.92	0	112	50 - 150% PASS	
PCB044	NA	27.53	0.05	0.1	ng/dry g	26.92	0	102	50 - 150% PASS	
PCB049	NA	26.79	0.05	0.1	ng/dry g	26.92	0	100	50 - 150% PASS	
PCB052	NA	27.62	0.05	0.1	ng/dry g	26.92	0	103	50 - 150% PASS	
PCB056(060)	NA	30.5	0.1	0.2	ng/dry g	26.9	0	113	50 - 150% PASS	
PCB066	NA	28.97	0.05	0.1	ng/dry g	26.92	0	108	50 - 150% PASS	
PCB070	NA	30.21	0.05	0.1	ng/dry g	26.92	0	112	50 - 150% PASS	
PCB074	NA	32.7	0.05	0.1	ng/dry g	26.92	0	121	50 - 150% PASS	
PCB077	NA	27.3	0.05	0.1	ng/dry g	26.92	0	101	50 - 150% PASS	
PCB081	NA	28.36	0.05	0.1	ng/dry g	26.92	0	105	50 - 150% PASS	
PCB087	NA	25.65	0.05	0.1	ng/dry g	26.92	0	95	50 - 150% PASS	
PCB095	NA	24.85	0.05	0.1	ng/dry g	26.92	0	92	50 - 150% PASS	
PCB097	NA	28.17	0.05	0.1	ng/dry g	26.92	0	105	50 - 150% PASS	
PCB099	NA	27.98	0.05	0.1	ng/dry g	26.92	0	104	50 - 150% PASS	
PCB101	NA	28.9	0.05	0.1	ng/dry g	26.92	0	107	50 - 150% PASS	
PCB105	NA	26.52	0.05	0.1	ng/dry g	26.92	0	99	50 - 150% PASS	
PCB110	NA	26.15	0.05	0.1	ng/dry g	26.92	0	97	50 - 150% PASS	
PCB114	NA	28.29	0.05	0.1	ng/dry g	26.92	0	105	50 - 150% PASS	
PCB118	NA	25.95	0.05	0.1	ng/dry g	26.92	0	96	50 - 150% PASS	
PCB119	NA	27.73	0.05	0.1	ng/dry g	26.92	0	103	50 - 150% PASS	
PCB123	NA	27.5	0.05	0.1	ng/dry g	26.92	0	102	50 - 150% PASS	
PCB126	NA	31.09	0.05	0.1	ng/dry g	26.92	0	115	50 - 150% PASS	



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB128	NA	26.88	0.05	0.1	ng/dry g	26.92	0	100	50 - 150% PASS	
PCB137	NA	28.04	0.05	0.1	ng/dry g	26.92	0	104	50 - 150% PASS	
PCB138	NA	28.09	0.05	0.1	ng/dry g	26.92	0	104	50 - 150% PASS	
PCB141	NA	23.95	0.05	0.1	ng/dry g	26.92	0	89	50 - 150% PASS	
PCB149	NA	22.71	0.05	0.1	ng/dry g	26.92	0	84	50 - 150% PASS	
PCB151	NA	24.96	0.05	0.1	ng/dry g	26.92	0	93	50 - 150% PASS	
PCB153	NA	28.62	0.05	0.1	ng/dry g	26.92	0	106	50 - 150% PASS	
PCB156	NA	29.9	0.05	0.1	ng/dry g	26.92	0	111	50 - 150% PASS	
PCB157	NA	26.36	0.05	0.1	ng/dry g	26.92	0	98	50 - 150% PASS	
PCB158	NA	26.13	0.05	0.1	ng/dry g	26.92	0	97	50 - 150% PASS	
PCB167	NA	26.17	0.05	0.1	ng/dry g	26.92	0	97	50 - 150% PASS	
PCB168+132	NA	49.8	0.1	0.2	ng/dry g	53.8	0	93	50 - 150% PASS	
PCB169	NA	32.14	0.05	0.1	ng/dry g	26.92	0	119	50 - 150% PASS	
PCB170	NA	26.48	0.05	0.1	ng/dry g	26.92	0	98	50 - 150% PASS	
PCB174	NA	25.74	0.05	0.1	ng/dry g	26.92	0	96	50 - 150% PASS	
PCB177	NA	25.99	0.05	0.1	ng/dry g	26.92	0	97	50 - 150% PASS	
PCB180	NA	28.58	0.05	0.1	ng/dry g	26.92	0	106	50 - 150% PASS	
PCB183	NA	24.9	0.05	0.1	ng/dry g	26.92	0	92	50 - 150% PASS	
PCB187	NA	26.8	0.05	0.1	ng/dry g	26.92	0	100	50 - 150% PASS	
PCB189	NA	223.4	0.05	0.1	ng/dry g	200	0	112	50 - 150% PASS	
PCB194	NA	190.76	0.05	0.1	ng/dry g	200	0	95	50 - 150% PASS	
PCB195	NA	194.13	0.05	0.1	ng/dry g	200	0	97	50 - 150% PASS	
PCB199(200)	NA	22.1	0.1	0.2	ng/dry g	26.9	0	82	50 - 150% PASS	
PCB201	NA	25.86	0.05	0.1	ng/dry g	26.92	0	96	50 - 150% PASS	
PCB203	NA	24.32	0.05	0.1	ng/dry g	26.92	0	90	50 - 150% PASS	
PCB206	NA	179.1	0.05	0.1	ng/dry g	200	0	90	50 - 150% PASS	
PCB209	NA	149.36	0.05	0.1	ng/dry g	200	0	75	50 - 150% PASS	

Sample ID: 21958-MS2

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 9:21

PCB003	NA	25.63	0.05	0.1	ng/dry g	26.46	0	97	50 - 150% PASS	2	25	PASS
PCB005	NA	24.37	0.05	0.1	ng/dry g	26.46	0	92	50 - 150% PASS	6	25	PASS

PHYSIS Project ID: 1307002-002

Client: AMEC

Project: RHMP Bight '13

qcb - 27 of 48



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
PCB008	NA	26.64	0.05	0.1	ng/dry g	26.46	0	101	50 - 150% PASS	1	25	PASS
PCB015	NA	28.94	0.05	0.1	ng/dry g	26.46	0	109	50 - 150% PASS	1	25	PASS
PCB018	NA	25.16	0.05	0.1	ng/dry g	26.46	0	95	50 - 150% PASS	1	25	PASS
PCB027	NA	26.94	0.05	0.1	ng/dry g	26.46	0	102	50 - 150% PASS	4	25	PASS
PCB028	NA	28.04	0.05	0.1	ng/dry g	26.46	0	106	50 - 150% PASS	5	25	PASS
PCB029	NA	29.37	0.05	0.1	ng/dry g	26.46	0	111	50 - 150% PASS	2	25	PASS
PCB031	NA	29.36	0.05	0.1	ng/dry g	26.46	0	111	50 - 150% PASS	1	25	PASS
PCB033	NA	33.07	0.05	0.1	ng/dry g	26.46	0	125	50 - 150% PASS	16	25	PASS
PCB037	NA	28.69	0.05	0.1	ng/dry g	26.46	0	108	50 - 150% PASS	4	25	PASS
PCB044	NA	27.11	0.05	0.1	ng/dry g	26.46	0	102	50 - 150% PASS	0	25	PASS
PCB049	NA	27.06	0.05	0.1	ng/dry g	26.46	0	102	50 - 150% PASS	2	25	PASS
PCB052	NA	27.19	0.05	0.1	ng/dry g	26.46	0	103	50 - 150% PASS	0	25	PASS
PCB056(060)	NA	31.5	0.1	0.2	ng/dry g	26.5	0	119	50 - 150% PASS	5	25	PASS
PCB066	NA	28.83	0.05	0.1	ng/dry g	26.46	0	109	50 - 150% PASS	1	25	PASS
PCB070	NA	30.75	0.05	0.1	ng/dry g	26.46	0	116	50 - 150% PASS	4	25	PASS
PCB074	NA	32.43	0.05	0.1	ng/dry g	26.46	0	123	50 - 150% PASS	2	25	PASS
PCB077	NA	29.86	0.05	0.1	ng/dry g	26.46	0	113	50 - 150% PASS	11	25	PASS
PCB081	NA	30	0.05	0.1	ng/dry g	26.46	0	113	50 - 150% PASS	7	25	PASS
PCB087	NA	26.64	0.05	0.1	ng/dry g	26.46	0	101	50 - 150% PASS	6	25	PASS
PCB095	NA	24.25	0.05	0.1	ng/dry g	26.46	0	92	50 - 150% PASS	0	25	PASS
PCB097	NA	29.08	0.05	0.1	ng/dry g	26.46	0	110	50 - 150% PASS	5	25	PASS
PCB099	NA	28.98	0.05	0.1	ng/dry g	26.46	0	110	50 - 150% PASS	6	25	PASS
PCB101	NA	29.57	0.05	0.1	ng/dry g	26.46	0	112	50 - 150% PASS	5	25	PASS
PCB105	NA	26.53	0.05	0.1	ng/dry g	26.46	0	100	50 - 150% PASS	1	25	PASS
PCB110	NA	28.27	0.05	0.1	ng/dry g	26.46	0	107	50 - 150% PASS	10	25	PASS
PCB114	NA	30.28	0.05	0.1	ng/dry g	26.46	0	114	50 - 150% PASS	8	25	PASS
PCB118	NA	28.79	0.05	0.1	ng/dry g	26.46	0	109	50 - 150% PASS	13	25	PASS
PCB119	NA	29.26	0.05	0.1	ng/dry g	26.46	0	111	50 - 150% PASS	7	25	PASS
PCB123	NA	29.73	0.05	0.1	ng/dry g	26.46	0	112	50 - 150% PASS	9	25	PASS
PCB126	NA	32.71	0.05	0.1	ng/dry g	26.46	0	124	50 - 150% PASS	8	25	PASS
PCB128	NA	24.83	0.05	0.1	ng/dry g	26.46	0	94	50 - 150% PASS	6	25	PASS



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
PCB137	NA	30.67	0.05	0.1	ng/dry g	26.46	0	116	50 - 150% PASS	11	25	PASS
PCB138	NA	27.5	0.05	0.1	ng/dry g	26.46	0	104	50 - 150% PASS	0	25	PASS
PCB141	NA	24.64	0.05	0.1	ng/dry g	26.46	0	93	50 - 150% PASS	4	25	PASS
PCB149	NA	25.37	0.05	0.1	ng/dry g	26.46	0	96	50 - 150% PASS	13	25	PASS
PCB151	NA	26.61	0.05	0.1	ng/dry g	26.46	0	101	50 - 150% PASS	8	25	PASS
PCB153	NA	29.15	0.05	0.1	ng/dry g	26.46	0	110	50 - 150% PASS	4	25	PASS
PCB156	NA	31.12	0.05	0.1	ng/dry g	26.46	0	118	50 - 150% PASS	6	25	PASS
PCB157	NA	27.38	0.05	0.1	ng/dry g	26.46	0	103	50 - 150% PASS	5	25	PASS
PCB158	NA	26.84	0.05	0.1	ng/dry g	26.46	0	101	50 - 150% PASS	4	25	PASS
PCB167	NA	27.58	0.05	0.1	ng/dry g	26.46	0	104	50 - 150% PASS	7	25	PASS
PCB168+132	NA	51.7	0.1	0.2	ng/dry g	52.9	0	98	50 - 150% PASS	5	25	PASS
PCB169	NA	33.71	0.05	0.1	ng/dry g	26.46	0	127	50 - 150% PASS	7	25	PASS
PCB170	NA	27.59	0.05	0.1	ng/dry g	26.46	0	104	50 - 150% PASS	6	25	PASS
PCB174	NA	26.34	0.05	0.1	ng/dry g	26.46	0	100	50 - 150% PASS	4	25	PASS
PCB177	NA	26.82	0.05	0.1	ng/dry g	26.46	0	101	50 - 150% PASS	4	25	PASS
PCB180	NA	30.06	0.05	0.1	ng/dry g	26.46	0	114	50 - 150% PASS	7	25	PASS
PCB183	NA	26.98	0.05	0.1	ng/dry g	26.46	0	102	50 - 150% PASS	10	25	PASS
PCB187	NA	26.58	0.05	0.1	ng/dry g	26.46	0	100	50 - 150% PASS	0	25	PASS
PCB189	NA	235.84	0.05	0.1	ng/dry g	200	0	118	50 - 150% PASS	5	25	PASS
PCB194	NA	202.86	0.05	0.1	ng/dry g	200	0	101	50 - 150% PASS	6	25	PASS
PCB195	NA	215.39	0.05	0.1	ng/dry g	200	0	108	50 - 150% PASS	11	25	PASS
PCB199(200)	NA	22.4	0.1	0.2	ng/dry g	26.5	0	85	50 - 150% PASS	4	25	PASS
PCB201	NA	28.03	0.05	0.1	ng/dry g	26.46	0	106	50 - 150% PASS	10	25	PASS
PCB203	NA	26.32	0.05	0.1	ng/dry g	26.46	0	99	50 - 150% PASS	10	25	PASS
PCB206	NA	187.09	0.05	0.1	ng/dry g	200	0	94	50 - 150% PASS	4	25	PASS
PCB209	NA	168.26	0.05	0.1	ng/dry g	200	0	84	50 - 150% PASS	11	25	PASS

Sample ID: 21958-R2

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 18:23

PCB003	NA	ND	0.05	0.1	ng/dry g					0	25	PASS
PCB005	NA	ND	0.05	0.1	ng/dry g					0	25	PASS
PCB008	NA	ND	0.05	0.1	ng/dry g					0	25	PASS



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB015	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB018	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB027	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB028	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB029	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB031	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB033	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB037	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB044	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB049	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB052	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g				0 25 PASS	
PCB066	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB070	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB074	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB077	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB081	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB087	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB095	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB097	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB099	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB101	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB105	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB110	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB114	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB118	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB119	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB123	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB126	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB128	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB137	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB138	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB141	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB149	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB151	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB153	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB156	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB157	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB158	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB167	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB168+132	NA	ND	0.1	0.2	ng/dry g				0 25 PASS	
PCB169	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB170	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB174	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB177	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB180	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB183	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB187	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB189	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB194	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB195	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g				0 25 PASS	
PCB201	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB203	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB206	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB209	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	

Sample ID: 21964-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 13:15

PCB008	NA	17.19	0.05	0.1	ng/dry g	22.3	77	60 - 140%	PASS
PCB018	NA	42.26	0.05	0.1	ng/dry g	51	83	60 - 140%	PASS
PCB028	NA	65.76	0.05	0.1	ng/dry g	80.8	81	60 - 140%	PASS
PCB031	NA	61.59	0.05	0.1	ng/dry g	78.7	78	60 - 140%	PASS



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB044	NA	53.2	0.05	0.1	ng/dry g	60.2		88 60 - 140% PASS		
PCB049	NA	49.12	0.05	0.1	ng/dry g	53		93 60 - 140% PASS		
PCB052	NA	64.38	0.05	0.1	ng/dry g	79.4		81 60 - 140% PASS		
PCB066	NA	59.74	0.05	0.1	ng/dry g	71.9		83 60 - 140% PASS		
PCB087	NA	29.6	0.05	0.1	ng/dry g	29.9		99 60 - 140% PASS		
PCB095	NA	51.56	0.05	0.1	ng/dry g	65		79 60 - 140% PASS		
PCB099	NA	31.51	0.05	0.1	ng/dry g	37.5		84 60 - 140% PASS		
PCB101	NA	51.09	0.05	0.1	ng/dry g	73.4		70 60 - 140% PASS		
PCB105	NA	23.11	0.05	0.1	ng/dry g	24.5		94 60 - 140% PASS		
PCB110	NA	44.47	0.05	0.1	ng/dry g	63.5		70 60 - 140% PASS		
PCB118	NA	40.32	0.05	0.1	ng/dry g	58		70 60 - 140% PASS		
PCB128	NA	7.09	0.05	0.1	ng/dry g	8.5		83 60 - 140% PASS		
PCB138	NA	44.2	0.05	0.1	ng/dry g	62.1		71 60 - 140% PASS		
PCB149	NA	34.76	0.05	0.1	ng/dry g	49.7		70 60 - 140% PASS		
PCB151	NA	20.57	0.05	0.1	ng/dry g	16.9		122 60 - 140% PASS		
PCB153	NA	56.13	0.05	0.1	ng/dry g	74		76 60 - 140% PASS		
PCB156	NA	8.57	0.05	0.1	ng/dry g	6.5		132 60 - 140% PASS		
PCB170	NA	22.71	0.05	0.1	ng/dry g	22.6		100 60 - 140% PASS		
PCB180	NA	39.75	0.05	0.1	ng/dry g	44.3		90 60 - 140% PASS		
PCB183	NA	9.87	0.05	0.1	ng/dry g	12.2		81 60 - 140% PASS		
PCB187	NA	21.03	0.05	0.1	ng/dry g	24.1		87 60 - 140% PASS		
PCB194	NA	11.9	0.05	0.1	ng/dry g	11.2		106 60 - 140% PASS		
PCB195	NA	9.62	0.05	0.1	ng/dry g	3.8		253 60 - 140% FAIL		R
PCB206	NA	7.01	0.05	0.1	ng/dry g	9.2		76 60 - 140% PASS		
PCB209	NA	5.18	0.05	0.1	ng/dry g	6.8		76 60 - 140% PASS		



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 21956-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 29-Oct-13 18:00

(DFPBDE)	NA	86			% Recovery	100		86	50 - 150%	PASS
(FTBDE)	NA	94			% Recovery	100		94	50 - 150%	PASS
PBDE017	NA	ND	0.05	0.1	ng/dry g					
PBDE028	NA	ND	0.05	0.1	ng/dry g					
PBDE047	NA	ND	0.05	0.1	ng/dry g					
PBDE049	NA	ND	0.05	0.1	ng/dry g					
PBDE066	NA	ND	0.05	0.1	ng/dry g					
PBDE071	NA	ND	0.05	0.1	ng/dry g					
PBDE085	NA	ND	0.05	0.1	ng/dry g					
PBDE099	NA	ND	0.05	0.1	ng/dry g					
PBDE100	NA	ND	0.05	0.1	ng/dry g					
PBDE138	NA	ND	0.05	0.1	ng/dry g					
PBDE153	NA	ND	0.05	0.1	ng/dry g					
PBDE154	NA	ND	0.05	0.1	ng/dry g					
PBDE183	NA	ND	0.05	0.1	ng/dry g					
PBDE190	NA	ND	0.05	0.1	ng/dry g					
PBDE209	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 21956-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 29-Oct-13 18:39

(DFPBDE)	NA	110			% Recovery	100	0	110	70 - 130%	PASS
(FTBDE)	NA	115			% Recovery	100	0	115	70 - 130%	PASS
PBDE017	NA	122.86	0.05	0.1	ng/dry g	100	0	123	70 - 130%	PASS
PBDE028	NA	111.63	0.05	0.1	ng/dry g	100	0	112	70 - 130%	PASS
PBDE047	NA	97.17	0.05	0.1	ng/dry g	100	0	97	70 - 130%	PASS
PBDE049	NA	88.21	0.05	0.1	ng/dry g	100	0	88	70 - 130%	PASS
PBDE066	NA	103.48	0.05	0.1	ng/dry g	100	0	103	70 - 130%	PASS
PBDE071	NA	86.4	0.05	0.1	ng/dry g	100	0	86	70 - 130%	PASS
PBDE085	NA	110.4	0.05	0.1	ng/dry g	100	0	110	70 - 130%	PASS



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PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PBDE099	NA	103.09	0.05	0.1	ng/dry g	100	0	103 70 - 130%	PASS	
PBDE100	NA	105.03	0.05	0.1	ng/dry g	100	0	105 70 - 130%	PASS	
PBDE138	NA	99.94	0.05	0.1	ng/dry g	100	0	100 70 - 130%	PASS	
PBDE153	NA	111.24	0.05	0.1	ng/dry g	100	0	111 70 - 130%	PASS	
PBDE154	NA	104.37	0.05	0.1	ng/dry g	100	0	104 70 - 130%	PASS	
PBDE183	NA	100.01	0.05	0.1	ng/dry g	100	0	100 70 - 130%	PASS	
PBDE190	NA	89.94	0.05	0.1	ng/dry g	100	0	90 70 - 130%	PASS	
PBDE209	NA	603.45	0.05	0.1	ng/dry g	500	0	121 70 - 130%	PASS	

Sample ID: 21956-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 29-Oct-13 19:18

(DFPBDE)	NA	110			% Recovery	100	0	110 70 - 130%	PASS	0	25	PASS	
(FTBDE)	NA	117			% Recovery	100	0	117 70 - 130%	PASS	2	25	PASS	
PBDE017	NA	125.4	0.05	0.1	ng/dry g	100	0	125 70 - 130%	PASS	2	25	PASS	
PBDE028	NA	109.54	0.05	0.1	ng/dry g	100	0	110 70 - 130%	PASS	2	25	PASS	
PBDE047	NA	99.74	0.05	0.1	ng/dry g	100	0	100 70 - 130%	PASS	3	25	PASS	
PBDE049	NA	96.42	0.05	0.1	ng/dry g	100	0	96 70 - 130%	PASS	9	25	PASS	
PBDE066	NA	106.65	0.05	0.1	ng/dry g	100	0	107 70 - 130%	PASS	4	25	PASS	
PBDE071	NA	86.07	0.05	0.1	ng/dry g	100	0	86 70 - 130%	PASS	0	25	PASS	
PBDE085	NA	111.53	0.05	0.1	ng/dry g	100	0	112 70 - 130%	PASS	2	25	PASS	
PBDE099	NA	105.19	0.05	0.1	ng/dry g	100	0	105 70 - 130%	PASS	2	25	PASS	
PBDE100	NA	107.56	0.05	0.1	ng/dry g	100	0	108 70 - 130%	PASS	3	25	PASS	
PBDE138	NA	105.61	0.05	0.1	ng/dry g	100	0	106 70 - 130%	PASS	6	25	PASS	
PBDE153	NA	113.58	0.05	0.1	ng/dry g	100	0	114 70 - 130%	PASS	3	25	PASS	
PBDE154	NA	109.3	0.05	0.1	ng/dry g	100	0	109 70 - 130%	PASS	5	25	PASS	
PBDE183	NA	112.38	0.05	0.1	ng/dry g	100	0	112 70 - 130%	PASS	11	25	PASS	
PBDE190	NA	98.19	0.05	0.1	ng/dry g	100	0	98 70 - 130%	PASS	9	25	PASS	
PBDE209	NA	655.02	0.05	0.1	ng/dry g	500	0	131 70 - 130%	FAIL	8	25	PASS	R

Sample ID: 21958-MS1

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 29-Oct-13 19:57

(DFPBDE)	NA	88			% Recovery	100	0	88 70 - 130%	PASS				
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PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
(FTBDE)	NA	121			% Recovery	100	0	121 70 - 130% PASS		
PBDE017	NA	130.36	0.05	0.1	ng/dry g	100	0	130 70 - 130% PASS		
PBDE028	NA	110.83	0.05	0.1	ng/dry g	100	0	111 70 - 130% PASS		
PBDE047	NA	96.05	0.05	0.1	ng/dry g	100	0	96 70 - 130% PASS		
PBDE049	NA	84.38	0.05	0.1	ng/dry g	100	0	84 70 - 130% PASS		
PBDE066	NA	97.25	0.05	0.1	ng/dry g	100	0.51	97 70 - 130% PASS		
PBDE071	NA	86.59	0.05	0.1	ng/dry g	100	0	87 70 - 130% PASS		
PBDE085	NA	94.1	0.05	0.1	ng/dry g	100	0	94 70 - 130% PASS		
PBDE099	NA	92.19	0.05	0.1	ng/dry g	100	0.06	92 70 - 130% PASS		
PBDE100	NA	95.73	0.05	0.1	ng/dry g	100	0	96 70 - 130% PASS		
PBDE138	NA	86.55	0.05	0.1	ng/dry g	100	0	87 70 - 130% PASS		
PBDE153	NA	91.99	0.05	0.1	ng/dry g	100	0	92 70 - 130% PASS		
PBDE154	NA	92.01	0.05	0.1	ng/dry g	100	0	92 70 - 130% PASS		
PBDE183	NA	93.51	0.05	0.1	ng/dry g	100	0	94 70 - 130% PASS		
PBDE190	NA	90.47	0.05	0.1	ng/dry g	100	0	90 70 - 130% PASS		
PBDE209	NA	334.47	0.05	0.1	ng/dry g	500	0	67 70 - 130% FAIL		M

Sample ID: 21958-MS2

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 29-Oct-13 20:36

(DFPBDE)	NA	82			% Recovery	100	0	82 70 - 130% PASS	7	25	PASS	
(FTBDE)	NA	129			% Recovery	100	0	129 70 - 130% PASS	6	25	PASS	
PBDE017	NA	131.87	0.05	0.1	ng/dry g	100	0	132 70 - 130% FAIL	2	25	PASS	M
PBDE028	NA	116.79	0.05	0.1	ng/dry g	100	0	117 70 - 130% PASS	5	25	PASS	
PBDE047	NA	90.2	0.05	0.1	ng/dry g	100	0	90 70 - 130% PASS	6	25	PASS	
PBDE049	NA	82.26	0.05	0.1	ng/dry g	100	0	82 70 - 130% PASS	2	25	PASS	
PBDE066	NA	88.77	0.05	0.1	ng/dry g	100	0.51	88 70 - 130% PASS	10	25	PASS	
PBDE071	NA	86.07	0.05	0.1	ng/dry g	100	0	86 70 - 130% PASS	1	25	PASS	
PBDE085	NA	77.16	0.05	0.1	ng/dry g	100	0	77 70 - 130% PASS	20	25	PASS	
PBDE099	NA	76.42	0.05	0.1	ng/dry g	100	0.06	76 70 - 130% PASS	19	25	PASS	
PBDE100	NA	83.84	0.05	0.1	ng/dry g	100	0	84 70 - 130% PASS	13	25	PASS	
PBDE138	NA	71.2	0.05	0.1	ng/dry g	100	0	71 70 - 130% PASS	20	25	PASS	
PBDE153	NA	73.7	0.05	0.1	ng/dry g	100	0	74 70 - 130% PASS	22	25	PASS	



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PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PBDE154	NA	83.24	0.05	0.1	ng/dry g	100	0	83 70 - 130% PASS	10 25 PASS	
PBDE183	NA	78.54	0.05	0.1	ng/dry g	100	0	79 70 - 130% PASS	17 25 PASS	
PBDE190	NA	78.31	0.05	0.1	ng/dry g	100	0	78 70 - 130% PASS	14 25 PASS	
PBDE209	NA	327.45	0.05	0.1	ng/dry g	500	0	65 70 - 130% FAIL	3 25 PASS	M

Sample ID: 21958-R2

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 29-Oct-13 23:43

(DFPBDE)	NA	69			% Recovery	100	69	50 - 150% PASS	7 25 PASS	
(FTBDE)	NA	97			% Recovery	100	97	50 - 150% PASS	1 25 PASS	
PBDE017	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE028	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE047	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE049	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE066	NA	0.47	0.05	0.1	ng/dry g				16 25 PASS	
PBDE071	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE085	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE099	NA	0.11	0.05	0.1	ng/dry g				75 25 FAIL	SL
PBDE100	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE138	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE153	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE154	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE183	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE190	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE209	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	

Sample ID: 21964-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 29-Oct-13 21:46

PBDE047	NA	1.52	0.05	0.1	ng/dry g	1.72	88	60 - 140% PASS		
PBDE099	NA	2.17	0.05	0.1	ng/dry g	2	109	60 - 140% PASS		
PBDE100	NA	0.32	0.05	0.1	ng/dry g	0.4	80	60 - 140% PASS		
PBDE153	NA	7.42	0.05	0.1	ng/dry g	6.44	115	60 - 140% PASS		
PBDE154	NA	1.57	0.05	0.1	ng/dry g	1.06	148	60 - 140% FAIL		*



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PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PBDE183	NA	31.26	0.05	0.1	ng/dry g	31.8		98 60 - 140% PASS		
PBDE209	NA	251.6	0.05	0.1	ng/dry g	93.5		269 60 - 140% FAIL		*



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 21956-B1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 2:30	
(d10-Acenaphthene)	NA	74			% Recovery	100	74	50 - 150% PASS		
(d10-Phenanthrene)	NA	83			% Recovery	100	83	50 - 150% PASS		
(d12-Chrysene)	NA	84			% Recovery	100	84	50 - 150% PASS		
(d8-Naphthalene)	NA	62			% Recovery	100	62	25 - 125% PASS		
1-Methylnaphthalene	NA	ND	1	5	ng/dry g					
1-Methylphenanthrene	NA	ND	1	5	ng/dry g					
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g					
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g					
2-Methylnaphthalene	NA	ND	1	5	ng/dry g					
Acenaphthene	NA	ND	1	5	ng/dry g					
Acenaphthylene	NA	ND	1	5	ng/dry g					
Anthracene	NA	ND	1	5	ng/dry g					
Benz[a]anthracene	NA	ND	1	5	ng/dry g					
Benzo[a]pyrene	NA	ND	1	5	ng/dry g					
Benzo[b]fluoranthene	NA	ND	1	5	ng/dry g					
Benzo[e]pyrene	NA	ND	1	5	ng/dry g					
Benzo[g,h,i]perylene	NA	ND	1	5	ng/dry g					
Benzo[k]fluoranthene	NA	ND	1	5	ng/dry g					
Biphenyl	NA	ND	1	5	ng/dry g					
Chrysene	NA	ND	1	5	ng/dry g					
Dibenz[a,h]anthracene	NA	ND	1	5	ng/dry g					
Dibenzothiophene	NA	ND	1	5	ng/dry g					
Fluoranthene	NA	ND	1	5	ng/dry g					
Fluorene	NA	ND	1	5	ng/dry g					
Indeno[1,2,3-c,d]pyrene	NA	ND	1	5	ng/dry g					
Naphthalene	NA	ND	1	5	ng/dry g					
Perylene	NA	ND	1	5	ng/dry g					
Phenanthrene	NA	ND	1	5	ng/dry g					
Pyrene	NA	ND	1	5	ng/dry g					



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 21956-BS1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 4:13	
(d10-Acenaphthene)	NA	87			% Recovery	100	0	87	70 - 130% PASS	
(d10-Phenanthrene)	NA	95			% Recovery	100	0	95	70 - 130% PASS	
(d12-Chrysene)	NA	112			% Recovery	100	0	112	70 - 130% PASS	
(d8-Naphthalene)	NA	76			% Recovery	100	0	76	70 - 130% PASS	
1-Methylnaphthalene	NA	799	1	5	ng/dry g	1000	0	80	70 - 130% PASS	
1-Methylphenanthrene	NA	1087.9	1	5	ng/dry g	1000	0	109	70 - 130% PASS	
2,3,5-Trimethylnaphthalene	NA	891.3	1	5	ng/dry g	1000	0	89	70 - 130% PASS	
2,6-Dimethylnaphthalene	NA	848.2	1	5	ng/dry g	1000	0	85	70 - 130% PASS	
2-Methylnaphthalene	NA	797.4	1	5	ng/dry g	1000	0	80	70 - 130% PASS	
Acenaphthene	NA	846.7	1	5	ng/dry g	1000	0	85	70 - 130% PASS	
Acenaphthylene	NA	783.9	1	5	ng/dry g	1000	0	78	70 - 130% PASS	
Anthracene	NA	1008.2	1	5	ng/dry g	1000	0	101	70 - 130% PASS	
Benz[a]anthracene	NA	1167.9	1	5	ng/dry g	1000	0	117	70 - 130% PASS	
Benzo[a]pyrene	NA	948.5	1	5	ng/dry g	1000	0	95	70 - 130% PASS	
Benzo[b]fluoranthene	NA	1088.9	1	5	ng/dry g	1000	0	109	70 - 130% PASS	
Benzo[e]pyrene	NA	1002.5	1	5	ng/dry g	1000	0	100	70 - 130% PASS	
Benzo[g,h,i]perylene	NA	1002	1	5	ng/dry g	1000	0	100	70 - 130% PASS	
Benzo[k]fluoranthene	NA	1080.4	1	5	ng/dry g	1000	0	108	70 - 130% PASS	
Biphenyl	NA	829.4	1	5	ng/dry g	1000	0	83	70 - 130% PASS	
Chrysene	NA	1126.5	1	5	ng/dry g	1000	0	113	70 - 130% PASS	
Dibenz[a,h]anthracene	NA	1069.8	1	5	ng/dry g	1000	0	107	70 - 130% PASS	
Dibenzothiophene	NA	989.2	1	5	ng/dry g	1000	0	99	70 - 130% PASS	
Fluoranthene	NA	1090.5	1	5	ng/dry g	1000	0	109	70 - 130% PASS	
Fluorene	NA	903.2	1	5	ng/dry g	1000	0	90	70 - 130% PASS	
Indeno[1,2,3-c,d]pyrene	NA	1048	1	5	ng/dry g	1000	0	105	70 - 130% PASS	
Naphthalene	NA	738	1	5	ng/dry g	1000	0	74	70 - 130% PASS	
Perylene	NA	962.4	1	5	ng/dry g	1000	0	96	70 - 130% PASS	
Phenanthrene	NA	965	1	5	ng/dry g	1000	0	96	70 - 130% PASS	
Pyrene	NA	1148.1	1	5	ng/dry g	1000	0	115	70 - 130% PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Sample ID: 21956-BS2		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 5:55	
(d10-Acenaphthene)	NA	87			% Recovery	100	0	87	70 - 130% PASS	0 25 PASS
(d10-Phenanthrene)	NA	96			% Recovery	100	0	96	70 - 130% PASS	1 25 PASS
(d12-Chrysene)	NA	101			% Recovery	100	0	101	70 - 130% PASS	10 25 PASS
(d8-Naphthalene)	NA	76			% Recovery	100	0	76	70 - 130% PASS	0 25 PASS
1-Methylnaphthalene	NA	777	1	5	ng/dry g	1000	0	78	70 - 130% PASS	3 25 PASS
1-Methylphenanthrene	NA	1055.2	1	5	ng/dry g	1000	0	106	70 - 130% PASS	3 25 PASS
2,3,5-Trimethylnaphthalene	NA	892.9	1	5	ng/dry g	1000	0	89	70 - 130% PASS	0 25 PASS
2,6-Dimethylnaphthalene	NA	836.6	1	5	ng/dry g	1000	0	84	70 - 130% PASS	1 25 PASS
2-Methylnaphthalene	NA	773.9	1	5	ng/dry g	1000	0	77	70 - 130% PASS	4 25 PASS
Acenaphthene	NA	840.8	1	5	ng/dry g	1000	0	84	70 - 130% PASS	1 25 PASS
Acenaphthylene	NA	744.5	1	5	ng/dry g	1000	0	74	70 - 130% PASS	5 25 PASS
Anthracene	NA	938.2	1	5	ng/dry g	1000	0	94	70 - 130% PASS	7 25 PASS
Benz[a]anthracene	NA	1029.7	1	5	ng/dry g	1000	0	103	70 - 130% PASS	13 25 PASS
Benzo[a]pyrene	NA	759.2	1	5	ng/dry g	1000	0	76	70 - 130% PASS	22 25 PASS
Benzo[b]fluoranthene	NA	924.7	1	5	ng/dry g	1000	0	92	70 - 130% PASS	17 25 PASS
Benzo[e]pyrene	NA	845.6	1	5	ng/dry g	1000	0	85	70 - 130% PASS	16 25 PASS
Benzo[g,h,i]perylene	NA	987.7	1	5	ng/dry g	1000	0	99	70 - 130% PASS	1 25 PASS
Benzo[k]fluoranthene	NA	892.7	1	5	ng/dry g	1000	0	89	70 - 130% PASS	19 25 PASS
Biphenyl	NA	811.9	1	5	ng/dry g	1000	0	81	70 - 130% PASS	2 25 PASS
Chrysene	NA	997.7	1	5	ng/dry g	1000	0	100	70 - 130% PASS	12 25 PASS
Dibenz[a,h]anthracene	NA	1100.4	1	5	ng/dry g	1000	0	110	70 - 130% PASS	3 25 PASS
Dibenzothiophene	NA	968.8	1	5	ng/dry g	1000	0	97	70 - 130% PASS	2 25 PASS
Fluoranthene	NA	1027.5	1	5	ng/dry g	1000	0	103	70 - 130% PASS	6 25 PASS
Fluorene	NA	906.1	1	5	ng/dry g	1000	0	91	70 - 130% PASS	1 25 PASS
Indeno[1,2,3-c,d]pyrene	NA	1012.9	1	5	ng/dry g	1000	0	101	70 - 130% PASS	4 25 PASS
Naphthalene	NA	726.5	1	5	ng/dry g	1000	0	73	70 - 130% PASS	1 25 PASS
Perylene	NA	796.7	1	5	ng/dry g	1000	0	80	70 - 130% PASS	18 25 PASS
Phenanthrene	NA	931.5	1	5	ng/dry g	1000	0	93	70 - 130% PASS	3 25 PASS
Pyrene	NA	1062.2	1	5	ng/dry g	1000	0	106	70 - 130% PASS	8 25 PASS



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 21958-MS1		B13-8236 Oceanside		Matrix: Sediment		Sampled: 06-Aug-13 10:12		Received: 06-Aug-13		
		Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 7:38		
(d10-Acenaphthene)	NA	61			% Recovery	100	0	61	50 - 150%	PASS
(d10-Phenanthrene)	NA	84			% Recovery	100	0	84	50 - 150%	PASS
(d12-Chrysene)	NA	78			% Recovery	100	0	78	50 - 150%	PASS
(d8-Naphthalene)	NA	44			% Recovery	100	0	44	25 - 125%	PASS
1-Methylnaphthalene	NA	80	1	5	ng/dry g	134.6	0	59	50 - 150%	PASS
1-Methylphenanthrene	NA	145.8	1	5	ng/dry g	134.6	0.5	108	50 - 150%	PASS
2,3,5-Trimethylnaphthalene	NA	103.8	1	5	ng/dry g	134.6	0	77	50 - 150%	PASS
2,6-Dimethylnaphthalene	NA	91.7	1	5	ng/dry g	134.6	0	68	50 - 150%	PASS
2-Methylnaphthalene	NA	81.6	1	5	ng/dry g	134.6	0	61	50 - 150%	PASS
Acenaphthene	NA	95	1	5	ng/dry g	134.6	0	71	50 - 150%	PASS
Acenaphthylene	NA	99.5	1	5	ng/dry g	134.6	0	74	50 - 150%	PASS
Anthracene	NA	124.7	1	5	ng/dry g	134.6	2.1	91	50 - 150%	PASS
Benz[a]anthracene	NA	144.4	1	5	ng/dry g	134.6	4.7	104	50 - 150%	PASS
Benzo[a]pyrene	NA	115.5	1	5	ng/dry g	134.6	3.3	83	50 - 150%	PASS
Benzo[b]fluoranthene	NA	120.1	1	5	ng/dry g	134.6	3.4	87	50 - 150%	PASS
Benzo[e]pyrene	NA	102.2	1	5	ng/dry g	134.6	2.5	74	50 - 150%	PASS
Benzo[g,h,i]perylene	NA	131.1	1	5	ng/dry g	134.6	3.7	95	50 - 150%	PASS
Benzo[k]fluoranthene	NA	122.2	1	5	ng/dry g	134.6	2.1	89	50 - 150%	PASS
Biphenyl	NA	85.8	1	5	ng/dry g	134.6	0	64	50 - 150%	PASS
Chrysene	NA	120.1	1	5	ng/dry g	134.6	6.6	84	50 - 150%	PASS
Dibenz[a,h]anthracene	NA	163.1	1	5	ng/dry g	134.6	1.7	120	50 - 150%	PASS
Dibenzothiophene	NA	92.2	1	5	ng/dry g	134.6	0.6	68	50 - 150%	PASS
Fluoranthene	NA	157.2	1	5	ng/dry g	134.6	11.2	108	50 - 150%	PASS
Fluorene	NA	116	1	5	ng/dry g	134.6	0.5	86	50 - 150%	PASS
Indeno[1,2,3-c,d]pyrene	NA	166.5	1	5	ng/dry g	134.6	4.3	121	50 - 150%	PASS
Naphthalene	NA	72.1	1	5	ng/dry g	134.6	0	54	25 - 125%	PASS
Perylene	NA	102.8	1	5	ng/dry g	134.6	1.3	75	50 - 150%	PASS
Phenanthrene	NA	132.5	1	5	ng/dry g	134.6	8.6	92	50 - 150%	PASS
Pyrene	NA	149.5	1	5	ng/dry g	134.6	9.9	104	50 - 150%	PASS



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
		LIMITS								LIMITS
Sample ID: 21958-MS2		B13-8236 Oceanside		Matrix: Sediment		Sampled: 06-Aug-13 10:12		Received: 06-Aug-13		
		Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 9:21		
(d10-Acenaphthene)	NA	60			% Recovery	100	0	60	50 - 150%	PASS
(d10-Phenanthrene)	NA	83			% Recovery	100	0	83	50 - 150%	PASS
(d12-Chrysene)	NA	90			% Recovery	100	0	90	50 - 150%	PASS
(d8-Naphthalene)	NA	41			% Recovery	100	0	41	25 - 125%	PASS
1-Methylnaphthalene	NA	75.5	1	5	ng/dry g	132.3	0	57	50 - 150%	PASS
1-Methylphenanthrene	NA	146.9	1	5	ng/dry g	132.3	0.5	111	50 - 150%	PASS
2,3,5-Trimethylnaphthalene	NA	104	1	5	ng/dry g	132.3	0	79	50 - 150%	PASS
2,6-Dimethylnaphthalene	NA	87.9	1	5	ng/dry g	132.3	0	66	50 - 150%	PASS
2-Methylnaphthalene	NA	77.4	1	5	ng/dry g	132.3	0	59	50 - 150%	PASS
Acenaphthene	NA	92.8	1	5	ng/dry g	132.3	0	70	50 - 150%	PASS
Acenaphthylene	NA	97.4	1	5	ng/dry g	132.3	0	74	50 - 150%	PASS
Anthracene	NA	115.9	1	5	ng/dry g	132.3	2.1	86	50 - 150%	PASS
Benz[a]anthracene	NA	159.2	1	5	ng/dry g	132.3	4.7	117	50 - 150%	PASS
Benzo[a]pyrene	NA	121.6	1	5	ng/dry g	132.3	3.3	89	50 - 150%	PASS
Benzo[b]fluoranthene	NA	137	1	5	ng/dry g	132.3	3.4	101	50 - 150%	PASS
Benzo[e]pyrene	NA	117.8	1	5	ng/dry g	132.3	2.5	87	50 - 150%	PASS
Benzo[g,h,i]perylene	NA	125.5	1	5	ng/dry g	132.3	3.7	92	50 - 150%	PASS
Benzo[k]fluoranthene	NA	139.6	1	5	ng/dry g	132.3	2.1	104	50 - 150%	PASS
Biphenyl	NA	83.1	1	5	ng/dry g	132.3	0	63	50 - 150%	PASS
Chrysene	NA	133.6	1	5	ng/dry g	132.3	6.6	96	50 - 150%	PASS
Dibenz[a,h]anthracene	NA	154	1	5	ng/dry g	132.3	1.7	115	50 - 150%	PASS
Dibenzothiophene	NA	117.7	1	5	ng/dry g	132.3	0.6	89	50 - 150%	PASS
Fluoranthene	NA	156.6	1	5	ng/dry g	132.3	11.2	110	50 - 150%	PASS
Fluorene	NA	114.2	1	5	ng/dry g	132.3	0.5	86	50 - 150%	PASS
Indeno[1,2,3-c,d]pyrene	NA	157.6	1	5	ng/dry g	132.3	4.3	116	50 - 150%	PASS
Naphthalene	NA	69.1	1	5	ng/dry g	132.3	0	52	25 - 125%	PASS
Perylene	NA	117.8	1	5	ng/dry g	132.3	1.3	88	50 - 150%	PASS
Phenanthrene	NA	127.3	1	5	ng/dry g	132.3	8.6	90	50 - 150%	PASS
Pyrene	NA	152.4	1	5	ng/dry g	132.3	9.9	108	50 - 150%	PASS



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 21958-R2		B13-8236 Oceanside		Matrix: Sediment		Sampled: 06-Aug-13 10:12		Received: 06-Aug-13		
		Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 18:23		
(d10-Acenaphthene)	NA	58			% Recovery	100		58 50 - 150% PASS	13 25 PASS	
(d10-Phenanthrene)	NA	75			% Recovery	100		75 50 - 150% PASS	1 25 PASS	
(d12-Chrysene)	NA	90			% Recovery	100		90 50 - 150% PASS	24 25 PASS	
(d8-Naphthalene)	NA	34			% Recovery	100		34 25 - 125% PASS	31 25 FAIL	R
1-Methylnaphthalene	NA	ND	1	5	ng/dry g				0 25 PASS	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g				0 25 PASS	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g				0 25 PASS	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g				0 25 PASS	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g				0 25 PASS	
Acenaphthene	NA	ND	1	5	ng/dry g				0 25 PASS	
Acenaphthylene	NA	ND	1	5	ng/dry g				0 25 PASS	
Anthracene	NA	2	1	5	ng/dry g				5 25 PASS	J
Benz[a]anthracene	NA	3.1	1	5	ng/dry g				67 25 FAIL	J,SL
Benzo[a]pyrene	NA	3.1	1	5	ng/dry g				9 25 PASS	J
Benzo[b]fluoranthene	NA	3.1	1	5	ng/dry g				18 25 PASS	J
Benzo[e]pyrene	NA	2.5	1	5	ng/dry g				4 25 PASS	J
Benzo[g,h,i]perylene	NA	3.8	1	5	ng/dry g				5 25 PASS	J
Benzo[k]fluoranthene	NA	2.3	1	5	ng/dry g				14 25 PASS	J
Biphenyl	NA	ND	1	5	ng/dry g				0 25 PASS	
Chrysene	NA	6.1	1	5	ng/dry g				15 25 PASS	
Dibenz[a,h]anthracene	NA	1.7	1	5	ng/dry g				6 25 PASS	J
Dibenzothiophene	NA	ND	1	5	ng/dry g				18 25 PASS	
Fluoranthene	NA	7.8	1	5	ng/dry g				61 25 FAIL	SL
Fluorene	NA	ND	1	5	ng/dry g				10 25 PASS	
Indeno[1,2,3-c,d]pyrene	NA	4.5	1	5	ng/dry g				9 25 PASS	J
Naphthalene	NA	ND	1	5	ng/dry g				0 25 PASS	
Perylene	NA	1.5	1	5	ng/dry g				22 25 PASS	J
Phenanthrene	NA	8.3	1	5	ng/dry g				6 25 PASS	
Pyrene	NA	6.4	1	5	ng/dry g				70 25 FAIL	SL



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 21964-CRM1		QAQC CRM - SRM 1944			Matrix: Sediment		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 13:15	
(d10-Acenaphthene)	NA	66			% Recovery	100	66	60 - 140%	PASS	
(d10-Phenanthrene)	NA	86			% Recovery	100	86	60 - 140%	PASS	
(d12-Chrysene)	NA	78			% Recovery	100	78	60 - 140%	PASS	
(d8-Naphthalene)	NA	60			% Recovery	100	60	60 - 140%	PASS	
1-Methylnaphthalene	NA	392.7	1	5	ng/dry g	470	84	60 - 140%	PASS	
1-Methylphenanthrene	NA	1274.8	1	5	ng/dry g	1700	75	60 - 140%	PASS	
2,6-Dimethylnaphthalene	NA	562.9	1	5	ng/dry g	790	71	60 - 140%	PASS	
2-Methylnaphthalene	NA	736.1	1	5	ng/dry g	740	99	60 - 140%	PASS	
Acenaphthene	NA	439.5	1	5	ng/dry g	390	113	60 - 140%	PASS	
Anthracene	NA	1462.5	1	5	ng/dry g	1130	129	60 - 140%	PASS	
Benz[a]anthracene	NA	3908.6	1	5	ng/dry g	4720	83	60 - 140%	PASS	
Benzo[a]pyrene	NA	3008.4	1	5	ng/dry g	4300	70	60 - 140%	PASS	
Benzo[b]fluoranthene	NA	2748.2	1	5	ng/dry g	3870	71	60 - 140%	PASS	
Benzo[e]pyrene	NA	2437.1	1	5	ng/dry g	3280	74	60 - 140%	PASS	
Benzo[g,h,i]perylene	NA	2545	1	5	ng/dry g	2840	90	60 - 140%	PASS	
Benzo[k]fluoranthene	NA	1875.4	1	5	ng/dry g	2300	82	60 - 140%	PASS	
Biphenyl	NA	314.2	1	5	ng/dry g	250	126	60 - 140%	PASS	
Chrysene	NA	4126	1	5	ng/dry g	4860	85	60 - 140%	PASS	
Dibenz[a,h]anthracene	NA	571	1	5	ng/dry g	424	135	60 - 140%	PASS	
Dibenzothiophene	NA	439.1	1	5	ng/dry g	500	88	60 - 140%	PASS	
Fluoranthene	NA	7422.6	1	5	ng/dry g	8920	83	60 - 140%	PASS	
Fluorene	NA	652.2	1	5	ng/dry g	480	136	60 - 140%	PASS	
Indeno[1,2,3-c,d]pyrene	NA	3573.9	1	5	ng/dry g	2780	129	60 - 140%	PASS	
Naphthalene	NA	1223.9	1	5	ng/dry g	1280	96	60 - 140%	PASS	
Perylene	NA	873.8	1	5	ng/dry g	1170	75	60 - 140%	PASS	
Phenanthrene	NA	3992.6	1	5	ng/dry g	5270	76	60 - 140%	PASS	
Pyrene	NA	7096.7	1	5	ng/dry g	9700	73	60 - 140%	PASS	



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Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 21956-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 15:59

Allethrin	NA	ND	0.25	0.5	ng/dry g					
Bifenthrin	NA	ND	0.25	0.5	ng/dry g					
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g					
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g					
Cypermethrin	NA	ND	0.25	0.5	ng/dry g					
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g					
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g					
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g					
Fenvalerate	NA	ND	0.25	0.5	ng/dry g					
Fluvalinate	NA	ND	0.25	0.5	ng/dry g					
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g					
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g					
Prallethrin	NA	ND	0.25	0.5	ng/dry g					
Resmethrin	NA	ND	0.25	0.5	ng/dry g					

Sample ID: 21956-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 17:02

Allethrin	NA	1185.11	0.25	0.5	ng/dry g	1000	0	119	70 - 130%	PASS
Bifenthrin	NA	993.56	0.25	0.5	ng/dry g	1000	0	99	70 - 130%	PASS
Cyfluthrin	NA	1233.96	0.25	0.5	ng/dry g	1000	0	123	70 - 130%	PASS
Cyhalothrin, Total Lambda	NA	1215.65	0.25	0.5	ng/dry g	1000	0	122	70 - 130%	PASS
Cypermethrin	NA	1292.39	0.25	0.5	ng/dry g	1000	0	129	70 - 130%	PASS
Danitol (Fenpropathrin)	NA	992.51	0.25	0.5	ng/dry g	1000	0	99	70 - 130%	PASS
Deltamethrin/Tralomethrin	NA	1768.38	0.25	0.5	ng/dry g	2000	0	88	70 - 130%	PASS
Esfenvalerate	NA	1202.16	0.25	0.5	ng/dry g	1000	0	120	70 - 130%	PASS
Fenvalerate	NA	1177.46	0.25	0.5	ng/dry g	1000	0	118	70 - 130%	PASS
Fluvalinate	NA	1238.63	0.25	0.5	ng/dry g	1000	0	124	70 - 130%	PASS
Permethrin, cis-	NA	282.03	0.25	0.5	ng/dry g	276	0	102	70 - 130%	PASS
Permethrin, trans-	NA	883.99	0.25	0.5	ng/dry g	716	0	123	70 - 130%	PASS



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Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Prallethrin	NA	708.54	0.25	0.5	ng/dry g	1000	0	71	70 - 130% PASS	
Resmethrin	NA	692.76	0.25	0.5	ng/dry g	1000	0	69	70 - 130% FAIL	R

Sample ID: 21956-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 18:06

Allethrin	NA	1209.75	0.25	0.5	ng/dry g	1000	0	121	70 - 130% PASS	2	25	PASS
Bifenthrin	NA	970.95	0.25	0.5	ng/dry g	1000	0	97	70 - 130% PASS	2	25	PASS
Cyfluthrin	NA	1242.22	0.25	0.5	ng/dry g	1000	0	124	70 - 130% PASS	1	25	PASS
Cyhalothrin, Total Lambda	NA	1243.27	0.25	0.5	ng/dry g	1000	0	124	70 - 130% PASS	2	25	PASS
Cypermethrin	NA	1253.87	0.25	0.5	ng/dry g	1000	0	125	70 - 130% PASS	3	25	PASS
Danitol (Fenpropathrin)	NA	1002.04	0.25	0.5	ng/dry g	1000	0	100	70 - 130% PASS	1	25	PASS
Deltamethrin/Tralomethrin	NA	2098.23	0.25	0.5	ng/dry g	2000	0	105	70 - 130% PASS	18	25	PASS
Esfenvalerate	NA	1252.76	0.25	0.5	ng/dry g	1000	0	125	70 - 130% PASS	4	25	PASS
Fenvalerate	NA	1245.19	0.25	0.5	ng/dry g	1000	0	125	70 - 130% PASS	6	25	PASS
Fluvalinate	NA	1284.8	0.25	0.5	ng/dry g	1000	0	128	70 - 130% PASS	3	25	PASS
Permethrin, cis-	NA	304.99	0.25	0.5	ng/dry g	276	0	111	70 - 130% PASS	8	25	PASS
Permethrin, trans-	NA	891.69	0.25	0.5	ng/dry g	716	0	125	70 - 130% PASS	2	25	PASS
Prallethrin	NA	713.55	0.25	0.5	ng/dry g	1000	0	71	70 - 130% PASS	0	25	PASS
Resmethrin	NA	704.1	0.25	0.5	ng/dry g	1000	0	70	70 - 130% PASS	1	25	PASS

Sample ID: 21958-MS1

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 19:10

Allethrin	NA	150.73	0.25	0.5	ng/dry g	134.6	0	112	70 - 130% PASS			
Bifenthrin	NA	123.9	0.25	0.5	ng/dry g	134.6	0	92	70 - 130% PASS			
Cyfluthrin	NA	160.86	0.25	0.5	ng/dry g	134.6	0	120	70 - 130% PASS			
Cyhalothrin, Total Lambda	NA	150.49	0.25	0.5	ng/dry g	134.6	0	112	70 - 130% PASS			
Cypermethrin	NA	157.39	0.25	0.5	ng/dry g	134.6	0	117	70 - 130% PASS			
Danitol (Fenpropathrin)	NA	123.86	0.25	0.5	ng/dry g	134.6	0	92	70 - 130% PASS			
Deltamethrin/Tralomethrin	NA	244.89	0.25	0.5	ng/dry g	269.2	0	91	70 - 130% PASS			
Esfenvalerate	NA	137.7	0.25	0.5	ng/dry g	134.6	0	102	70 - 130% PASS			
Fenvalerate	NA	135.81	0.25	0.5	ng/dry g	134.6	0	101	70 - 130% PASS			
Fluvalinate	NA	137.44	0.25	0.5	ng/dry g	134.6	0	102	70 - 130% PASS			



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CA ELAP #2769

Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Permethrin, cis-	NA	34.79	0.25	0.5	ng/dry g	37.15	0	94 70 - 130%	PASS	
Permethrin, trans-	NA	118.65	0.25	0.5	ng/dry g	96.37	0	123 70 - 130%	PASS	
Prallethrin	NA	75.52	0.25	0.5	ng/dry g	134.6	0	56 70 - 130%	FAIL	M
Resmethrin	NA	78.4	0.25	0.5	ng/dry g	134.6	0	58 70 - 130%	FAIL	M

Sample ID: 21958-MS2

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 20:14

Allethrin	NA	154.11	0.25	0.5	ng/dry g	132.3	0	116 70 - 130%	PASS	4 25 PASS
Bifenthrin	NA	128.76	0.25	0.5	ng/dry g	132.3	0	97 70 - 130%	PASS	5 25 PASS
Cyfluthrin	NA	171.89	0.25	0.5	ng/dry g	132.3	0	130 70 - 130%	PASS	8 25 PASS
Cyhalothrin, Total Lambda	NA	163.8	0.25	0.5	ng/dry g	132.3	0	124 70 - 130%	PASS	10 25 PASS
Cypermethrin	NA	165.3	0.25	0.5	ng/dry g	132.3	0	125 70 - 130%	PASS	7 25 PASS
Danitol (Fenpropathrin)	NA	130.81	0.25	0.5	ng/dry g	132.3	0	99 70 - 130%	PASS	7 25 PASS
Deltamethrin/Tralomethrin	NA	243.09	0.25	0.5	ng/dry g	264.6	0	92 70 - 130%	PASS	1 25 PASS
Esfenvalerate	NA	139.38	0.25	0.5	ng/dry g	132.3	0	105 70 - 130%	PASS	3 25 PASS
Fenvalerate	NA	139.6	0.25	0.5	ng/dry g	132.3	0	106 70 - 130%	PASS	5 25 PASS
Fluvalinate	NA	142.52	0.25	0.5	ng/dry g	132.3	0	108 70 - 130%	PASS	6 25 PASS
Permethrin, cis-	NA	38.99	0.25	0.5	ng/dry g	36.51	0	107 70 - 130%	PASS	13 25 PASS
Permethrin, trans-	NA	131.27	0.25	0.5	ng/dry g	94.73	0	139 70 - 130%	FAIL	12 25 PASS M
Prallethrin	NA	74.79	0.25	0.5	ng/dry g	132.3	0	57 70 - 130%	FAIL	2 25 PASS M
Resmethrin	NA	76.4	0.25	0.5	ng/dry g	132.3	0	58 70 - 130%	FAIL	0 25 PASS M

Sample ID: 21958-R2

B13-8236 Oceanside

Matrix: Sediment

Sampled: 06-Aug-13 10:12

Received: 06-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 1:01

Allethrin	NA	ND	0.25	0.5	ng/dry g					0 25 PASS
Bifenthrin	NA	ND	0.25	0.5	ng/dry g					0 25 PASS
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g					0 25 PASS
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g					0 25 PASS
Cypermethrin	NA	ND	0.25	0.5	ng/dry g					0 25 PASS
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g					0 25 PASS
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g					0 25 PASS
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g					0 25 PASS



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CA ELAP #2769

Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Fenvalerate	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Prallethrin	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Resmethrin	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	

PHYSIS

CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8233	8/6/13	0846	General Chemistry	Grab	8 oz Glass	None	1
B13-8233	8/6/13	0846	Metals	Grab	8 oz Glass	None	1
B13-8233	8/6/13	0846	PBDE	Grab	8 oz Glass	None	1
B13-8233	8/6/13	0846	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8233	8/6/13	0846	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JR

Relinquished By: [Signature]

Date/Time: 8/6/13 1250

Received By: C. Nwadiwe

Date/Time: 8/6/13 1250

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8236	8/6/13	1012	General Chemistry	Grab	8 oz Glass	None	1
B13-8236	8/6/13	1012	Metals	Grab	8 oz Glass	None	1
B13-8236	8/6/13	1012	PBDE	Grab	8 oz Glass	None	1
B13-8236	8/6/13	1012	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8236	8/6/13	1012	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.Sampler's Initials: CRRelinquished By: CRDate/Time: 8/6/13 1250Received By: C. N. M. adineDate/Time: 8/6/13 1250

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8239	8/6/13	1130	General Chemistry	Grab	8 oz Glass	None	1
B13-8239	8/6/13	1130	Metals	Grab	8 oz Glass	None	1
B13-8239	8/6/13	1130	PBDE	Grab	8 oz Glass	None	1
B13-8239	8/6/13	1130	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8239	8/6/13	1130	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: IR

Relinquished By: Chris Stransky

Date/Time: 8.16.13 1125

Received By: C. Nuadine

Date/Time: 8/6/13 1250

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8267	8/5/13	1145	General Chemistry	Grab	8 oz Glass	None	1
B13-8267	8/5/13	1145	Metals	Grab	8 oz Glass	None	1
B13-8267	8/5/13	1145	PBDE	Grab	8 oz Glass	None	1
B13-8267	8/5/13	1145	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8267	8/5/13	1145	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JS

Relinquished By: [Signature]

Date/Time: 8-6-13/1250

Received By: C. Nuachine

Date/Time: 8/6/13 1250

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

1307002-002

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8265	8/5/13	1301	General Chemistry	Grab	8 oz Glass	None	1
B13-8265	8/5/13	1301	Metals	Grab	8 oz Glass	None	1
B13-8265	8/5/13	1301	PBDE	Grab	8 oz Glass	None	1
B13-8265	8/5/13	1301	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8265	8/5/13	1301	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JRC

Relinquished By: Chris Stransky

Date/Time: 8-6-13 1250

Received By: C. Natchine

Date/Time: 8/6/13 1250

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP

Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
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Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8263	8/5/13	1525 1455 JR	General Chemistry	Grab	8 oz Glass	None	1
B13-8263	8/5/13	1525 14 JR	Metals	Grab	8 oz Glass	None	1
B13-8263	8/5/13	1525	PBDE	Grab	8 oz Glass	None	1
B13-8263	8/5/13	1525	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8263	8/5/13	1525	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JR

Relinquished By: Chris Stransky

Date/Time: 8-6-13/1250

Received By: C. Nuech

Date/Time: 8/6/13 1250

Relinquished By:

Date/Time:

Received By:

Date/Time:

Analysis Request and Chain of Custody**RHMP**
Bight '13**From:**AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301**To:**Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
✓ B13-8259	8/5/13	1002	General Chemistry	Grab	8 oz Glass	None	1
B13-8259	8/5/13	1002	Metals	Grab	8 oz Glass	None	1
B13-8259	8/5/13	1002	PBDE	Grab	8 oz Glass	None	1
B13-8259	8/5/13	1002	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8259	8/5/13	1002	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.Sampler's Initials: JSRelinquished By: JSDate/Time: 8-6-13 1250Received By: C. NussdineDate/Time: 8/6/13 1250

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

SAMPLE RECEIPT SUMMARY

CLIENT: AMEC Date Received: 8/6/13 Received By: CN Inspected By: RGH

COURIER

☒ PHYSIS ☐ CLIENT ☐ FEDEX ☐ UPS
start end ☐ OTHER:

COOLER

☒ COOLER ☐ BOX total #
☐ OTHER:

TEMPERATURE

°C ☒ WET ICE ☐ BLUE ICE
☐ DRY ICE ☐ NONE

SAMPLE INTEGRITY UPON RECEIPT

1. COC(s) included and completely filled out..... **YES**
2. All sample containers arrived intact..... **YES**
3. All samples listed on COC(s) are present..... **YES**
4. Information on containers consistent with information on COC(s)..... **YES**
5. Correct containers and volume for all analyses indicated..... **YES**
6. All samples received within method holding time..... **YES**
7. Correct preservation used for all analyses indicated..... **YES**

NOTES

The SID's that sampled on 8/5 had a temperature of -10.0°C.
The SID's that sampled on 8/6 had a temperature of 11.1°C.

PHYSIS

LEVEL 3

DELIVERABLES

ENERGY ENVIRONMENTAL CONSULTING INC.

Innovative Solutions for Nature

PHYSIS

Conventionals

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS

Summary of Initial Calibration Data and

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

ICV/CCV

Innovative Solutions for Nature

1307002-002 AMEC RHMP General Chemistry Calibration Data							
Analysis	Method	Batch ID	Co-efficient	Equation	Slope	ICV/True Value	CCV/True Value
Acid Volatile Sulfides	Plumb, 1981	C-14036	0.9998	$0.196x - 0.001702$	NA	NA	NA
Percent Solids	SM2540 B	C-14028	NA	NA	NA	NA	NA
Ammonia	SM 4500-NH3 D	C-14038	NA	NA	-52.71	.225/.25	.219/.25

Elements - ICP-MS

TERRA FLORIDA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature
(EPA 6020 - High Metals)

PHYSIS

Instrument Blank

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name 0MIX_2130931L.D
File Path D:\DATA\2130930H.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 11:46
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.000	ug/g	---	30.00	5.170E-05	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	---	8.89	1.533E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	580,413.01	1.15	100.0	Analog	0.30	3

PHYSIS

Initial Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Batch Folder: D:\DATA\2130930H.b\

 Analysis File: 2130930H.batch.xml

 DA Date-Time: 6/2/2014 2:22:14 PM

 Calibration Title:

 Calibration Method: External Calibration

 VIS Interpolation Fit:

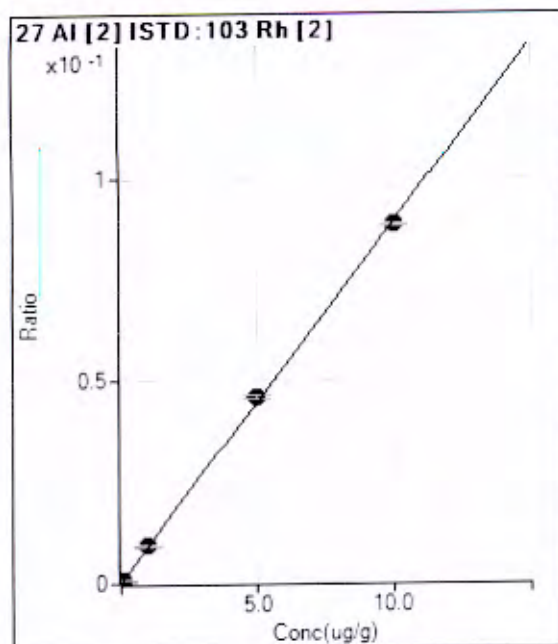
 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX_2130931LD	0 ppb mix	10/2/2013 11:46:36 AM
2	1MIX_2130931LD	1 ppb mix	10/2/2013 11:51:17 AM
3	5MIX_2130931LD	5 ppb mix	10/2/2013 11:55:59 AM
4	10MIX_2130931LD	10 ppb mix	10/2/2013 12:00:41 PM
5	50MIX_2130931LD	50 ppb mix	10/2/2013 1:17:16 PM
6	100MIX_2130931LD	100 ppb mix	10/2/2013 1:22:04 PM
7	500MIX_2130931LD	500 ppb mix	10/2/2013 1:26:45 PM
8	1000MIX_2130931LD	1000 ppb mix	10/2/2013 1:31:12 PM
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

Calibration for CCV3.D



$$y = 0.0089 * x + 5.1701E-005$$

$$R = 0.9998$$

$$DL = 0.005779$$

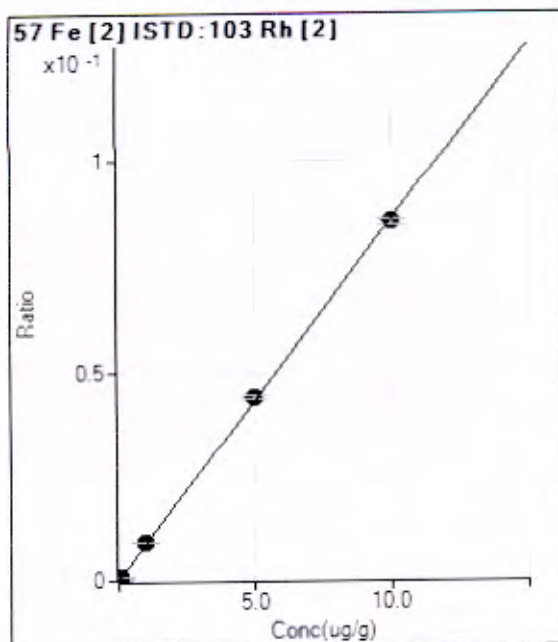
$$BEC = 0.005802$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	30.00	0.0001	P	33.2
2	<input type="checkbox"/>	0.010	0.011	86.67	0.0001	P	20.3
3	<input type="checkbox"/>	0.050	0.064	356.69	0.0006	P	22.3
4	<input type="checkbox"/>	0.100	0.096	523.36	0.0009	P	6.5
5	<input type="checkbox"/>	0.500		2.22		P	
6	<input type="checkbox"/>	1.000	1.029	5351.00	0.0092	P	3.7
7	<input type="checkbox"/>	5.000	5.155	24065.45	0.0460	P	1.6
8	<input type="checkbox"/>	10.00	9.920	44305.68	0.0885	P	0.7
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.0086 * x + 1.5329E-005$$

$$R = 0.9999$$

$$DL = 0.001181$$

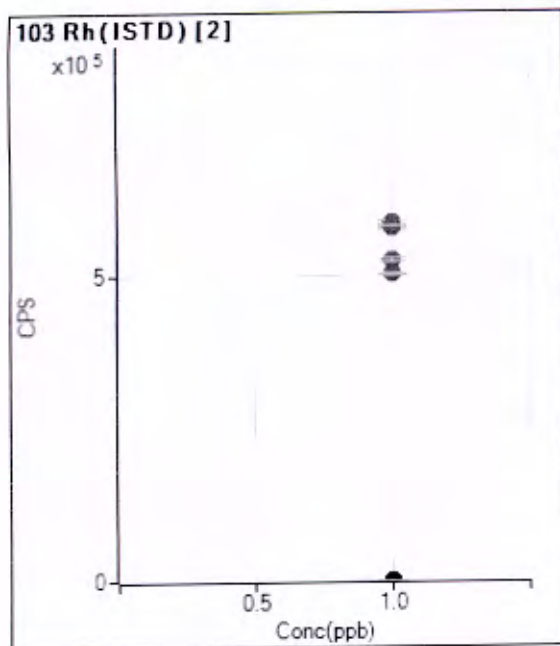
$$BEC = 0.001782$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	8.89	0.0000	P	22.1
2	<input type="checkbox"/>	0.010	0.011	65.56	0.0001	P	38.3
3	<input type="checkbox"/>	0.050	0.050	255.57	0.0004	P	28.2
4	<input type="checkbox"/>	0.100	0.114	573.37	0.0010	P	4.7
5	<input type="checkbox"/>	0.500		13.33		P	
6	<input type="checkbox"/>	1.000	1.053	5268.77	0.0091	P	2.5
7	<input type="checkbox"/>	5.000	5.116	23039.00	0.0440	P	2.4
8	<input type="checkbox"/>	10.00	9.937	42824.27	0.0855	P	1.4
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for CCV3.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		580413.01		A	1.2
2	<input type="checkbox"/>	1.000		584685.11		A	1.2
3	<input type="checkbox"/>	1.000		576642.37		A	0.6
4	<input type="checkbox"/>	1.000		576107.97		A	0.9
5	<input type="checkbox"/>	1.000		3.33		P	100.1
6	<input type="checkbox"/>	1.000		580423.67		A	0.1
7	<input type="checkbox"/>	1.000		523312.75		A	1.0
8	<input type="checkbox"/>	1.000		500915.89		A	0.6
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					
19	<input type="checkbox"/>	1.000					
20	<input type="checkbox"/>	1.000					

PHYSIS

Continuing Calibration Data

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ICPMS 7700x DATA REPORT

File Name CCV1.D
File Path D:\DATA\2130930H.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 23:20
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.102	ug/g	4.47	4,626.35	9.143E-03	Pulse	0.30	3
Fe	57	103	2	0.100	ug/g	4.23	4,351.82	8.596E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	506,171.16	1.16	87.2	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV2.D
File Path D:\DATA\2130930H.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/3/2013 1:13
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.100	ug/g	1.66	4,259.56	8.976E-03	Pulse	0.30	3
Fe	57	103	2	0.096	ug/g	2.33	3,941.71	8.306E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	474,534.49	0.34	81.8	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV3.D
File Path D:\DATA\2130930H.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/3/2013 3:11
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.135	ug/g	3.96	932.29	1.213E-02	Pulse	0.30	3
Fe	57	103	2	0.123	ug/g	12.20	812.28	1.057E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	76,733.60	17.71	13.2	Pulse	0.30	3

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Instrument Run Log

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	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse1			1.000							
2	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse2			1.000							
3	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse10			1.000							
4	C:\CPM\H1\METHOD S\Physis.m	Sample	3101	Rinse11			1.000							
5	C:\CPM\H1\METHOD S\Physis.m	Sample	3101	21956	QAQC Procedural Blank B1	21956,NA,R1,9/25/2013,E-5145	10.00							
6	C:\CPM\H1\METHOD S\Physis.m	Sample	3102	22035	QAQC Procedural Blank B1	22035,NA,B1,9/25/2013,E-5145	10.00							
7	C:\CPM\H1\METHOD S\Physis.m	Sample	3103	22077	QAQC Procedural Blank B1	22077,NA,B1,9/30/2013,E-5147	10.00							
8	C:\CPM\H1\METHOD S\Physis.m	Sample	3104	21957	B13-5235 Oceanside	21957,NA,R1,9/25/2013,E-5145	968.0							
9	C:\CPM\H1\METHOD S\Physis.m	Sample	3105	21957/2	B13-5235 Oceanside Cup	21957,NA,R2,9/25/2013,E-5145	871.0							
10	C:\CPM\H1\METHOD S\Physis.m	Sample	3106	21958	B13-5236 Oceanside	21958,NA,R1,9/25/2013,E-5145	536.0							
11	C:\CPM\H1\METHOD S\Physis.m	Sample	3107	21959	B13-5235 Oceanside	21959,NA,R1,9/25/2013,E-5145	591.0							
12	C:\CPM\H1\METHOD S\Physis.m	Sample	3108	21960	B13-5267 Dana Point	21960,NA,R1,9/25/2013,E-5145	545.0							
13	C:\CPM\H1\METHOD S\Physis.m	Sample	3109	21961	B13-5265 Dana Point	21961,NA,R1,9/25/2013,E-5145	439.0							
14	C:\CPM\H1\METHOD S\Physis.m	Sample	3110	21962	B13-5253 Dana Point	21962,NA,R1,9/25/2013,E-5145	385.0							
15	C:\CPM\H1\METHOD S\Physis.m	Sample	3111	21963	B13-5250 Dana Point	21963,NA,R1,9/25/2013,E-5145	537.0							
16	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R12			1.000							
17	C:\CPM\H1\METHOD S\Physis.m	Sample	3112	21965cm	QAQC CRM - RTC 015-0501	21965,NA,CRM1,9/25/2013,E-5145	947.0							
18	C:\CPM\H1\METHOD S\Physis.m	Sample	3201	21965cm	QAQC CRM - ERA 5401	21968,NA,CRM1,9/25/2013,E-5145	1.010E+03							
19	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R13			1.000							
20	C:\CPM\H1\METHOD S\Physis.m	Sample	3202	21966bs1	QAQC Procedural Blank B51	21966,NA,R51,9/25/2013,E-5145	1.000							
21	C:\CPM\H1\METHOD S\Physis.m	Sample	3203	21966bs2	QAQC Procedural Blank B52	21966,NA,B52,9/25/2013,E-5145	1.000							
22	C:\CPM\H1\METHOD S\Physis.m	Sample	3204	21957ms	B13-5233 Oceanside MS	21957,NA,MS1,9/25/2013,E-5145	1.000							
23	C:\CPM\H1\METHOD S\Physis.m	Sample	3205	21957msd	B13-5233 Oceanside MSD	21957,NA,MS2,9/25/2013,E-5145	1.000							
24	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R14			1.000							
25	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R15			1.000							
26	C:\CPM\H1\METHOD S\Physis.m	Sample	1108	CCV1			1.000E-01							
27	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R16			1.000							
28	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R17			1.000							
29	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R18			1.000							
30	C:\CPM\H1\METHOD S\Physis.m	Sample	3206	22036	B13-5145 Grab	22036,NA,R1,9/25/2013,E-5145	558.0							
31	C:\CPM\H1\METHOD S\Physis.m	Sample	3207	22036/2	B13-5145 Grab Dup	22036,NA,R2,9/25/2013,E-5145	517.0							
32	C:\CPM\H1\METHOD S\Physis.m	Sample	3208	22037	B13-5153 Grab	22037,NA,R1,9/25/2013,E-5145	588.0							
33	C:\CPM\H1\METHOD S\Physis.m	Sample	3209	22038	B13-5150 Grab	22038,NA,R1,9/25/2013,E-5145	724.0							
34	C:\CPM\H1\METHOD S\Physis.m	Sample	3210	22039	B13-5159 Grab	22039,NA,R1,9/25/2013,E-5145	591.0							
35	C:\CPM\H1\METHOD S\Physis.m	Sample	3211	22040	B13-5157 Grab	22040,NA,R1,9/25/2013,E-5145	566.0							
36	C:\CPM\H1\METHOD S\Physis.m	Sample	3212	22041	B13-5155 Grab	22041,NA,R1,9/25/2013,E-5145	709.0							
37	C:\CPM\H1\METHOD S\Physis.m	Sample	3301	22042	B13-5152 Grab	22042,NA,R1,9/25/2013,E-5145	265.0							
38	C:\CPM\H1\METHOD S\Physis.m	Sample	3302	22043	B13-5151 Grab	22043,NA,R1,9/25/2013,E-5145	704.0							
39	C:\CPM\H1\METHOD S\Physis.m	Sample	3303	22044	B13-5145 Grab	22044,NA,R1,9/25/2013,E-5145	653.0							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
40	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R19			1.000							
41	C:\CPMH\1\METHOD S\Physis.m	Sample	3304	22046cm	QAQC CRM - RTD 016-0501	22046.NA.CRM1.9/25/2013.E-5146	1.027E+03							
42	C:\CPMH\1\METHOD S\Physis.m	Sample	3305	22047cm	QAQC CRM - ERA 5401	22047.NA.CRM1.9/25/2013.E-5146	919.0							
43	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R20			1.000							
44	C:\CPMH\1\METHOD S\Physis.m	Sample	3202	22035bs1	QAQC Procedural Blank BS1	22035.NA.BS1.9/25/2013.E-5146	1.000							
45	C:\CPMH\1\METHOD S\Physis.m	Sample	3203	22035bs2	QAQC Procedural Blank BS2	22035.NA.BS2.9/25/2013.E-5146	1.000							
46	C:\CPMH\1\METHOD S\Physis.m	Sample	3308	22036ms	B13-8145 Grab MS	22036.NA.MS1.9/25/2013.E-5146	1.000							
47	C:\CPMH\1\METHOD S\Physis.m	Sample	3309	22036msd	B13-8145 Grab MSD	22036.NA.MS2.9/25/2013.E-5146	1.000							
48	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R21			1.000							
49	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R22			1.000							
50	C:\CPMH\1\METHOD S\Physis.m	Sample	1106	CCV2			1.000E+01							
51	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R23			1.000							
52	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R24			1.000							
53	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R25			1.000							
54	C:\CPMH\1\METHOD S\Physis.m	Sample	3310	22078	B13-8065 Grab	22078.NA.R1.9/30/2013.E-5147	511.0							
55	C:\CPMH\1\METHOD S\Physis.m	Sample	3311	22078/2	B13-8065 Grab Dup	22078.NA.R2.9/30/2013.E-5147	570.0							
56	C:\CPMH\1\METHOD S\Physis.m	Sample	3312	22079	B13-8040 Grab	22079.NA.R1.9/30/2013.E-5147	523.0							
57	C:\CPMH\1\METHOD S\Physis.m	Sample	3401	22080	B13-8029 Grab	22080.NA.R1.9/30/2013.E-5147	502.0							
58	C:\CPMH\1\METHOD S\Physis.m	Sample	3402	22081	B13-8058 Grab	22081.NA.R1.9/30/2013.E-5147	652.0							
59	C:\CPMH\1\METHOD S\Physis.m	Sample	3403	22082	B13-8064 Grab	22082.NA.R1.9/30/2013.E-5147	904.0							
60	C:\CPMH\1\METHOD S\Physis.m	Sample	3404	22083	B13-8056 Grab	22083.NA.R1.9/30/2013.E-5147	738.0							
61	C:\CPMH\1\METHOD S\Physis.m	Sample	3405	22084	B13-8020 Grab	22084.NA.R1.9/30/2013.E-5147	1.108E+03							
62	C:\CPMH\1\METHOD S\Physis.m	Sample	3406	22085	B13-8050 Grab	22085.NA.R1.9/30/2013.E-5147	630.0							
63	C:\CPMH\1\METHOD S\Physis.m	Sample	3407	22086	B13-8069 Grab	22086.NA.R1.9/30/2013.E-5147	608.0							
64	C:\CPMH\1\METHOD S\Physis.m	Sample	3408	22087	B13-8017 Grab	22087.NA.R1.9/30/2013.E-5147	672.0							
65	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R26			1.000							
66	C:\CPMH\1\METHOD S\Physis.m	Sample	3409	22089cm	QAQC CRM - RTD 016-0501	22089.NA.CRM1.9/30/2013.E-5147	1.025E+03							
67	C:\CPMH\1\METHOD S\Physis.m	Sample	3410	22090cm	QAQC CRM - ERA 5401	22090.NA.CRM1.9/30/2013.E-5147	1.035E+03							
68	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R27			1.000							
69	C:\CPMH\1\METHOD S\Physis.m	Sample	3202	22077bs1	QAQC Procedural Blank BS1	22077.NA.BS1.9/30/2013.E-5147	1.000							
70	C:\CPMH\1\METHOD S\Physis.m	Sample	3203	22077bs2	QAQC Procedural Blank BS2	22077.NA.BS2.9/30/2013.E-5147	1.000							
71	C:\CPMH\1\METHOD S\Physis.m	Sample	3501	22078ms	B13-8065 Grab MS	22078.NA.MS1.9/30/2013.E-5147	1.000							
72	C:\CPMH\1\METHOD S\Physis.m	Sample	3502	22078msd	B13-8065 Grab MSD	22078.NA.MS2.9/30/2013.E-5147	1.000							
73	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R28			1.000							
74	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R29			1.000							
75	C:\CPMH\1\METHOD S\Physis.m	Sample	1106	CCV3			1.000E+01							
76	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R30			1.000							
77	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R31			1.000							
78	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R32			1.000							
79		Keyword		StandBy										

Elements –

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Instrument Blank

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ICPMS 7700x DATA REPORT

File Name 0MIX.D
File Path D:\DATA\2130931L.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 11:46
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.000	ug/g	---	64.45	4.823E-05	Pulse	0.30	3
P	31	103	2		ug/g	---	65.56	1.132E-04	Pulse	0.30	3
Cr	52	103	2	0.000	ug/g	---	84.45	1.453E-04	Pulse	0.30	3
Ni	60	103	2	0.000	ug/g	---	14.44	2.499E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	---	166.68	2.873E-04	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	---	40.00	6.885E-05	Pulse	0.30	3
As	75	103	2	0.000	ug/g	---	3.33	5.783E-06	Pulse	0.30	3
Se	78	103	1	0.000	ug/g	---	10.00	7.551E-05	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	---	33.34	5.720E-05	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	---	14.44	2.487E-05	Pulse	0.30	3
Sb	121	169	2	0.000	ug/g	---	15.56	2.013E-05	Pulse	0.30	3
Ba	137	169	2	0.000	ug/g	---	4.44	5.734E-06	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	---	86.67	1.124E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	132,392.97	0.53	100.0	Pulse	0.30	3
2	Rh	103	580,413.01	1.15	100.0	Analog	0.30	3
3	Rh	103	1,336,160.38	0.69	100.0	Analog	0.30	3
2	Tm	169	770,246.09	2.04	100.0	Analog	0.30	3

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Initial Calibration Data

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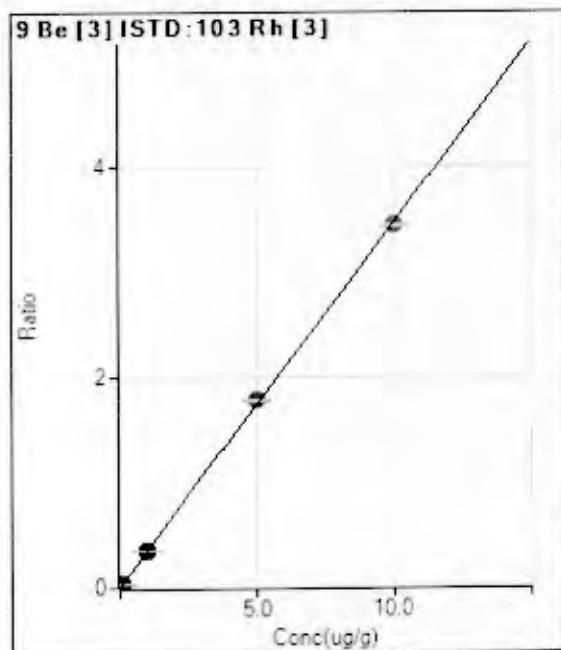
Innovative Solutions for Nature

Calibration for GCV3.D

Batch Folder: D:\DATA\2130931L.b*
 Analysis File: 2130931L.batch.xml
 DA Date-Time: 4/8/2014 1:35:39 PM
 Calibration Title:
 Calibration Method: External Calibration
 VIS Interpolation Fit:
 Tune Step: #1 h2.u
 #2 he.u
 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX.D	0 ppb mix	10/2/2013 11:46:36 AM
2	1MIX.D	1 ppb mix	10/2/2013 11:51:17 AM
3	5MIX.D	5 ppb mix	10/2/2013 11:55:59 AM
4	10MIX.D	10 ppb mix	10/2/2013 12:00:41 PM
5			
6	100MIX.D	100 ppb mix	10/2/2013 1:22:04 PM
7	500MIX.D	500 ppb mix	10/2/2013 1:26:45 PM
8	1000MIX.D	1000 ppb mix	10/2/2013 1:31:12 PM
9	1P.D	1 ppm P	10/2/2013 1:45:30 PM
10	2P.D	2 ppm P	10/2/2013 1:50:12 PM
11	5P.D	5 ppm P	10/2/2013 1:54:55 PM
12	10P.D	10 ppm P	10/2/2013 1:59:37 PM
13			
14			
15			
16			
17			
18			

Calibration for CCV3.D



$$y = 0.3467 * x + 4.8232E-005$$

$$R = 0.9999$$

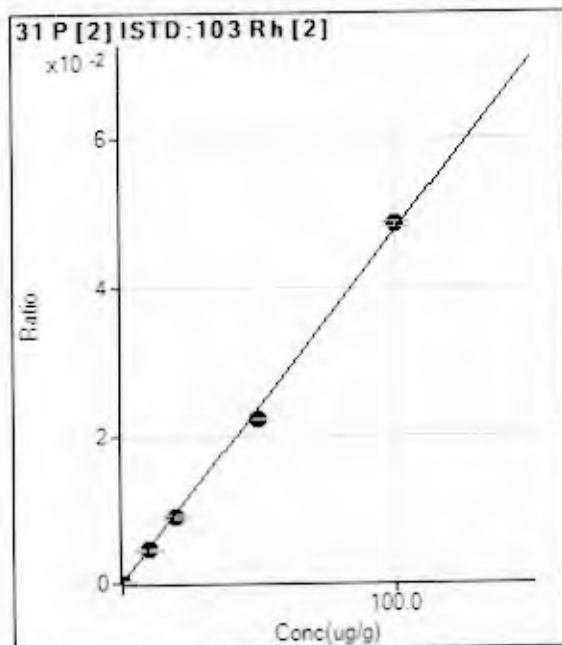
$$DL = 5.377E-05$$

$$BEC = 0.0001391$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	64.45	0.0000	P	12.9
2	<input type="checkbox"/>	0.010	0.011	4980.88	0.0037	P	1.7
3	<input type="checkbox"/>	0.050	0.052	23701.46	0.0181	P	0.6
4	<input type="checkbox"/>	0.100	0.105	47594.15	0.0363	P	0.5
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.022	427074.83	0.3542	P	0.7
7	<input type="checkbox"/>	5.000	5.093	2006348.10	1.7657	A	0.5
8	<input type="checkbox"/>	10.00	9.951	3850909.81	3.4497	A	0.4
9	<input type="checkbox"/>			188.90	0.0002	P	21.5
10	<input type="checkbox"/>			161.12	0.0001	P	3.8
11	<input type="checkbox"/>			147.78	0.0001	P	1.7
12	<input type="checkbox"/>			147.79	0.0001	P	18.8
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 4.7339E-004 * x + 1.1324E-004$$

$$R = 0.9991$$

$$DL = 0.2436$$

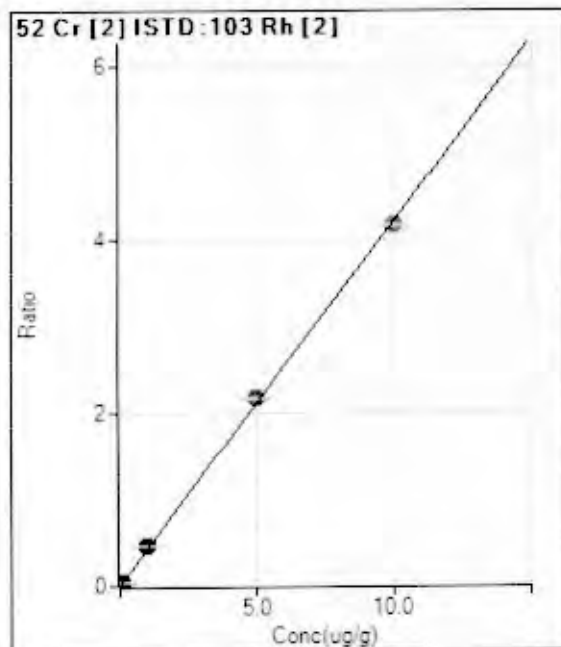
$$BEC = 0.2392$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	65.56	0.0001	P	34.0
2	<input type="checkbox"/>			65.56	0.0001	P	39.4
3	<input type="checkbox"/>			82.23	0.0001	P	12.9
4	<input type="checkbox"/>			72.23	0.0001	P	16.5
5	<input type="checkbox"/>						
6	<input type="checkbox"/>			106.67	0.0002	P	17.3
7	<input type="checkbox"/>			101.12	0.0002	P	30.2
8	<input type="checkbox"/>			65.56	0.0001	P	20.8
9	<input type="checkbox"/>	10.00	9.263	2201.3	0.0045	P	3.9
10	<input type="checkbox"/>	20.00	18.818	4474.0	0.0090	P	4.4
11	<input type="checkbox"/>	50.00	46.736	10964.	0.0222	P	0.2
12	<input type="checkbox"/>	100.0	101.942	24442.	0.0484	P	1.5
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.4213 * x + 1.4530E-004$$

$$R = 0.9998$$

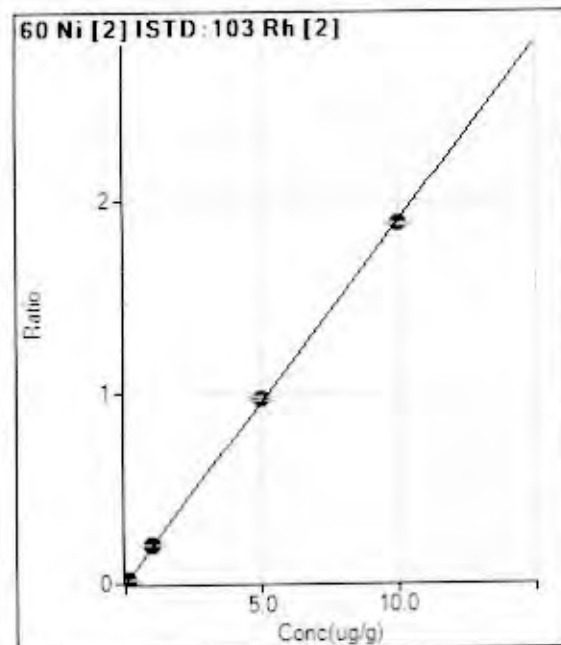
$$DL = 0.0001825$$

$$BEC = 0.0003449$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	84.45	0.0001	P	17.6
2	<input type="checkbox"/>	0.010	0.011	2779.21	0.0048	P	5.4
3	<input type="checkbox"/>	0.050	0.054	13296.53	0.0231	P	1.3
4	<input type="checkbox"/>	0.100	0.109	26529.20	0.0461	P	0.7
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.091	266790.30	0.4597	P	0.9
7	<input type="checkbox"/>	5.000	5.146	1134541.63	2.1681	A	1.1
8	<input type="checkbox"/>	10.00	9.918	2093048.49	4.1785	A	0.5
9	<input type="checkbox"/>			81.11	0.0002	P	26.9
10	<input type="checkbox"/>			128.89	0.0003	P	11.2
11	<input type="checkbox"/>			168.90	0.0003	P	11.3
12	<input type="checkbox"/>			180.01	0.0004	P	5.1
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.1891 * x + 2.4992E-005$$

$$R = 0.9999$$

$$DL = 0.0002346$$

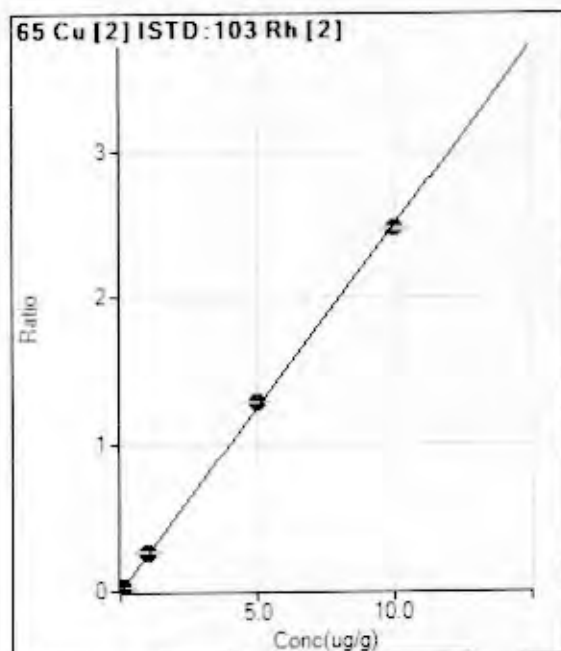
$$BEC = 0.0001322$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	14.44	0.0000	P	59.2
2	<input type="checkbox"/>	0.010	0.011	1196.76	0.0020	P	4.8
3	<input type="checkbox"/>	0.050	0.054	5926.75	0.0103	P	3.0
4	<input type="checkbox"/>	0.100	0.107	11702.05	0.0203	P	1.6
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.050	115260.08	0.1986	P	0.8
7	<input type="checkbox"/>	5.000	5.111	505723.41	0.9665	A	1.2
8	<input type="checkbox"/>	10.00	9.939	941433.43	1.8794	A	0.3
9	<input type="checkbox"/>			13.33	0.0000	P	25.9
10	<input type="checkbox"/>			21.11	0.0000	P	59.9
11	<input type="checkbox"/>			26.67	0.0001	P	33.1
12	<input type="checkbox"/>			27.78	0.0001	P	13.7
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.2492 * x + 2.8732E-004$$

$$R = 0.9998$$

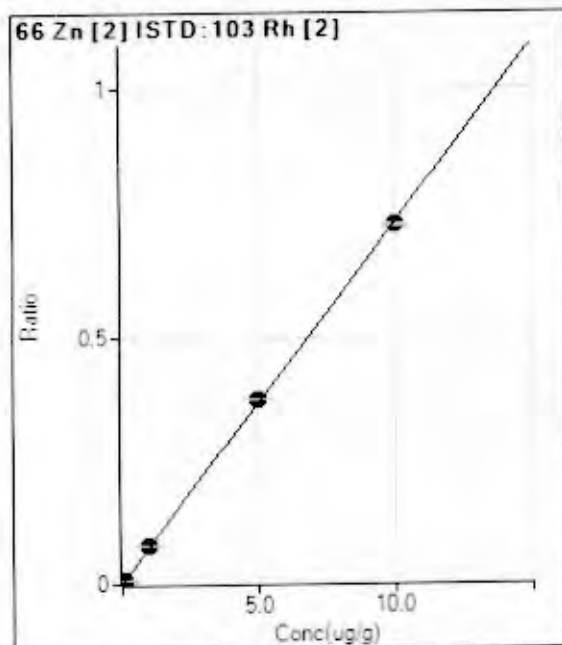
$$DL = 0.0006769$$

$$BEC = 0.001153$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	166.68	0.0003	P	19.6
2	<input type="checkbox"/>	0.010	0.011	1779.06	0.0030	P	1.7
3	<input type="checkbox"/>	0.050	0.055	8087.71	0.0140	P	0.8
4	<input type="checkbox"/>	0.100	0.110	15962.13	0.0277	P	2.8
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.076	155782.32	0.2684	P	0.9
7	<input type="checkbox"/>	5.000	5.141	670545.32	1.2814	A	0.5
8	<input type="checkbox"/>	10.00	9.922	1238742.8	2.4730	A	0.6
9	<input type="checkbox"/>			166.67	0.0003	P	14.4
10	<input type="checkbox"/>			138.90	0.0003	P	13.1
11	<input type="checkbox"/>			98.89	0.0002	P	18.1
12	<input type="checkbox"/>			100.01	0.0002	P	11.5
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0730 * x + 6.8849E-005$$

$$R = 0.9999$$

$$DL = 0.0004467$$

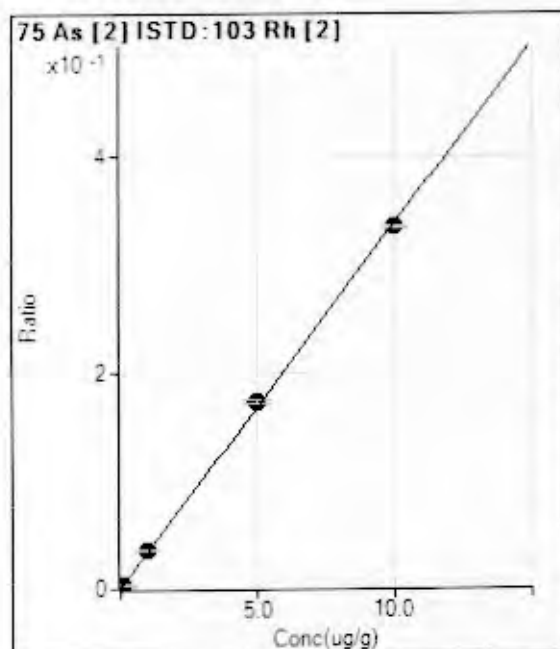
$$BEC = 0.0009425$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	40.00	0.0001	P	15.8
2	<input type="checkbox"/>	0.010	0.010	486.69	0.0008	P	8.4
3	<input type="checkbox"/>	0.050	0.053	2272.46	0.0039	P	6.3
4	<input type="checkbox"/>	0.100	0.101	4280.69	0.0074	P	3.7
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.042	44227.08	0.0762	P	0.6
7	<input type="checkbox"/>	5.000	5.112	195447.17	0.3735	P	0.7
8	<input type="checkbox"/>	10.00	9.940	363727.46	0.7261	P	0.4
9	<input type="checkbox"/>			57.78	0.0001	P	32.9
10	<input type="checkbox"/>			45.56	0.0001	P	27.0
11	<input type="checkbox"/>			58.89	0.0001	P	28.5
12	<input type="checkbox"/>			117.78	0.0002	P	20.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.0336 * x + 5.7835E-006$$

$$R = 0.9998$$

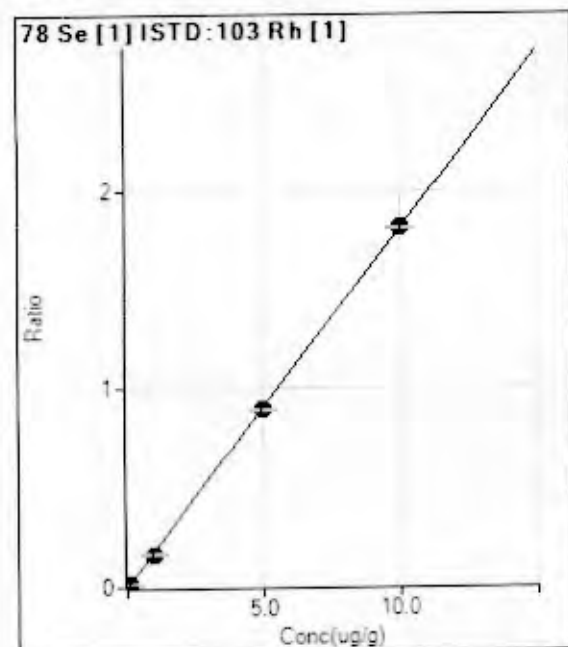
$$DL = 0.0005195$$

$$BEC = 0.000172$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	3.33	0.0000	P	100.7
2	<input type="checkbox"/>	0.010	0.010	196.67	0.0003	P	6.7
3	<input type="checkbox"/>	0.050	0.053	1023.41	0.0018	P	1.2
4	<input type="checkbox"/>	0.100	0.106	2063.54	0.0036	P	5.9
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.050	20494.83	0.0353	P	2.6
7	<input type="checkbox"/>	5.000	5.152	90664.06	0.1733	P	1.6
8	<input type="checkbox"/>	10.00	9.919	167101.1	0.3336	P	0.8
9	<input type="checkbox"/>			22.22	0.0000	P	46.9
10	<input type="checkbox"/>			7.78	0.0000	P	39.5
11	<input type="checkbox"/>			8.89	0.0000	P	43.9
12	<input type="checkbox"/>			8.89	0.0000	P	43.6
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.1811 * x + 7.5513E-005$$

$$R = 1.0000$$

$$DL = 0.0007197$$

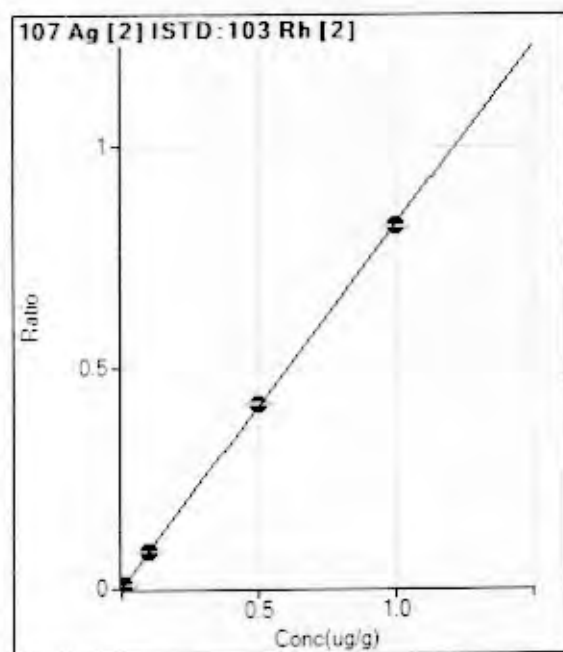
$$BEC = 0.0004169$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	10.00	0.0001	P	57.5
2	<input type="checkbox"/>	0.010	0.011	274.46	0.0020	P	22.5
3	<input type="checkbox"/>	0.050	0.052	1267.88	0.0095	P	5.9
4	<input type="checkbox"/>	0.100	0.100	2398.03	0.0182	P	1.2
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	0.929	26070.17	0.1683	P	2.7
7	<input type="checkbox"/>	5.000	4.937	118667.92	0.8942	P	1.0
8	<input type="checkbox"/>	10.00	10.039	222615.06	1.8182	P	0.8
9	<input type="checkbox"/>			18.89	0.0002	P	88.6
10	<input type="checkbox"/>			5.56	0.0000	P	35.5
11	<input type="checkbox"/>			4.44	0.0000	P	43.5
12	<input type="checkbox"/>			7.78	0.0001	P	89.4
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.8226 * x + 5.7202E-005$$

$$R = 1.0000$$

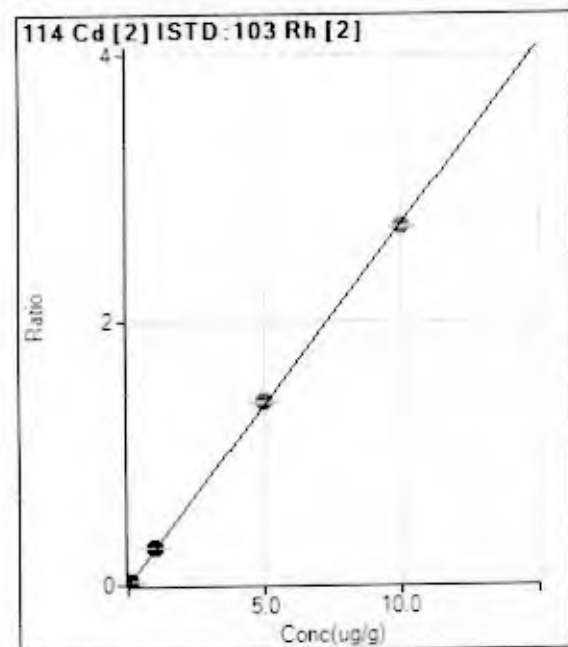
$$DL = 0.0001239$$

$$BEC = 6.954E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	33.34	0.0001	P	59.4
2	<input type="checkbox"/>	0.001	0.001	283.35	0.0005	P	7.3
3	<input type="checkbox"/>	0.005	0.004	2023.54	0.0035	P	4.1
4	<input type="checkbox"/>	0.010	0.009	4499.67	0.0078	P	2.6
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	0.100	0.102	48634.29	0.0838	P	1.1
7	<input type="checkbox"/>	0.500	0.507	218415.67	0.4174	P	0.9
8	<input type="checkbox"/>	1.000	0.996	410477.45	0.8195	P	0.2
9	<input type="checkbox"/>			135.56	0.0003	P	38.9
10	<input type="checkbox"/>			75.56	0.0002	P	18.0
11	<input type="checkbox"/>			66.67	0.0001	P	43.3
12	<input type="checkbox"/>			45.56	0.0001	P	44.1
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2721 * x + 2.4872E-005$$

$$R = 0.9999$$

$$DL = 3.48E-05$$

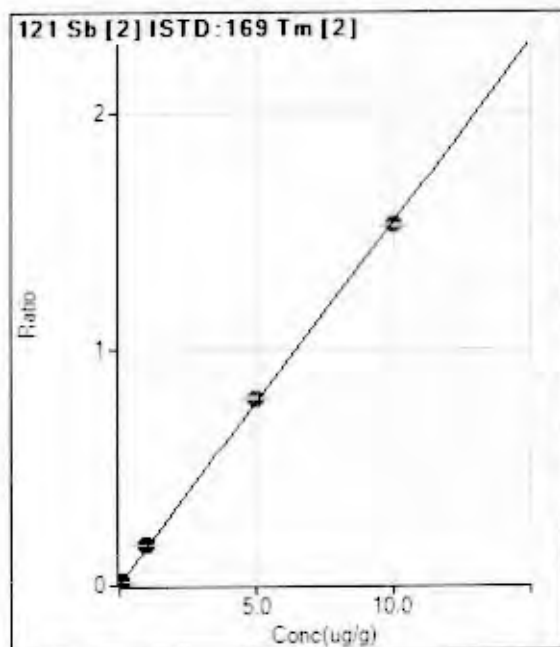
$$BEC = 9.139E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	14.44	0.0000	P	12.7
2	<input type="checkbox"/>	0.010	0.010	1676.82	0.0029	P	9.6
3	<input type="checkbox"/>	0.050	0.050	7938.82	0.0138	P	1.8
4	<input type="checkbox"/>	0.100	0.103	16120.39	0.0280	P	0.6
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.069	168933.13	0.2911	P	1.4
7	<input type="checkbox"/>	5.000	5.095	725579.56	1.3866	A	1.4
8	<input type="checkbox"/>	10.00	9.945	1355795.8	2.7067	A	0.4
9	<input type="checkbox"/>			44.45	0.0001	P	31.1
10	<input type="checkbox"/>			20.00	0.0000	P	66.5
11	<input type="checkbox"/>			36.67	0.0001	P	59.4
12	<input type="checkbox"/>			28.89	0.0001	P	88.5
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.1540 * x + 2.0130E-005$$

$$R = 0.9999$$

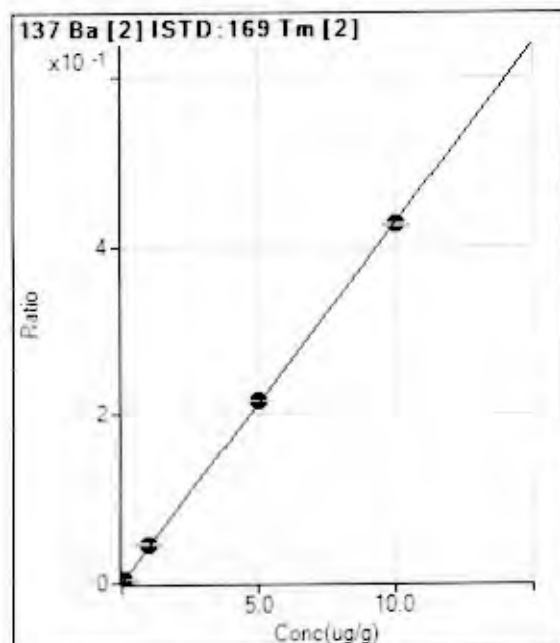
$$DL = 0.0002907$$

$$BEC = 0.0001307$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	15.56	0.0000	P	74.1
2	<input type="checkbox"/>	0.010	0.011	1381.22	0.0018	P	1.9
3	<input type="checkbox"/>	0.050	0.055	6562.65	0.0085	P	2.8
4	<input type="checkbox"/>	0.100	0.108	12894.30	0.0167	P	2.1
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.105	136809.11	0.1702	P	0.8
7	<input type="checkbox"/>	5.000	5.121	586961.96	0.7886	A	0.9
8	<input type="checkbox"/>	10.00	9.929	1091276.0	1.5289	A	0.3
9	<input type="checkbox"/>			116.67	0.0002	P	25.5
10	<input type="checkbox"/>			112.23	0.0002	P	15.3
11	<input type="checkbox"/>			140.01	0.0002	P	19.5
12	<input type="checkbox"/>			186.67	0.0005	P	9.5
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0428 * x + 5.7339E-006$$

$$R = 0.9999$$

$$DL = 0.0004629$$

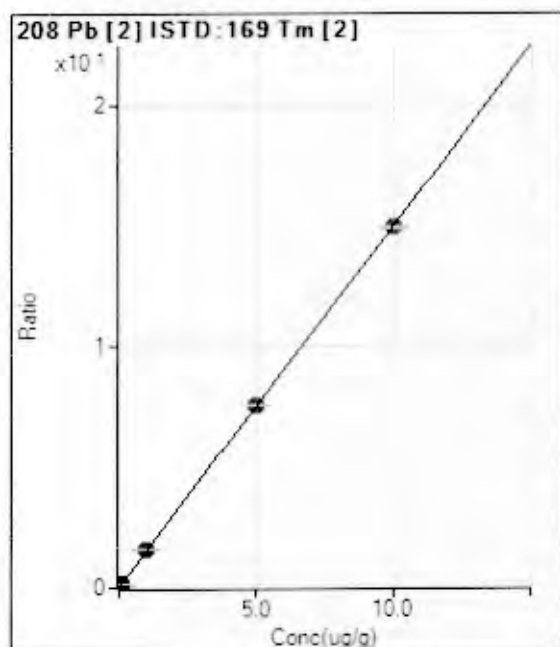
$$BEC = 0.0001339$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	4.44	0.0000	P	115.3
2	<input type="checkbox"/>	0.010	0.012	393.36	0.0005	P	7.1
3	<input type="checkbox"/>	0.050	0.049	1623.48	0.0021	P	2.5
4	<input type="checkbox"/>	0.100	0.104	3457.16	0.0045	P	4.2
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.076	37051.09	0.0461	P	1.2
7	<input type="checkbox"/>	5.000	5.082	162011.73	0.2177	P	0.2
8	<input type="checkbox"/>	10.00	9.951	304241.09	0.4262	P	0.7
9	<input type="checkbox"/>			0.00	0.0000	P	
10	<input type="checkbox"/>			1.11	0.0000	P	173.2
11	<input type="checkbox"/>			3.33	0.0000	P	100.3
12	<input type="checkbox"/>			6.67	0.0000	P	86.8
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 1.4990 * x + 1.1236E-004$$

$$R = 1.0000$$

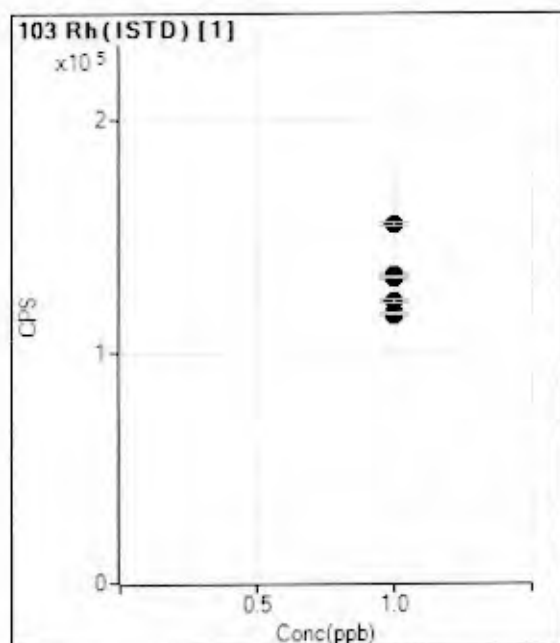
$$DL = 3.7E-05$$

$$BEC = 7.495E-05$$

Weight: None

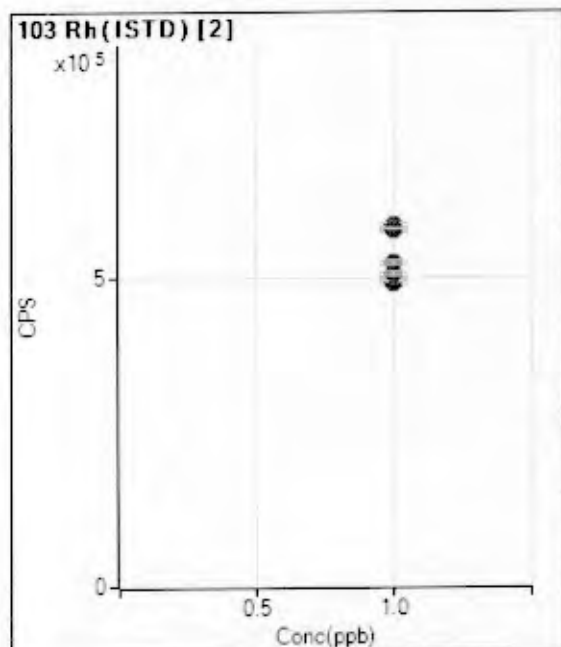
Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	86.67	0.0001	P	16.5
2	<input type="checkbox"/>	0.010	0.011	13313.86	0.0171	P	1.7
3	<input type="checkbox"/>	0.050	0.056	64258.65	0.0835	P	0.4
4	<input type="checkbox"/>	0.100	0.111	128641.76	0.1663	P	1.0
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.051	1266109.45	1.5755	A	0.6
7	<input type="checkbox"/>	5.000	5.033	5615055.54	7.5441	A	0.2
8	<input type="checkbox"/>	10.00	9.978	10676663.9	14.957	A	0.3
9	<input type="checkbox"/>			190.01	0.0003	P	3.2
10	<input type="checkbox"/>			226.67	0.0003	P	30.5
11	<input type="checkbox"/>			234.46	0.0003	P	8.7
12	<input type="checkbox"/>			335.57	0.0009	P	15.3
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

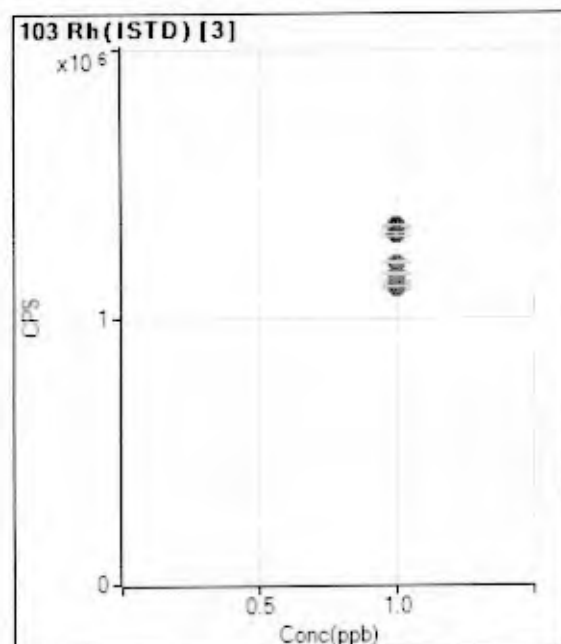


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		132392.97		P	0.5
2	<input type="checkbox"/>	1.000		134138.77		P	1.0
3	<input type="checkbox"/>	1.000		133174.94		P	0.6
4	<input type="checkbox"/>	1.000		131877.10		P	0.4
5	<input type="checkbox"/>	1.000					
6	<input type="checkbox"/>	1.000		154948.52		P	1.1
7	<input type="checkbox"/>	1.000		132708.38		P	0.7
8	<input type="checkbox"/>	1.000		122436.39		P	0.6
9	<input type="checkbox"/>	1.000		117517.87		P	0.3
10	<input type="checkbox"/>	1.000		116211.29		P	1.1
11	<input type="checkbox"/>	1.000		117028.35		P	0.1
12	<input type="checkbox"/>	1.000		122259.27		P	1.3
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for CCV3.D

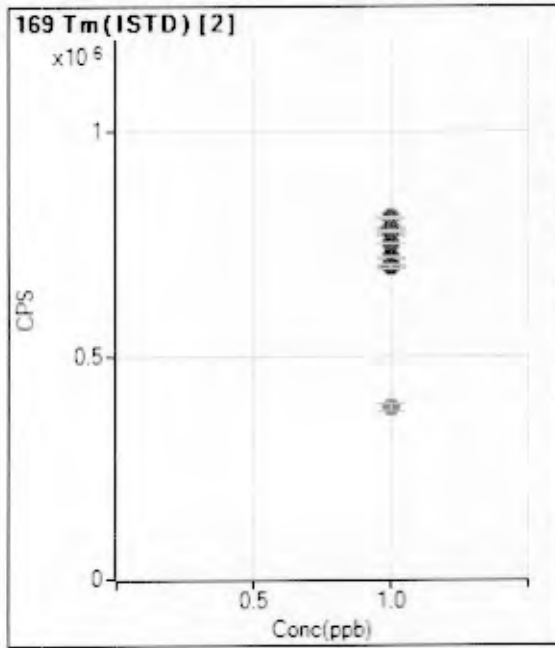


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		580413.01		A	1.2
2	<input type="checkbox"/>	1.000		584685.11		A	1.2
3	<input type="checkbox"/>	1.000		576642.37		A	0.6
4	<input type="checkbox"/>	1.000		576107.97		A	0.9
5	<input type="checkbox"/>	1.000					
6	<input type="checkbox"/>	1.000		580423.67		A	0.1
7	<input type="checkbox"/>	1.000		523312.75		A	1.0
8	<input type="checkbox"/>	1.000		500915.89		A	0.6
9	<input type="checkbox"/>	1.000		489304.58		A	1.1
10	<input type="checkbox"/>	1.000		495832.61		A	0.9
11	<input type="checkbox"/>	1.000		493083.77		A	0.6
12	<input type="checkbox"/>	1.000		505302.30		A	1.1
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		1336160.38		A	0.7
2	<input type="checkbox"/>	1.000		1343220.38		A	0.7
3	<input type="checkbox"/>	1.000		1311531.67		A	1.0
4	<input type="checkbox"/>	1.000		1311474.43		A	0.9
5	<input type="checkbox"/>	1.000					
6	<input type="checkbox"/>	1.000		1205598.39		A	0.3
7	<input type="checkbox"/>	1.000		1136319.00		A	0.6
8	<input type="checkbox"/>	1.000		1116293.10		A	0.2
9	<input type="checkbox"/>	1.000		1108260.40		A	0.8
10	<input type="checkbox"/>	1.000		1121819.03		A	0.6
11	<input type="checkbox"/>	1.000		1117858.69		A	0.6
12	<input type="checkbox"/>	1.000		1163758.64		A	0.7
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for CCV3.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		770246.09		A	2.0
2	<input type="checkbox"/>	1.000		778761.34		A	1.2
3	<input type="checkbox"/>	1.000		769306.21		A	0.4
4	<input type="checkbox"/>	1.000		773605.60		A	0.6
5	<input type="checkbox"/>	1.000					
6	<input type="checkbox"/>	1.000		803629.81		A	0.8
7	<input type="checkbox"/>	1.000		744292.42		A	0.2
8	<input type="checkbox"/>	1.000		713786.94		A	0.2
9	<input type="checkbox"/>	1.000		693383.99		A	0.8
10	<input type="checkbox"/>	1.000		695913.43		A	0.1
11	<input type="checkbox"/>	1.000		694885.99		A	1.1
12	<input type="checkbox"/>	1.000		387990.49		M	4.1
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

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Continuing Calibration Data

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ICPMS 7700x DATA REPORT

File Name ICV.D
File Path D:\DATA\2130931L.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 14:09
Sample Name 100 ppb (10 ppb Ag)
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.103	ug/g	0.27	413,274.00	3.588E-01	Pulse	0.30	3
P	31	103	2	0.015	ug/g	60.04	94.45	1.850E-04	Pulse	0.30	3
Cr	52	103	2	0.106	ug/g	1.11	228,516.19	4.470E-01	Pulse	0.30	3
Ni	60	103	2	0.106	ug/g	1.32	102,375.97	2.003E-01	Pulse	0.30	3
Cu	65	103	2	0.107	ug/g	1.59	136,483.98	2.670E-01	Pulse	0.30	3
Zn	66	103	2	0.101	ug/g	0.73	37,696.43	7.374E-02	Pulse	0.30	3
As	75	103	2	0.099	ug/g	3.49	17,087.77	3.343E-02	Pulse	0.30	3
Se	78	103	1	0.106	ug/g	0.90	23,170.45	1.922E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.96	41,952.29	8.207E-02	Pulse	0.30	3
Cd	114	103	2	0.103	ug/g	1.12	143,683.25	2.811E-01	Pulse	0.30	3
Sb	121	169	2	0.103	ug/g	0.32	113,980.92	1.594E-01	Pulse	0.30	3
Ba	137	169	2	0.101	ug/g	2.01	30,813.82	4.309E-02	Pulse	0.30	3
Pb	208	169	2	0.105	ug/g	0.19	1,120,462.81	1.567E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	120,565.81	0.19	91.1	Pulse	0.30	3
2	Rh	103	511,214.23	0.84	88.1	Analog	0.30	3
3	Rh	103	1,151,937.16	0.42	86.2	Analog	0.30	3
2	Tm	169	715,140.95	0.21	92.8	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCVP.D
File Path D:\DATA\2130931Lb
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 14:13
Sample Name 5 PPM Phosphorus
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.000	ug/g	56.00	141.12	1.240E-04	Pulse	0.30	3
P	31	103	2	4.711	ug/g	1.20	11,131.63	2.242E-02	Pulse	0.30	3
Cr	52	103	2	0.000	ug/g	79.38	106.67	2.148E-04	Pulse	0.30	3
Ni	60	103	2	0.000	ug/g	43.96	41.11	8.279E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	-192.86	125.56	2.529E-04	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	62.29	87.78	1.767E-04	Pulse	0.30	3
As	75	103	2	0.000	ug/g	83.47	16.67	3.353E-05	Pulse	0.30	3
Se	78	103	1	0.000	ug/g	95.29	30.00	2.573E-04	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	7.71	368.91	7.428E-04	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	98.74	43.34	8.734E-05	Pulse	0.30	3
Sb	121	169	2	0.000	ug/g	7.85	214.46	3.065E-04	Pulse	0.30	3
Ba	137	169	2	0.000	ug/g	141.69	8.89	1.269E-05	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	21.75	404.46	5.785E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	116,345.96	1.20	87.9	Pulse	0.30	3
2	Rh	103	496,583.98	0.20	85.6	Analog	0.30	3
3	Rh	103	1,137,720.55	0.71	85.1	Analog	0.30	3
2	Tm	169	699,538.77	0.61	90.8	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV1.D
File Path D:\DATA\2130931L.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 16:38
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.097	ug/g	0.84	456,720.88	3.365E-01	Pulse	0.30	3
P	31	103	2	0.003	ug/g	434.94	73.34	1.286E-04	Pulse	0.30	3
Cr	52	103	2	0.106	ug/g	0.72	254,494.90	4.465E-01	Pulse	0.30	3
Ni	60	103	2	0.107	ug/g	0.47	115,062.96	2.019E-01	Pulse	0.30	3
Cu	65	103	2	0.109	ug/g	1.16	154,291.16	2.707E-01	Pulse	0.30	3
Zn	66	103	2	0.098	ug/g	0.21	40,738.89	7.147E-02	Pulse	0.30	3
As	75	103	2	0.100	ug/g	1.05	19,191.08	3.367E-02	Pulse	0.30	3
Se	78	103	1	0.109	ug/g	0.93	25,865.38	1.982E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	1.21	47,868.72	8.399E-02	Pulse	0.30	3
Cd	114	103	2	0.100	ug/g	0.50	155,848.87	2.734E-01	Pulse	0.30	3
Sb	121	169	2	0.105	ug/g	1.27	122,799.78	1.615E-01	Pulse	0.30	3
Ba	137	169	2	0.103	ug/g	2.10	33,563.34	4.415E-02	Pulse	0.30	3
Pb	208	169	2	0.106	ug/g	1.37	1,203,744.01	1.583E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	130,497.59	0.57	98.6	Pulse	0.30	3
2	Rh	103	569,998.85	1.03	98.2	Analog	0.30	3
3	Rh	103	1,357,338.63	0.91	101.6	Analog	0.30	3
2	Tm	169	760,357.64	0.86	98.7	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV2.D
File Path D:\DATA\2130931L.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 18:57
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.096	ug/g	0.59	428,483.27	3.337E-01	Pulse	0.30	3
P	31	103	2	-0.003	ug/g	-175.37	54.45	1.007E-04	Pulse	0.30	3
Cr	52	103	2	0.103	ug/g	0.87	234,686.51	4.337E-01	Pulse	0.30	3
Ni	60	103	2	0.103	ug/g	0.07	105,732.73	1.954E-01	Pulse	0.30	3
Cu	65	103	2	0.105	ug/g	1.51	142,119.65	2.626E-01	Pulse	0.30	3
Zn	66	103	2	0.096	ug/g	1.27	38,078.50	7.037E-02	Pulse	0.30	3
As	75	103	2	0.096	ug/g	1.01	17,400.34	3.215E-02	Pulse	0.30	3
Se	78	103	1	0.107	ug/g	0.56	24,160.76	1.933E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	1.25	45,015.41	8.318E-02	Pulse	0.30	3
Cd	114	103	2	0.101	ug/g	0.20	148,877.95	2.751E-01	Pulse	0.30	3
Sb	121	169	2	0.100	ug/g	0.10	115,807.38	1.542E-01	Pulse	0.30	3
Ba	137	169	2	0.100	ug/g	1.45	32,327.65	4.305E-02	Pulse	0.30	3
Pb	208	169	2	0.107	ug/g	0.30	1,202,793.81	1.602E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	125,017.77	0.22	94.4	Pulse	0.30	3
2	Rh	103	541,161.32	0.60	93.2	Analog	0.30	3
3	Rh	103	1,283,937.46	0.45	96.1	Analog	0.30	3
2	Tm	169	750,970.14	0.26	97.5	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV3.D
File Path D:\DATA\2130931L.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 21:02
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.090	ug/g	0.71	386,000.52	3.110E-01	Pulse	0.30	3
P	31	103	2	-0.005	ug/g	-29.41	45.56	8.762E-05	Pulse	0.30	3
Cr	52	103	2	0.100	ug/g	1.20	220,093.23	4.233E-01	Pulse	0.30	3
Ni	60	103	2	0.100	ug/g	1.36	98,516.74	1.895E-01	Pulse	0.30	3
Cu	65	103	2	0.103	ug/g	0.50	133,929.24	2.576E-01	Pulse	0.30	3
Zn	66	103	2	0.096	ug/g	1.19	36,395.95	6.999E-02	Pulse	0.30	3
As	75	103	2	0.095	ug/g	0.02	16,629.53	3.198E-02	Pulse	0.30	3
Se	78	103	1	0.106	ug/g	2.47	23,120.44	1.921E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.61	43,734.34	8.411E-02	Pulse	0.30	3
Cd	114	103	2	0.102	ug/g	0.70	144,587.43	2.781E-01	Pulse	0.30	3
Sb	121	169	2	0.099	ug/g	0.87	112,802.33	1.531E-01	Pulse	0.30	3
Ba	137	169	2	0.103	ug/g	0.85	32,392.11	4.396E-02	Pulse	0.30	3
Pb	208	169	2	0.107	ug/g	0.35	1,179,861.41	1.601E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	120,377.59	0.38	90.9	Pulse	0.30	3
2	Rh	103	520,004.56	0.50	89.6	Analog	0.30	3
3	Rh	103	1,241,228.10	0.37	92.9	Analog	0.30	3
2	Tm	169	736,906.05	0.41	95.7	Analog	0.30	3

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Instrument Run Log

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id	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
	Keyword		CALBEG	Start of CALIB									
METHODS	Sample	1	Rinse1			1,000							
METHODS	Sample	1	Rinse2			1,000							
METHODS	Sample	1101	Rinse			1,000							
METHODS	CalStd	1101	0MIX	0 ppb mix	0 ng 0 ng Ag	Level 1							
METHODS	CalStd	1102	1MIX	1 ppb mix	10 ng 1 ng Ag	Level 2							
METHODS	CalStd	1103	5MIX	5 ppb mix	50 ng 5 ng Ag	Level 3							
METHODS	CalStd	1104	10MIX	10 ppb mix	100 ng 10 ng Ag	Level 4							
METHODS	CalStd	1105	50MIX	50 ppb mix	500 ng 50 ng Ag	Level 5							
METHODS	CalStd	1106	100MIX	100 ppb mix	1000 ng 100 ng Ag	Level 6							
METHODS	CalStd	1107	500MIX	500 ppb mix	5000 ng 500 ng Ag	Level 7							
METHODS	CalStd	1108	1000MIX	1000 ppb mix	10000 ng 1000 ng Ag	Level 8							
METHODS	Sample	1	Rinse3			1,000							
METHODS	Sample	1	Rinse4			1,000							
METHODS	CalStd	1109	1P	1 ppm P	10 ug P	Level 9							
METHODS	CalStd	1110	2P	2 ppm P	20 ug P	Level 10							
METHODS	CalStd	1111	5P	5 ppm P	50 ug P	Level 11							
METHODS	CalStd	1112	10P	10 ppm P	100 ug P	Level 12							
METHODS	Sample	1	Rinse5			1,000							
METHODS	Sample	1201	ICV	100 ppb (10 ppb Ag)		1.000E-01							
METHODS	Sample	2111	CCVP	5 PPM Phosphorus		1.000E-01							
METHODS	Sample	1202	2ndP	ERA Phosphorus 9.71 PPM		1.000E-01							
METHODS	Sample	1	Rinse6			1,000							
METHODS	Sample	1	Rinse7			1,000							
	Keyword		CALEND	End of CALIB									
	Keyword		SMPLBEG	Start of SMPL									
METHODS	Sample	1	Rinse8			1,000							
METHODS	Sample	1	Rinse9			1,000							
METHODS	Sample	1	Rinse10			1,000							
METHODS	Sample	2101	Rinse11			1,000							
METHODS	Sample	2101	21956	QAQC Procedural Blank B1	21956 NA, B1 9/25/2013, E-5145,	10.00							
METHODS	Sample	2102	22035	QAQC Procedural Blank B1	22035 NA, B1 9/25/2013, E-5146,	10.00							
METHODS	Sample	2103	22077	QAQC Procedural Blank B1	22077 NA, B1 9/30/2013, E-5147,	10.00							
METHODS	Sample	2104	21957	B13-8233 Oceanside	21957 NA, R1 9/25/2013, E-5145,	33.28							
METHODS	Sample	2105	21957/2	B13-8233 Oceanside Dup	21957 NA, R2 9/25/2013, E-5145,	33.54							
METHODS	Sample	2106	21958	B13-8236 Oceanside	21958 NA, R1 9/25/2013, E-5145,	26.82							
METHODS	Sample	2107	21959	B13-8239 Oceanside	21959 NA, R1 9/25/2013, E-5145,	29.57							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
38	C:\CPMH\1\METHODS (Physis.m)	Sample	2108	21860	B13-8267 Dana Point	21860,NA,R1,9/25/2013,E-5145,	29.80							
39	C:\CPMH\1\METHODS (Physis.m)	Sample	2109	21861	B13-8265 Dana Point	21861,NA,R1,9/25/2013,E-5145,	21.93							
40	C:\CPMH\1\METHODS (Physis.m)	Sample	2110	21862	B13-8263 Dana Point	21862,NA,R1,9/25/2013,E-5145,	18.27							
41	C:\CPMH\1\METHODS (Physis.m)	Sample	2111	21863	B13-8269 Dana Point	21863,NA,R1,9/25/2013,E-5145,	26.88							
42	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R12			1.000							
43	C:\CPMH\1\METHODS (Physis.m)	Sample	2112	21865cm	QAQC CRM - RTC 016-0501	21865,NA,CRM1,9/25/2013,E-5145,	47.35							
44	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	21903cm	QAQC CRM - ERA 5401	21866,NA,CRM1,9/25/2013,E-5145,	50.51							
45	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R13			1.000							
46	C:\CPMH\1\METHODS (Physis.m)	Sample	2202	21956bs1	QAQC Procedural Blank BS1	21956,NA,BS1,9/25/2013,E-5145,	1.000							
47	C:\CPMH\1\METHODS (Physis.m)	Sample	2203	21956bs2	QAQC Procedural Blank BS2	21956,NA,BS2,9/25/2013,E-5145,	1.000							
48	C:\CPMH\1\METHODS (Physis.m)	Sample	2204	21957ms	B13-8233 Oceanside MS	21957,NA,MS1,9/25/2013,E-5145,	1.000							
49	C:\CPMH\1\METHODS (Physis.m)	Sample	2205	21957msd	B13-8233 Oceanside MSD	21957,NA,MS2,9/25/2013,E-5145,	1.000							
50	C:\CPMH\1\METHODS (Physis.m)	Sample	2206	21957s1P	B13-8233 Oceanside MS	21957,NA,MS1,9/25/2013,E-5145,	1.000							
51	C:\CPMH\1\METHODS (Physis.m)	Sample	2207	21957s2P	B13-8233 Oceanside MSD	21957,NA,MS2,9/25/2013,E-5145,	1.000							
52	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R14			1.000							
53	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R15			1.000							
54	C:\CPMH\1\METHODS (Physis.m)	Sample	1106	CCV1			1.000E-01							
55	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R16			1.000							
56	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R17			1.000							
57	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R18			1.000							
58	C:\CPMH\1\METHODS (Physis.m)	Sample	2208	22036	B13-8145 Grab	22036,NA,R1,9/25/2013,E-5146,	32.80							
59	C:\CPMH\1\METHODS (Physis.m)	Sample	2209	22036/2	B13-8145 Grab Dup	22036,NA,R2,9/25/2013,E-5146,	30.84							
60	C:\CPMH\1\METHODS (Physis.m)	Sample	2210	22037	B13-8163 Grab	22037,NA,R1,9/25/2013,E-5146,	29.39							
61	C:\CPMH\1\METHODS (Physis.m)	Sample	2211	22038	B13-8180 Grab	22038,NA,R1,9/25/2013,E-5146,	35.19							
62	C:\CPMH\1\METHODS (Physis.m)	Sample	2212	22039	B13-8168 Grab	22039,NA,R1,9/25/2013,E-5146,	34.56							
63	C:\CPMH\1\METHODS (Physis.m)	Sample	2301	22040	B13-8157 Grab	22040,NA,R1,9/25/2013,E-5146,	29.43							
64	C:\CPMH\1\METHODS (Physis.m)	Sample	2302	22041	B13-8158 Grab	22041,NA,R1,9/25/2013,E-5146,	35.43							
65	C:\CPMH\1\METHODS (Physis.m)	Sample	2303	22042	B13-8152 Grab	22042,NA,R1,9/25/2013,E-5146,	13.40							
66	C:\CPMH\1\METHODS (Physis.m)	Sample	2304	22043	B13-8151 Grab	22043,NA,R1,9/25/2013,E-5146,	39.72							
67	C:\CPMH\1\METHODS (Physis.m)	Sample	2305	22044	B13-8148 Grab	22044,NA,R1,9/25/2013,E-5146,	32.65							
68	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R19			1.000							
69	C:\CPMH\1\METHODS (Physis.m)	Sample	2306	22046cm	QAQC CRM - RTC 016-0501	22046,NA,CRM1,9/25/2013,E-5146,	51.34							
70	C:\CPMH\1\METHODS (Physis.m)	Sample	2307	22047cm	QAQC CRM - ERA 5401	22047,NA,CRM1,9/25/2013,E-5146,	45.98							
71	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R20			1.000							
72	C:\CPMH\1\METHODS (Physis.m)	Sample	2202	22035bs1	QAQC Procedural Blank BS1	22035,NA,BS1,9/25/2013,E-5146,	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	S/LP	Result
73	C:\ICPMH\1\METHODS (Physis.m)	Sample	2203	22036os2	QAQC Procedural Blank BS2	22035,NA,BS2,9/25/2013,E-5146,	1.000							
74	C:\ICPMH\1\METHODS (Physis.m)	Sample	2308	22036ms	B13-B145 Grab MS	22036,NA,MS1,9/25/2013,E-5146,	1.000							
75	C:\ICPMH\1\METHODS (Physis.m)	Sample	2308	22036ms	B13-B145 Grab MSD	22036,NA,MS2,9/25/2013,E-5146,	1.000							
76	C:\ICPMH\1\METHODS (Physis.m)	Sample	2310	22036s1P	B13-B145 Grab MS	22036,NA,MS1,9/25/2013,E-5146,	1.000							
77	C:\ICPMH\1\METHODS (Physis.m)	Sample	2311	22036s2P	B13-B145 Grab MSD	22036,NA,MS2,9/25/2013,E-5146,	1.000							
78	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R21			1.000							
79	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R22			1.000							
80	C:\ICPMH\1\METHODS (Physis.m)	Sample	1106	CCV2			1.000E-01							
81	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R23			1.000							
82	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R24			1.000							
83	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R25			1.000							
84	C:\ICPMH\1\METHODS (Physis.m)	Sample	2312	22078	B13-8055 Grab	22078,NA,R1,9/30/2013,E-5147,	30.56							
85	C:\ICPMH\1\METHODS (Physis.m)	Sample	2401	22078r2	B13-8055 Grab Dux	22078,NA,R2,9/30/2013,E-5147,	28.48							
86	C:\ICPMH\1\METHODS (Physis.m)	Sample	2402	22079	B13-8049 Grab	22079,NA,R1,9/30/2013,E-5147,	31.15							
87	C:\ICPMH\1\METHODS (Physis.m)	Sample	2403	22080	B13-8029 Grab	22080,NA,R1,9/30/2013,E-5147,	25.10							
88	C:\ICPMH\1\METHODS (Physis.m)	Sample	2404	22081	B13-8056 Grab	22081,NA,R1,9/30/2013,E-5147,	34.62							
89	C:\ICPMH\1\METHODS (Physis.m)	Sample	2405	22082	B13-8064 Grab	22082,NA,R1,9/30/2013,E-5147,	30.18							
90	C:\ICPMH\1\METHODS (Physis.m)	Sample	2406	22083	B13-8066 Grab	22083,NA,R1,9/30/2013,E-5147,	38.86							
91	C:\ICPMH\1\METHODS (Physis.m)	Sample	2407	22084	B13-8020 Grab	22084,NA,R1,9/30/2013,E-5147,	58.90							
92	C:\ICPMH\1\METHODS (Physis.m)	Sample	2408	22085	B13-8050 Grab	22085,NA,R1,9/30/2013,E-5147,	31.49							
93	C:\ICPMH\1\METHODS (Physis.m)	Sample	2408	22086	B13-8069 Grab	22086,NA,R1,9/30/2013,E-5147,	33.31							
94	C:\ICPMH\1\METHODS (Physis.m)	Sample	2410	22087	B13-8017 Grab	22087,NA,R1,9/30/2013,E-5147,	33.56							
95	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R26			1.000							
96	C:\ICPMH\1\METHODS (Physis.m)	Sample	2411	22089crm	QAQC CRM - RTC 016-0601	22089,NA,CRM1,9/30/2013,E-5147,	51.23							
97	C:\ICPMH\1\METHODS (Physis.m)	Sample	2412	22089crm	QAQC CRM - ERA 5401	22089,NA,CRM1,9/30/2013,E-5147,	51.78							
98	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R27			1.000							
99	C:\ICPMH\1\METHODS (Physis.m)	Sample	2203	22077bs1	QAQC Procedural Blank BS1	22077,NA,BS1,9/30/2013,E-5147,	1.000							
100	C:\ICPMH\1\METHODS (Physis.m)	Sample	2203	22077bs2	QAQC Procedural Blank BS2	22077,NA,BS2,9/30/2013,E-5147,	1.000							
101	C:\ICPMH\1\METHODS (Physis.m)	Sample	2501	22078ms	B13-8065 Grab MS	22078,NA,MS1,9/30/2013,E-5147,	1.000							
102	C:\ICPMH\1\METHODS (Physis.m)	Sample	2502	22078msd	B13-8065 Grab MSD	22078,NA,MS2,9/30/2013,E-5147,	1.000							
103	C:\ICPMH\1\METHODS (Physis.m)	Sample	2503	22078s1P	B13-8055 Grab MS	22078,NA,MS1,9/30/2013,E-5147,	1.000							
104	C:\ICPMH\1\METHODS (Physis.m)	Sample	2504	22078s2P	B13-8055 Grab MSD	22078,NA,MS2,9/30/2013,E-5147,	1.000							
105	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R28			1.000							
106	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R29			1.000							
107	C:\ICPMH\1\METHODS (Physis.m)	Sample	1106	CCV3			1.000E-01							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
108	C:\CPMH\1\METHODS\1Physis.m	Sample	1	R30			1.000							
109	C:\CPMH\1\METHODS\1Physis.m	Sample	1	R31			1.000							
110	C:\CPMH\1\METHODS\1Physis.m	Sample	1	R32			1.000							
111		Keyword		SMPLEND	End of SMPLE									
112		Keyword		END	End of Sequence									
113		Keyword		BLKBEG	Start of BLANK									
114		Keyword		BLKEND	End of BLANK									
115		Keyword		ERRBEG	Start of ERRTERM									
116		Keyword		ERREND	End of ERRTERM									

Elements -

ICP-MS

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ICPMS 7700x DATA REPORT

File Name OMDX.D
File Path D:\data\2131009.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/10/2013 12:02
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.000	ug/g	---	11.11	2.296E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	---	171.12	3.553E-04	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	---	203.35	4.218E-04	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	---	15.56	3.230E-05	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	---	14.45	3.010E-05	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	---	318.90	4.817E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	482,176.00	0.99	100.0	Analog	0.30	3
3	Rh	103	1,132,858.46	0.03	100.0	Analog	0.30	3
2	Tm	169	662,755.66	1.23	100.0	Analog	0.30	3

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Initial Calibration Data

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Calibration for 1000MIX.D

Batch Folder: D:\DATA\2131009.B\

 Analysis File: 2131009.batch.xml

 DA Date-Time: 4/8/2014 2:08:43 PM

 Calibration Title:

 Calibration Method: External Calibration

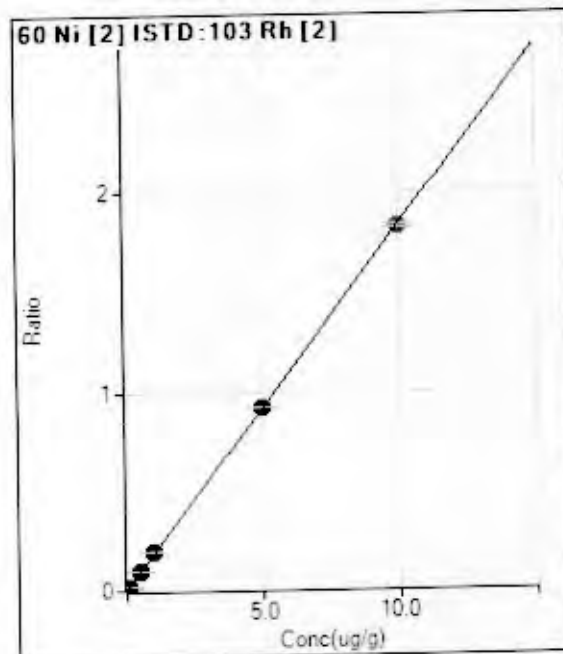
 VIS Interpolation Fit:

 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX.D	0 ppb mix	10/10/2013 12:02:54 PM
2	1MIX.D	1 ppb mix	10/10/2013 12:07:35 PM
3	5MIX.D	5 ppb mix	10/10/2013 12:12:20 PM
4	10MIX.D	10 ppb mix	10/10/2013 12:17:02 PM
5	50MIX.D	50 ppb mix	10/10/2013 12:21:43 PM
6	100MIX.D	100 ppb mix	10/10/2013 12:26:25 PM
7	500MIX.D	500 ppb mix	10/10/2013 12:31:06 PM
8	1000MIX.D	1000 ppb mix	10/10/2013 12:35:37 PM
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			



$$y = 0.1831 * x + 2.2963E-005$$

$$R = 1.0000$$

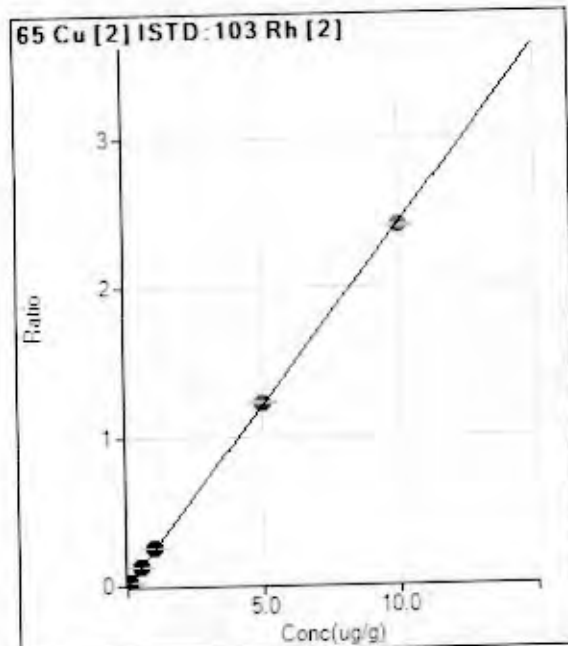
$$DL = 0.0002572$$

$$BEC = 0.0001254$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	11.11	0.0000	P	68.4
2	<input type="checkbox"/>	0.010	0.012	1040.07	0.0021	P	5.9
3	<input type="checkbox"/>	0.050	0.055	4995.36	0.0101	P	2.8
4	<input type="checkbox"/>	0.100	0.107	9699.71	0.0196	P	2.9
5	<input type="checkbox"/>	0.500	0.534	47898.29	0.0979	P	1.9
6	<input type="checkbox"/>	1.000	1.054	94206.87	0.1930	P	2.2
7	<input type="checkbox"/>	5.000	5.033	399344.10	0.9218	P	0.6
8	<input type="checkbox"/>	10.00	9.976	733813.21	1.8271	A	1.0
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2418 * x + 3.5526E-004$$

$$R = 0.9999$$

$$DL = 0.000688$$

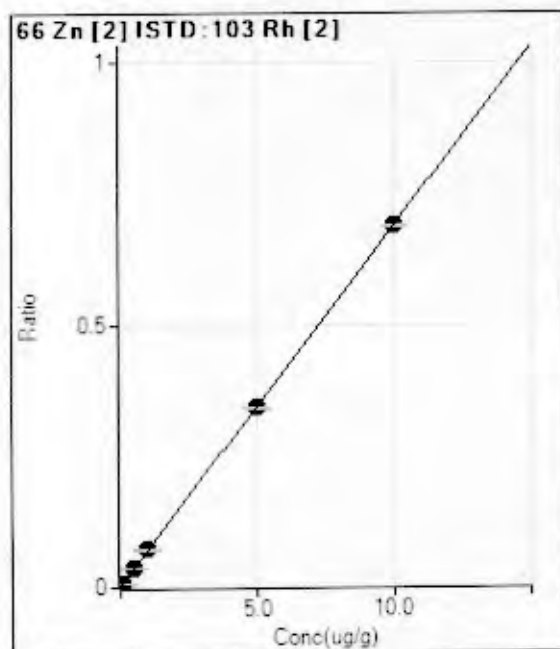
$$BEC = 0.001469$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	171.12	0.0004	P	15.6
2	<input type="checkbox"/>	0.010	0.011	1421.23	0.0029	P	2.3
3	<input type="checkbox"/>	0.050	0.053	6513.66	0.0132	P	2.6
4	<input type="checkbox"/>	0.100	0.108	13120.91	0.0265	P	1.5
5	<input type="checkbox"/>	0.500	0.542	64281.08	0.1314	P	1.4
6	<input type="checkbox"/>	1.000	1.063	125695.36	0.2575	P	1.2
7	<input type="checkbox"/>	5.000	5.072	531484.61	1.2270	A	0.9
8	<input type="checkbox"/>	10.00	9.955	967044.65	2.4079	A	0.5
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D



$$y = 0.0688 * x + 4.2178E-004$$

$$R = 1.0000$$

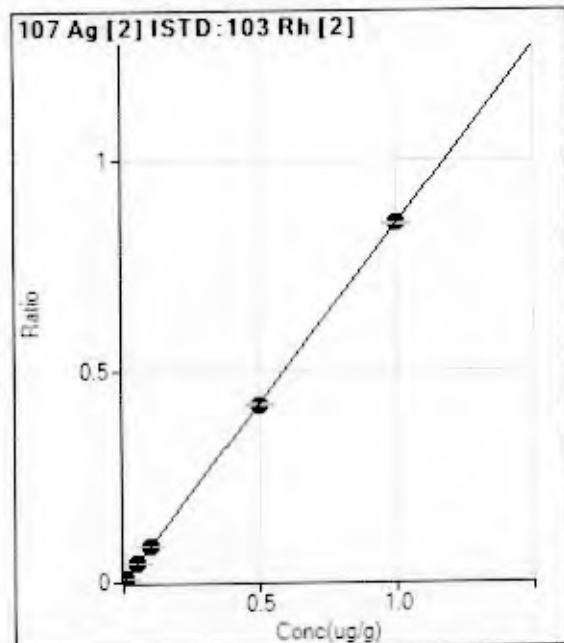
$$DL = 0.001621$$

$$BEC = 0.006132$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	203.35	0.0004	P	8.8
2	<input type="checkbox"/>	0.010	0.008	470.02	0.0010	P	3.2
3	<input type="checkbox"/>	0.050	0.049	1871.29	0.0038	P	2.2
4	<input type="checkbox"/>	0.100	0.102	3683.87	0.0074	P	2.9
5	<input type="checkbox"/>	0.500	0.518	17627.13	0.0360	P	3.2
6	<input type="checkbox"/>	1.000	1.032	34861.87	0.0714	P	2.4
7	<input type="checkbox"/>	5.000	4.965	148117.08	0.3419	P	0.3
8	<input type="checkbox"/>	10.00	10.013	276796.40	0.6892	P	0.5
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.8477 * x + 3.2301E-005$$

$$R = 1.0000$$

$$DL = 7.475E-05$$

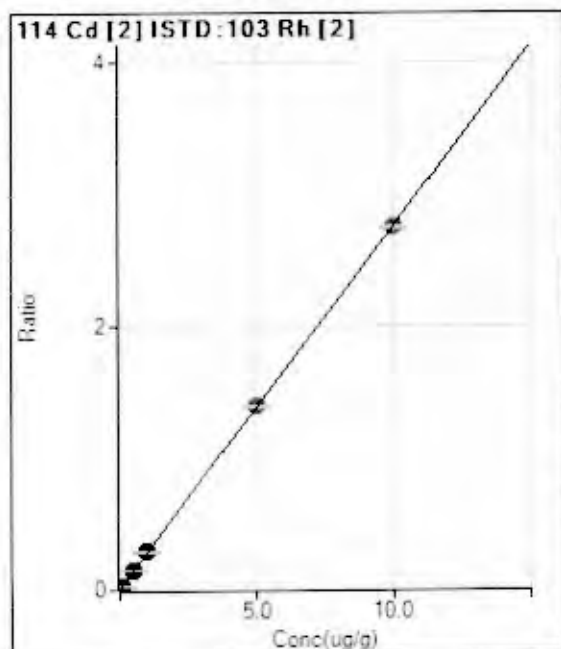
$$BEC = 3.81E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	15.56	0.0000	P	65.4
2	<input type="checkbox"/>	0.001	0.001	431.13	0.0009	P	14.5
3	<input type="checkbox"/>	0.005	0.005	2201.34	0.0045	P	2.4
4	<input type="checkbox"/>	0.010	0.010	4278.48	0.0086	P	0.8
5	<input type="checkbox"/>	0.050	0.051	21143.78	0.0432	P	0.7
6	<input type="checkbox"/>	0.100	0.101	41865.33	0.0858	P	1.3
7	<input type="checkbox"/>	0.500	0.496	182035.06	0.4202	P	0.5
8	<input type="checkbox"/>	1.000	1.002	341161.50	0.8495	P	0.3
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D



$$y = 0.2762 * x + 3.0104E-005$$

$$R = 1.0000$$

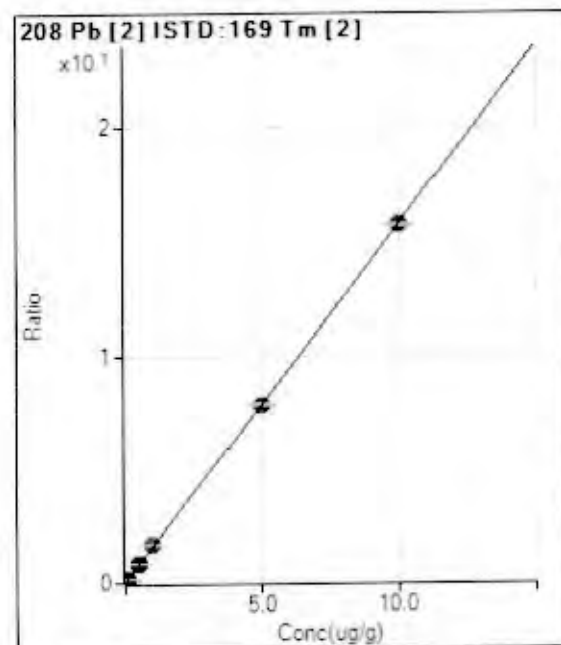
$$DL = 0.0002455$$

$$BEC = 0.000109$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	14.45	0.0000	P	75.1
2	<input type="checkbox"/>	0.010	0.011	1442.35	0.0030	P	5.3
3	<input type="checkbox"/>	0.050	0.051	6988.35	0.0142	P	4.7
4	<input type="checkbox"/>	0.100	0.102	13975.06	0.0282	P	1.9
5	<input type="checkbox"/>	0.500	0.521	70377.58	0.1439	P	0.8
6	<input type="checkbox"/>	1.000	1.033	139226.87	0.2853	P	1.2
7	<input type="checkbox"/>	5.000	5.012	599544.42	1.3842	A	1.3
8	<input type="checkbox"/>	10.00	9.990	1108135.7	2.7592	A	0.8
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 1.5727 * x + 4.8170E-004$$

$$R = 1.0000$$

$$DL = 0.0001486$$

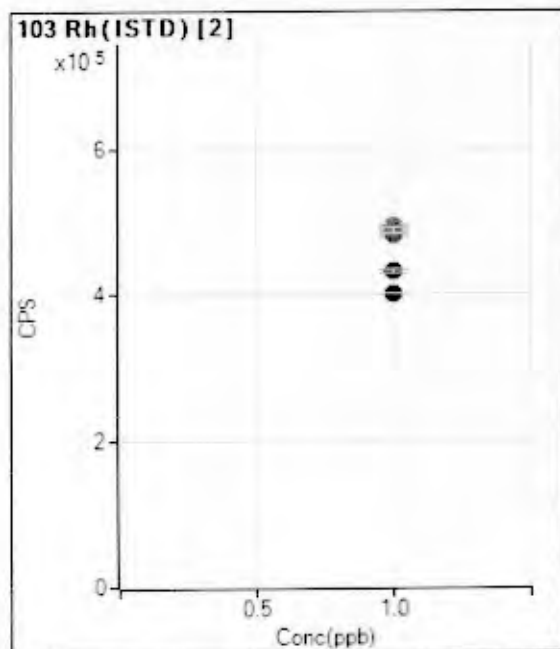
$$BEC = 0.0003063$$

Weight: None

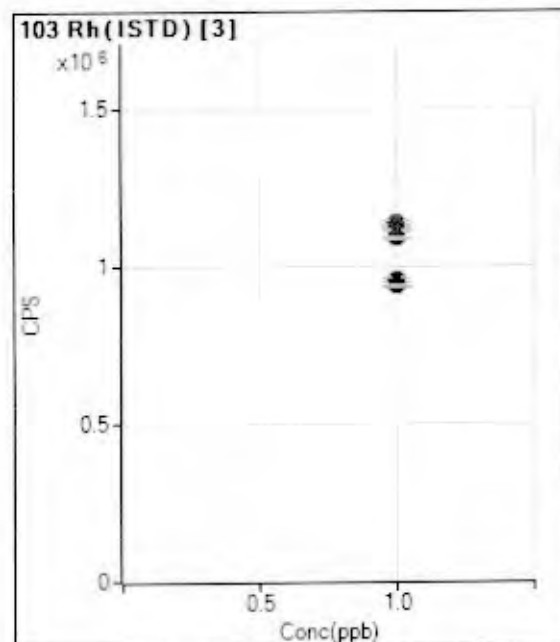
Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	318.90	0.0005	P	16.2
2	<input type="checkbox"/>	0.010	0.011	11805.55	0.0179	P	2.1
3	<input type="checkbox"/>	0.050	0.055	58968.35	0.0877	P	1.8
4	<input type="checkbox"/>	0.100	0.110	116615.94	0.1740	P	0.2
5	<input type="checkbox"/>	0.500	0.542	572958.11	0.8521	P	0.4
6	<input type="checkbox"/>	1.000	1.048	1103567.83	1.6485	A	0.8
7	<input type="checkbox"/>	5.000	4.990	4862015.16	7.8488	A	0.7
8	<input type="checkbox"/>	10.00	9.998	9278311.34	15.723	A	0.8
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D

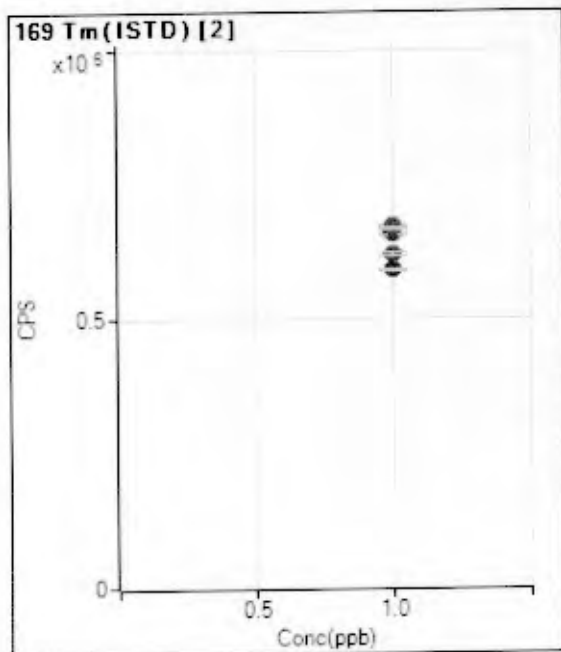


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		482176.00		A	1.0
2	<input type="checkbox"/>	1.000		486447.96		A	1.3
3	<input type="checkbox"/>	1.000		493073.63		A	0.9
4	<input type="checkbox"/>	1.000		494836.77		A	1.7
5	<input type="checkbox"/>	1.000		489256.29		A	0.8
6	<input type="checkbox"/>	1.000		488119.77		A	1.5
7	<input type="checkbox"/>	1.000		433186.42		P	1.4
8	<input type="checkbox"/>	1.000		401621.07		P	0.2
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		1132858.46		A	0.0
2	<input type="checkbox"/>	1.000		1127765.56		A	1.1
3	<input type="checkbox"/>	1.000		1136419.46		A	1.0
4	<input type="checkbox"/>	1.000		1124554.18		A	0.6
5	<input type="checkbox"/>	1.000		1111511.78		A	1.0
6	<input type="checkbox"/>	1.000		1089575.06		A	0.6
7	<input type="checkbox"/>	1.000		957957.94		A	1.5
8	<input type="checkbox"/>	1.000		937565.94		A	0.3
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for 1000MIX.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		662755.66		A	1.2
2	<input type="checkbox"/>	1.000		661094.41		A	1.2
3	<input type="checkbox"/>	1.000		672686.56		A	1.0
4	<input type="checkbox"/>	1.000		670359.07		A	0.3
5	<input type="checkbox"/>	1.000		672393.36		A	0.7
6	<input type="checkbox"/>	1.000		669474.48		A	0.6
7	<input type="checkbox"/>	1.000		619482.57		A	1.0
8	<input type="checkbox"/>	1.000		590094.46		A	0.6
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

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Continuing Calibration Data

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ICPMS 7700x DATA REPORT

File Name ICV.D
File Path D:\data\2131009.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/10/2013 12:54
Sample Name 100 ppb (10 ppb Ag)
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.101	ug/g	0.09	75,257.81	1.851E-01	Pulse	0.30	3
Cu	65	103	2	0.102	ug/g	0.16	100,231.49	2.466E-01	Pulse	0.30	3
Zn	66	103	2	0.100	ug/g	0.31	28,083.02	6.909E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	1.19	34,661.47	8.527E-02	Pulse	0.30	3
Cd	114	103	2	0.103	ug/g	0.76	116,037.20	2.855E-01	Pulse	0.30	3
Pb	208	169	2	0.105	ug/g	0.64	974,258.50	1.655E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	406,495.85	0.22	84.3	Pulse	0.30	3
3	Rh	103	909,923.16	0.70	80.3	Analog	0.30	3
2	Tm	169	588,519.34	0.54	88.8	Analog	0.30	3

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ICPMS 7700x DATA REPORT

File Name	CCV.D
File Path	D:\data\2131009.B
Method File	Physis.m
Method Path	C:\ICPMH\1\METHODS\
Acq Time	10/10/2013 19:30
Sample Name	
Sample Type	Sample
Comment	

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.100	ug/g	0.66	69,348.63	1.835E-01	Pulse	0.30	3
Cu	65	103	2	0.102	ug/g	0.58	93,600.45	2.477E-01	Pulse	0.30	3
Zn	66	103	2	0.101	ug/g	2.45	26,383.72	6.982E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.67	32,209.02	8.524E-02	Pulse	0.30	3
Cd	114	103	2	0.104	ug/g	0.96	108,878.35	2.881E-01	Pulse	0.30	3
Pb	208	169	2	0.106	ug/g	1.28	935,456.46	1.662E+00	Analog	0.30	3

ISTD Table

ISTD Table								
Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	377,846.25	0.50	78.4	Pulse	0.30	3
3	Rh	103	845,355.03	0.81	74.6	Analog	0.30	3
2	Tm	169	562,825.49	1.12	84.9	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV1.D
File Path D:\data\2131009.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/11/2013 9:54
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.105	ug/g	0.74	86,127.59	1.917E-01	Pulse	0.30	3
Cu	65	103	2	0.107	ug/g	1.01	116,233.75	2.587E-01	Pulse	0.30	3
Zn	66	103	2	0.100	ug/g	1.80	31,000.11	6.900E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	1.42	37,770.38	8.406E-02	Pulse	0.30	3
Cd	114	103	2	0.098	ug/g	0.46	121,135.22	2.696E-01	Pulse	0.30	3
Pb	208	169	2	0.107	ug/g	1.09	960,869.55	1.676E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	449,331.44	0.67	93.2	Pulse	0.30	3
3	Rh	103	1,022,651.20	1.00	90.3	Analog	0.30	3
2	Tm	169	573,410.06	1.05	86.5	Analog	0.30	3

PHYSIS

Instrument Run Log

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	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1	C:\CPMH\1\METHODS\IPhysis.m	Keyword		CALBEG	Start of CALIB									
2	C:\CPMH\1\METHODS\IPhysis.m	Sample	1101	Rinse			1.000							
3	C:\CPMH\1\METHODS\IPhysis.m	CalBix	1101	0MIX	0 ppb mix	0 ng 0 ng Ag	Level 1							
4	C:\CPMH\1\METHODS\IPhysis.m	CalStd	1102	1MIX	1 ppb mix	10 ng 1 ng Ag	Level 2							
5	C:\CPMH\1\METHODS\IPhysis.m	CalStd	1103	5MIX	5 ppb mix	50 ng 5 ng Ag	Level 3							
6	C:\CPMH\1\METHODS\IPhysis.m	CalStd	1104	10MIX	10 ppb mix	100 ng 10 ng Ag	Level 4							
7	C:\CPMH\1\METHODS\IPhysis.m	CalStd	1105	50MIX	50 ppb mix	500 ng 50 ng Ag	Level 5							
8	C:\CPMH\1\METHODS\IPhysis.m	CalStd	1106	100MIX	100 ppb mix	1000 ng 100 ng Ag	Level 6							
9	C:\CPMH\1\METHODS\IPhysis.m	CalStd	1107	500MIX	500 ppb mix	5000 ng 500 ng Ag	Level 7							
10	C:\CPMH\1\METHODS\IPhysis.m	CalStd	1108	1000MIX	1000 ppb mix	10000 ng 1000 ng Ag	Level 8							
11	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse1			1.000							
12	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse2			1.000							
13	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse3			1.000							
14	C:\CPMH\1\METHODS\IPhysis.m	Sample	1201	ICV	100 ppb (10 ppb Ag)		1.000E-01							
15	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse4			1.000							
16	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse5			1.000							
17	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse6			1.000							
18		Keyword		CALEND	End of CALIB									
19		Keyword		SAMPLEEG	Start of SMPLE									
20	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse7			1.000							
21	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse8			1.000							
22	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse9			1.000							
23	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse10			1.000							
24	C:\CPMH\1\METHODS\IPhysis.m	Sample	2101	21956	QAQC Procedural Blank B1	21956.NA.B1.10/8/2013.E-5152	10.00							
25	C:\CPMH\1\METHODS\IPhysis.m	Sample	2101	22035	QAQC Procedural Blank B1	22035.NA.B1.10/8/2013.E-5153	10.00							
26	C:\CPMH\1\METHODS\IPhysis.m	Sample	2101	22077	QAQC Procedural Blank B1	22077.NA.B1.10/8/2013.E-5154	10.00							
27	C:\CPMH\1\METHODS\IPhysis.m	Sample	2101	22098	QAQC Procedural Blank B1	22098.NA.B1.10/8/2013.E-5155	10.00							
28	C:\CPMH\1\METHODS\IPhysis.m	Sample	2102	21957	B13-8233 Oceanside	21957.NA.R1.10/8/2013.E-5152	55.38							
29	C:\CPMH\1\METHODS\IPhysis.m	Sample	2103	21957/2	B13-8233 Oceanside Dup	21957.NA.R2.10/8/2013.E-5152	60.49							
30	C:\CPMH\1\METHODS\IPhysis.m	Sample	2104	21958	B13-8236 Oceanside	21958.NA.R1.10/8/2013.E-5152	43.03							
31	C:\CPMH\1\METHODS\IPhysis.m	Sample	2105	21959	B13-8238 Oceanside	21959.NA.R1.10/8/2013.E-5152	33.76							
32	C:\CPMH\1\METHODS\IPhysis.m	Sample	2106	21960	B13-8267 Dana Point	21960.NA.R1.10/8/2013.E-5152	51.29							
33	C:\CPMH\1\METHODS\IPhysis.m	Sample	2107	21961	B13-8266 Dana Point	21961.NA.R1.10/8/2013.E-5152	45.25							
34	C:\CPMH\1\METHODS\IPhysis.m	Sample	2108	21962	B13-8263 Dana Point	21962.NA.R1.10/8/2013.E-5152	32.44							
35	C:\CPMH\1\METHODS\IPhysis.m	Sample	2109	21963	B13-8263 Dana Point	21963.NA.R1.10/8/2013.E-5152	49.59							
36	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	R11			1.000							
37	C:\CPMH\1\METHODS\IPhysis.m	Sample	2110	21959es1	QAQC Procedural Blank BS1	21959.NA.BS1.10/8/2013.E-5152	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Div/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
38	C:\CPMH\1\METHODS (Physis.m)	Sample	2111	21956.ms2	QAQC Procedural Blank BS2	21956.NA.BS2,10/8/2013,E-5152	1.000							
39	C:\CPMH\1\METHODS (Physis.m)	Sample	2112	21957.ms	B13-8233 Oceanside MS	21957.NA.MS1,10/8/2013,E-5152	1.000							
40	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	21957.ms2	B13-8233 Oceanside MS2	21957.NA.MS2,10/8/2013,E-5152	1.000							
41	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R12			1.000							
42	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R13			1.000							
43	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R14			1.000							
44	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R15			1.000							
45	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R16			1.000							
46	C:\CPMH\1\METHODS (Physis.m)	Sample	2202	22038	B13-8145 Grab	22038.NA.R1,10/8/2013,E-5153	44.84							
47	C:\CPMH\1\METHODS (Physis.m)	Sample	2203	22038r2	B13-8145 Grab Dup	22038.NA.R2,10/8/2013,E-5153	41.60							
48	C:\CPMH\1\METHODS (Physis.m)	Sample	2204	22037	B13-8163 Grab	22037.NA.R1,10/8/2013,E-5153	58.07							
49	C:\CPMH\1\METHODS (Physis.m)	Sample	2205	22038	B13-8160 Grab	22038.NA.R1,10/8/2013,E-5153	74.53							
50	C:\CPMH\1\METHODS (Physis.m)	Sample	2206	22038	B13-8159 Grab	22038.NA.R1,10/8/2013,E-5153	85.83							
51	C:\CPMH\1\METHODS (Physis.m)	Sample	2207	22040	B13-8157 Grab	22040.NA.R1,10/8/2013,E-5153	49.47							
52	C:\CPMH\1\METHODS (Physis.m)	Sample	2208	22041	B13-8158 Grab	22041.NA.R1,10/8/2013,E-5153	85.28							
53	C:\CPMH\1\METHODS (Physis.m)	Sample	2209	22042	B13-8152 Grab	22042.NA.R1,10/8/2013,E-5153	27.87							
54	C:\CPMH\1\METHODS (Physis.m)	Sample	2210	22043	B13-8151 Grab	22043.NA.R1,10/8/2013,E-5153	67.82							
55	C:\CPMH\1\METHODS (Physis.m)	Sample	2211	22044	B13-8146 Grab	22044.NA.R1,10/8/2013,E-5153	43.59							
56	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R17			1.000							
57	C:\CPMH\1\METHODS (Physis.m)	Sample	2110	22035.bs1	QAQC Procedural Blank BS1	22035.NA.BS1,10/6/2013,E-5153	1.000							
58	C:\CPMH\1\METHODS (Physis.m)	Sample	2111	22035.bs2	QAQC Procedural Blank BS2	22035.NA.BS2,10/8/2013,E-5153	1.000							
59	C:\CPMH\1\METHODS (Physis.m)	Sample	2212	22036.ms	B13-8145 Grab MS	22036.NA.MS1,10/8/2013,E-5153	1.000							
60	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	22036.ms2	B13-8145 Grab MS2	22036.NA.MS2,10/8/2013,E-5153	1.000							
61	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R18			1.000							
62	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R19			1.000							
63	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R20			1.000							
64	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R21			1.000							
65	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R22			1.000							
66	C:\CPMH\1\METHODS (Physis.m)	Sample	2302	22078	B13-8065 Grab	22078.NA.R1,10/8/2013,E-5154	58.92							
67	C:\CPMH\1\METHODS (Physis.m)	Sample	2303	22078r2	B13-8065 Grab Dup	22078.NA.R2,10/8/2013,E-5154	46.22							
68	C:\CPMH\1\METHODS (Physis.m)	Sample	2304	22079	B13-8048 Grab	22079.NA.R1,10/8/2013,E-5154	59.89							
69	C:\CPMH\1\METHODS (Physis.m)	Sample	2305	22080	B13-8029 Grab	22080.NA.R1,10/8/2013,E-5154	40.58							
70	C:\CPMH\1\METHODS (Physis.m)	Sample	2306	22081	B13-8056 Grab	22081.NA.R1,10/8/2013,E-5154	55.43							
71	C:\CPMH\1\METHODS (Physis.m)	Sample	2307	22082	B13-8054 Grab	22082.NA.R1,10/8/2013,E-5154	61.78							
72	C:\CPMH\1\METHODS (Physis.m)	Sample	2308	22083	B13-8066 Grab	22083.NA.R1,10/8/2013,E-5154	58.79							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
73	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2309	22084	B13-8020 Grab	22084,NA,R1,10/8/2013,E-5154	94.83							
74	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2310	22085	B13-8050 Grab	22085,NA,R1,10/8/2013,E-5154	50.52							
75	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2311	22086	B13-8086 Grab	22086,NA,R1,10/8/2013,E-5154	52.71							
76	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2312	22087	B13-8017 Grab	22087,NA,R1,10/8/2013,E-5154	55.80							
77	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R23			1.000							
78	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2110	22077bs1	QAQC Procedural Blank BS1	22077,NA,BS1,10/8/2013,E-5154	1.000							
79	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2111	22077bs2	QAQC Procedural Blank BS2	22077,NA,BS2,10/8/2013,E-5154	1.000							
80	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2401	22078ms	B13-8085 Grab MS	22078,NA,MS1,10/8/2013,E-5154	1.000							
81	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2402	22078msd	B13-8085 Grab MSD	22078,NA,MS2,10/8/2013,E-5154	1.000							
82	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R24			1.000							
83	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R25			1.000							
84	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R26			1.000							
85	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R27			1.000							
86	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R28			1.000							
87	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2403	22100	B13-8077 Grab	22100,NA,R1,10/8/2013,E-5155	45.60							
88	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2404	22100r2	B13-8077 Grab Dup	22100,NA,R2,10/8/2013,E-5155	41.21							
89	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2405	22101	B13-8075 Grab	22101,NA,R1,10/8/2013,E-5155	50.23							
90	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2406	22102	B13-8075 Grab	22102,NA,R1,10/8/2013,E-5155	50.34							
91	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2407	22103	B13-8074 Grab	22103,NA,R1,10/8/2013,E-5155	57.11							
92	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R29			1.000							
93	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2110	22099bs1	QAQC Procedural Blank BS1	22099,NA,BS1,10/8/2013,E-5155	1.000							
94	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2111	22099bs2	QAQC Procedural Blank BS2	22099,NA,BS2,10/8/2013,E-5155	1.000							
95	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2408	22100ms	B13-8077 Grab MS	22100,NA,MS1,10/8/2013,E-5155	1.000							
96	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2409	22100msd	B13-8077 Grab MSD	22100,NA,MS2,10/8/2013,E-5155	1.000							
97	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R30			1.000							
98	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R31			1.000							
99	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1106	CCV			1.000							
100	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R32			1.000							
101	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R33			1.000							
102	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R34			1.000							
103		Keyword		StandBy										
104		Keyword		SAMPLED	End of SMPL									
105		Keyword		END	End of Sequence									
106		Keyword		BLKBEG	Start of BLANK									
107		Keyword		BLKEND	End of BLANK									
108		Keyword		ERRBEG	Start of ERRTERM									
109		Keyword		ERREND	End of ERRTERM									

PHYSIS
Elements -

CVAFS
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PHYSIS

Initial Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

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Method: EPA 245.7 Mercury
Calibration data 100413

Calib Level Standard Raw Counts

Std01Rep1	0	-98
Std01Rep2	0	-98
Std01Rep3	0	-101
Std02Rep1	1	-72
Std02Rep2	1	-60
Std02Rep3	1	-56
Std03Rep1	10	127
Std03Rep2	10	142
Std03Rep3	10	128
Std04Rep1	100	2213
Std04Rep2	100	2230
Std04Rep3	100	2210
Std05Rep1	1000	23365
Std05Rep2	1000	23386
Std05Rep3	1000	23711
Std06Rep1	10000	239584
Std06Rep2	10000	240381
Std06Rep3	10000	239474

Note: Above calibration data used for the following project:

1307002-002
1307002-004
1307002-006
1307002-008
1307002-010
1307002-012
1307002-014
1307002-016
1307002-018

Continuing Calibration Data / Instrument Run Log

ENVIRONMENTAL LABORATORIES, INC.

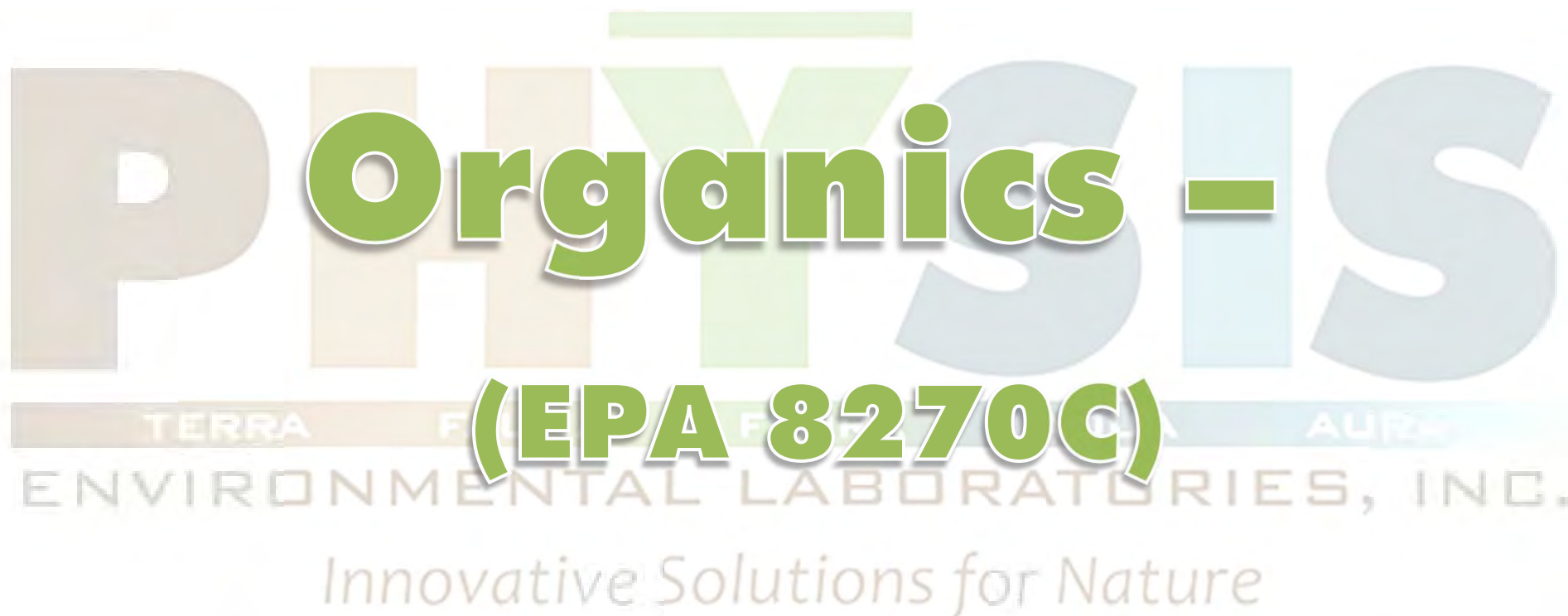
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Sequence# 100413 for PID: 1307002-002, 004

Sample ID	Date	Method
ICV	4-Oct-13	2457TST
Ck1Blank	4-Oct-13	2457TST
Blank	4-Oct-13	2457TST
BS1	4-Oct-13	2457TST
BS2	4-Oct-13	2457TST
Ck1Blank	4-Oct-13	2457TST
21957r1	4-Oct-13	2457TST
21957r2	4-Oct-13	2457TST
21957ms1	4-Oct-13	2457TST
21957ms2	4-Oct-13	2457TST
Ck1Blank	4-Oct-13	2457TST
21958	4-Oct-13	2457TST
21959	4-Oct-13	2457TST
21960	4-Oct-13	2457TST
21961	4-Oct-13	2457TST
21962	4-Oct-13	2457TST
21963	4-Oct-13	2457TST
21965CRM1	4-Oct-13	2457TST
21966CRM2	4-Oct-13	2457TST
CCV1	4-Oct-13	2457TST
Ck1Blank	4-Oct-13	2457TST
Blank	4-Oct-13	2457TST
BS1	4-Oct-13	2457TST
BS2	4-Oct-13	2457TST
Ck1Blank	4-Oct-13	2457TST
22036r1	4-Oct-13	2457TST
22036r2	4-Oct-13	2457TST
22036ms1	4-Oct-13	2457TST
22036ms2	4-Oct-13	2457TST
Ck1Blank	4-Oct-13	2457TST
22037	4-Oct-13	2457TST
22038	4-Oct-13	2457TST
22039	4-Oct-13	2457TST
22040	4-Oct-13	2457TST
22041	4-Oct-13	2457TST
22042	4-Oct-13	2457TST
22043	4-Oct-13	2457TST
22044	4-Oct-13	2457TST
22046CRM1	4-Oct-13	2457TST
22047CRM2	4-Oct-13	2457TST
Ck1Blank	4-Oct-13	2457TST

CCV2	4-Oct-13	2457TST
------	----------	---------

QAQC	Date	Method	True Value	Result (ppt)
ICV	4-Oct-13	2457TST	1000	954
CCV1	4-Oct-13	2457TST	1000	936
CCV2	4-Oct-13	2457TST	1000	913



PHYSIS

Extraction/Preparation Log

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

24

1307002-002 / 004

OCTOBER 15, 2013

Z HONG, A HOANG

EXTRACTION OF AMEC PHMP SEDIMENTS FOR FIBRONS, OCPs, PCBs, ARYLOPS, PBDEs, PAHs, PYRETHROIDS, TOXAPHENE. SAMPLES WERE RUN FOR PYR/PBDE/FIP AND THEN COLUMN CLEANED WITH SILICA/ALUMINA ADSORBENTS.

METHOD: EPA 8270 C

BSLO	SAMPLE DESCRIPTION	SAMPLE WT (g)	COMMENTS	%W	MULTIPLIER
B1 (21956)	BLANK	—	A	—	1.0
BS1	BLANK SPIKE	—	A, B	—	1.0
BS2	BLANK SPIKE DUP	—	A, B	—	1.0
21958 MS1	8236	15.0986	A, B	0.4920 0.4401 0.4938 0.4481	0.1346
21958 MS2	8236	15.3660	A, B	—	0.1323
21964 CRM	CRM - 1944	1.3235	A, C	—	0.7556
21957	8233	15.5027	A	0.4401	0.1466
21958	8236	15.2079	A	0.4920	0.1337
21958 R2	8236	15.3424	A	0.4920	0.1325
21959	8239	15.6365	A	0.5155	0.1241
21960	8267	15.0351	A	0.4090	0.1571
21961	8265	15.5607	A	0.5560	0.1156
21962	8263	15.7787	A	0.6124	0.1035
21963	8259	15.1659	A	0.4672	0.1411
22037	8163	15.5142		0.4559	0.1414
22038	8160	15.6512	A	0.3465	0.1844
22039	8159	15.6509	A	0.3090	0.2068
22040	8157	15.2045	A	0.4735	0.1380
22041	8156	15.0973	A	0.4119	0.1608
22042	8152	15.9991	A	0.7608	0.0822
22043	8151	15.4229	A	0.3185	0.2036
22044	8146	15.1469	A	0.5774	0.1143
22036	8145	14.9883		0.5774	0.1156

- a) 100µL CHC RS (1000µg, p 274)

100µL PAH RS (1000µg, p 244)

100µL PBDE RS (50µg, p 261)

100µL CR copper added

100µL PA in 50mL para flask before final
- b) 1.0mL FIBRONS MIX (1000µg, p 270)

1.0mL OCP MIX (1000µg, p 241)

100µL DDMU (1000µg, p 223)

2mL PCB MIX (200µg, p 255)

2mL PCB + G MIX (200µg, p 259)

2mL PBDE MIX (+CHC) (100µg, p 262, p 263)

0.1mL CUSTOM PAH (1000µg, p 256)

1.0mL PYRETHROIDS (1000µg, p 260)

1.0mL TOXAPHENE (1000µg, p 253)
- c) LOST ~ 5% rotovap + vialing

Organics - GC-MS

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Innovative Analytical Solutions
(EPA 8270C)

PHYSIS

Instrument Run Log

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

2013 Nov 02 1709 Sequence Log .LOG
 Starting sequence Sat Nov 02 17:09:01 2013

Instrument Name: GCMS1
 Sequence File: C:\msdchem\1\sequence\131102 EI.S
 Comment:
 Operator:
 Data Path: C:\MSDCHEM\1\DATA\131102 EI\
 Method Path: C:\MSDCHEM\1\METHODS\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX		
	Datafile		HEX		
	Method		EI_HEXANE		
2)	Sample	142	TUNE	EI_SCAN5	TUNE
3)	Sample	131	OCP_DDMU1000I CV		
	Datafile		OCP_DDMU1000I CV		
	Method		EI_SCAN5		
4)	Sample	132	PAH1000I CV		
	Datafile		PAH1000I CV		
	Method		EI_SCAN5		
5)	Sample	133	PCB+6_1000I CV		
	Datafile		PCB+6_1000I CV		
	Method		EI_SCAN5		
6)	Sample	134	SPEX1000MI X		
	Datafile		SPEX1000MI X		
	Method		EI_SCAN5		
7)	Sample	141	HEX2		
	Datafile		HEX2		
	Method		EI_HEXANE		
8)	Sample	1	B_5024	EI_SCAN5	B_5024
9)	Sample	2	BS1_5024	EI_SCAN5	BS1_5024
10)	Sample	3	BS2_5024	EI_SCAN5	BS2_5024
11)	Sample	4	21958MS1	EI_SCAN5	21958MS1
12)	Sample	5	21958MS2	EI_SCAN5	21958MS2
13)	Sample	141	HEX3		
	Datafile		HEX3		
	Method		EI_HEXANE		
14)	Sample	31	22623	EI_SCAN5	22623
15)	Sample	6	21964	EI_SCAN5	21964
16)	Sample	7	21957	EI_SCAN5	21957
17)	Sample	8	21958	EI_SCAN5	21958
18)	Sample	9	21958R2	EI_SCAN5	21958R2
19)	Sample	10	21959	EI_SCAN5	21959
20)	Sample	11	21960	EI_SCAN5	21960
21)	Sample	12	21961	EI_SCAN5	21961
22)	Sample	13	21962	EI_SCAN5	21962
23)	Sample	14	21963	EI_SCAN5	21963
24)	Sample	131	OCP_DDMU1000CCV		
	Datafile		OCP_DDMU1000CCV		
	Method		EI_SCAN5		
25)	Sample	132	PAH1000CCV		
	Datafile		PAH1000CCV		
	Method		EI_SCAN5		
26)	Sample	133	PCB+6_1000CCV		
	Datafile		PCB+6_1000CCV		
	Method		EI_SCAN5		
27)	Sample	141	HEX4		
	Datafile		HEX4		
	Method		EI_HEXANE		
28)	Sample	15	22036	EI_SCAN5	22036
29)	Sample	16	22037	EI_SCAN5	22037
30)	Sample	17	22038	EI_SCAN5	22038

2013 Nov 02 1709 Sequence Log . LOG

31)	Sample	18	22039	EI_SCAN5	22039
32)	Sample	19	22040	EI_SCAN5	22040
33)	Sample	20	22041	EI_SCAN5	22041
34)	Sample	21	22042	EI_SCAN5	22042
35)	Sample	22	22043	EI_SCAN5	22043
36)	Sample	23	22044	EI_SCAN5	22044
37)	Sample	131	OCP_DDMU1000FCV		
	Datafile		OCP_DDMU1000FCV		
	Method		EI_SCAN5		
38)	Sample	132	PAH1000FCV		
	Datafile		PAH1000FCV		
	Method		EI_SCAN5		
39)	Sample	133	PCB+6_1000FCV		
	Datafile		PCB+6_1000FCV		
	Method		EI_SCAN5		
40)	Sample	121	TEMEPHOS1000		
	Datafile		TEMEPHOS1000		
	Method		EI_SCAN5		

Sequence completed Tue Nov 05 08:21:04 2013

C:\MSDCHEM\1\DATA\131102 EI\2013 Nov 02 1709 Quality Log. LOG

C:\MSDCHEM\1\DATA\131102 EI\2013 Nov 02 1709 Sequence Log . LOG

PHYSIS

Instrument Tune Report

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Chlorinated Pesticides

TERRA ENVIRONMENTAL SERVICES, INC.

Innovative Solutions for Nature

PHYSIS

Summary of Internal Standards

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	4,4'-Dibromobiphenyl		2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time	Response	Retention Time
PCB+6_500ICV	1867274	44.2	371506	55.378
B_5024	5815048	44.211	1116601	55.384
BS1_5024	3312735	44.221	607745	55.382
BS2_5024	4126653	44.21	798041	55.38
21958MS1	6990225	44.244	1230961	55.394
21958MS2	3268862	44.241	625411	55.385
21964	6165848	44.341	1044777	55.497
21957	5543510	44.252	959764	55.396
21958	5885493	44.249	983177	55.397
21958R2	3767220	44.24	693885	55.393
21959	5485830	44.261	928570	55.402
21960	5315681	44.296	921227	55.411
21961	5468752	44.258	968780	55.399
21962	4608877	44.251	793877	55.399
21963	5034240	44.243	935706	55.4
PCB+6_1000CCV	2285137	44.21	419808	55.392
22036	4149573	44.248	742990	55.4
22037	3669031	44.22	691020	55.397
22038	5460658	44.235	1042497	55.394
22039	4016753	44.247	724971	55.394
22040	3639980	44.236	682093	55.39
22041	3378929	44.244	640778	55.391
22042	4475786	44.251	809730	55.396
22043	5771567	44.253	1086373	55.402
22044	4326463	44.236	824752	55.4
PCB+6_1000FCV	2747068	44.209	512356	55.382

PHYSIS

Initial Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\METHODS\
 Method File : Q_OCP130821.M
 Title : FIPRONIL
 Last Update : Thu Nov 07 15:37:36 2013
 Response Via : Initial Calibration

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Calibration Files

1000=OCP_DDMU1000ICV.D 500 =OCP500.D 250 =OCP250.D 100 =OCP100.D 50 =OCP50.D

Compound		1000	500	250	100	50	Avg	%RSD

1) I	4,4'-Dibromobiphenyl	-----ISTD-----						
2) S	(TCMX)	0.485	0.504	0.487	0.519	0.505	0.500	2.79
3) S	(PCB030)	1.254	1.260	1.220	1.268	1.186	1.237	2.77
4)	BHC-alpha	0.445	0.459	0.408	0.387	0.552	0.450	14.11
5)	Hexachlorobenzene	1.017	0.993	0.925	0.949	1.034	0.984	4.67
6)	BHC-beta	0.355	0.301	0.207	0.249	0.328	0.288	20.84
7)	BHC-gamma	0.340	0.335	0.297	0.389	0.326	0.338	9.91
8)	BHC-delta	0.322	0.289	0.277	0.256	0.300	0.289	8.66
9)	Heptachlor	0.352	0.466	0.406	0.377	0.390	0.398	10.78
10)	Aldrin	0.306	0.360	0.329	0.328	0.335	0.332	5.91
11)	DCPA (Dacthal)	0.872	0.839		0.814	0.870	0.849	3.25
12)	Heptachlor epoxide	0.321	0.402	0.362	0.367	0.356	0.362	8.07
13)	Oxychlordane	0.301	0.341	0.309	0.335	0.425	0.342	14.40

14) I	2,2',5,5'-Tetrabro...	-----ISTD-----						
15) S	(PCB112)	2.147	4.685	4.994	4.726	5.235	4.357	28.81
16) S	(PCB198)	1.424	1.510	1.621	1.525	1.643	1.545	5.77
17)	Chlordane-gamma	2.419	2.888	2.814	2.566	2.825	2.702	7.41
18)	2,4'-DDE	6.007	6.083	5.836	5.343	6.700	5.994	8.15
19)	Endosulfan-I	0.587	0.624	0.635	0.670	0.835	0.670	14.43
20)	Chlordane-alpha	2.205	2.608	2.474	2.231	2.652	2.434	8.54
21)	trans-Nonachlor	2.610	3.012	2.848	2.425	2.973	2.774	9.02
22)	4,4'-DDE	4.118	4.190	4.140	3.950	4.789	4.237	7.58
23)	Dieldrin	0.724	0.798	0.747	0.799	0.921	0.798	9.54
24)	2,4'-DDD	6.681	6.967	6.832	6.318	8.356	7.031	11.09
25)	Perthane	1.332	1.322	1.284	1.158	1.385	1.296	E1 6.58
26)	Endrin	0.719	0.885	0.883	0.839	1.066	0.878	14.23
27)	Endosulfan-II	0.460	0.440	0.488	0.554	0.823	0.553	28.39
28)	4,4'-DDD	6.687	6.631	6.888	5.921	7.561	6.737	8.72
29)	2,4'-DDT	5.680	5.394	5.534	4.228	5.966	5.360	12.45
30)	cis-Nonachlor	2.308	2.397	2.347	1.987	2.592	2.326	9.41
31)	Endrin aldehyde	0.600	0.681	0.671	0.573	0.697	0.644	8.43
32)	Endosulfan sulfate	1.213	1.311	1.223	1.128	1.415	1.258	8.67
33)	4,4'-DDT	5.283	4.724	4.372	3.342	4.026	4.350	16.79
34)	Endrin ketone	0.926	1.009	0.955	0.897	1.105	0.978	8.37
35)	Methoxychlor	9.784	8.871	8.202	6.528	7.682	8.213	14.94
36)	Dicofol	2.317	0.525		0.567	0.600	1.002	87.51
37)	Mirex	3.613	4.382	4.107	3.734	4.638	4.095	10.50

(#) = Out of Range

PHYSIS

Continuing Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : SPEX1000MIX.D
 Acq On : 3 Nov 2013 12:30 am
 Operator :
 Sample : SPEX1000MIX
 Misc :
 ALS Vial : 134 Sample Multiplier: 1

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Quant Time: Nov 07 15:50:15 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP130821.M
 Quant Title : FIPRONIL
 QLast Update : Thu Nov 07 15:37:36 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	44.200	312	956351	1000.00		0.00
14) 2,2',5,5'-Tetrabromobi...	55.383	391	176834	1000.00		0.01
System Monitoring Compounds						
2) (TCMX)	29.542	244	201891	422.18		0.00
Spiked Amount 400.000			Recovery	=	105.55%	
3) (PCB030)	34.782	256	531285	448.94		0.00
Spiked Amount 400.000			Recovery	=	112.24%	
15) (PCB112)	49.509	326	336207	436.33		0.00
Spiked Amount 400.000			Recovery	=	109.08%	
16) (PCB198)	63.714	358	105851	387.51		0.00
Spiked Amount 400.000			Recovery	=	96.88%	
Target Compounds						Qvalue
4) BHC-alpha	32.586	219	416358	977.35		98
5) Hexachlorobenzene	33.213	284	1017930	1056.17		99
6) BHC-beta	34.561	219	291072	903.04		98
7) BHC-gamma	35.072	219	322365	998.34		98
8) BHC-delta	36.820	219	293964	980.99		97
9) Heptachlor	40.574	272	289820	805.36		97
10) Aldrin	43.175	263	277139	913.27	#	76
11) DCPA (Dacthal)	44.072	301	859312	1039.09		98
12) Heptachlor epoxide	46.147	353	282125	871.39		98
13) Oxychlordane	46.244	115	289761	979.88		95
17) Chlordane-gamma	47.898	373	422977	946.07		99
18) 2,4'-DDE	48.289	246	1092361	1027.97		99
19) Endosulfan-I	48.793	241	90777	859.28		90
20) Chlordane-alpha	49.027	373	400473	986.76		96
21) trans-Nonachlor	49.414	409	439929	922.54		99
22) 4,4'-DDE	50.596	246	769523	1053.02		93
23) Dieldrin	50.698	263	124325m	950.57		
24) 2,4'-DDD	51.195	235	1146052	961.22		100
25) Perthane	52.410	223	2191654	934.40		99
26) Endrin	52.260	263	50001m	372.37		
27) Endosulfan-II	52.910	241	74686m	920.67		
28) 4,4'-DDD	53.585	235	1067250	903.28		97
29) 2,4'-DDT	53.855	235	957946	965.85		99
30) cis-Nonachlor	53.914	409	391269	951.68	#	92
31) Endrin aldehyde	54.261	345	138722	1268.48	#	75
32) Endosulfan sulfate	55.964	272	197437	906.33		97
33) 4,4'-DDT	56.265	235	806637	891.30		95
34) Endrin ketone	59.237	317	203559	1220.95	#	85
35) Methoxychlor	60.332	227	1410970	839.13	#	67
36) Dicofol	60.369	139	329864	959.02		95
37) Mirex	63.214	272	634115	947.63		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000ICV.D
 Acq On : 2 Nov 2013 7:22 pm
 Operator :
 Sample : OCP_DDMU1000ICV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 07 15:49:12 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP130821.M
 Quant Title : FIPRONIL
 QLast Update : Thu Nov 07 15:37:36 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	44.196	312	1510570	1000.00		0.00
14) 2,2',5,5'-Tetrabromobi...	55.371	391	298085	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)	29.542	244	293301	388.30		0.00
Spiked Amount	400.000		Recovery	=	97.08%	
3) (PCB030)	34.781	256	757529	405.26		0.00
Spiked Amount	400.000		Recovery	=	101.32%	
15) (PCB112)	49.499	326	531727	409.37		-0.01
Spiked Amount	400.000		Recovery	=	102.34%	
16) (PCB198)	63.711	358	170023	369.25		0.00
Spiked Amount	400.000		Recovery	=	92.31%	
Target Compounds						
					Qvalue	
4) BHC-alpha	32.584	219	671766	998.34		100
5) Hexachlorobenzene	33.213	284	1536499	1009.31		100
6) BHC-beta	34.558	219	536536	1053.86		100
7) BHC-gamma	35.077	219	514263	1008.31		100
8) BHC-delta	36.819	219	487043	1029.00		100
9) Heptachlor	40.582	272	531576	935.20		100
10) Aldrin	43.179	263	461732	963.32		100
11) DCPA (Dacthal)	44.069	301	1316604	1007.94		100
12) Heptachlor epoxide	46.148	353	482921	944.33		97
13) Oxychlordane	46.245	115	454479	973.03		100
17) Chlordane-gamma	47.901	373	722113	958.16		100
18) 2,4'-DDE	48.286	246	1792686	1000.79		100
19) Endosulfan-I	48.809	241	176346	990.26		99
20) Chlordane-alpha	49.029	373	658229	962.15		100
21) trans-Nonachlor	49.402	409	779106	969.23		100
22) 4,4'-DDE	50.591	246	1229031	997.71		100
23) Dieldrin	50.697	263	215954	979.52		100
24) 2,4'-DDD	51.193	235	1993971	992.12		100
25) Perthane	52.411	223	3974089	1005.13		100
26) Endrin	52.270	263	214464	947.51		100
27) Endosulfan-II	52.919	241	137192	1003.28		100
28) 4,4'-DDD	53.587	235	1995899	1002.12		100
29) 2,4'-DDT	53.852	235	1695267	1013.99		100
30) cis-Nonachlor	53.912	409	688938	994.08	#	100
31) Endrin aldehyde	54.266	345	179019	971.09	#	74
32) Endosulfan sulfate	55.969	272	362098	986.07		100
33) 4,4'-DDT	56.265	235	1576848	1033.62		97
34) Endrin ketone	59.229	317	262167	932.85	#	97
35) Methoxychlor	60.333	227	2920594	1030.41		99
36) Dicofol	60.373	139	656857	1132.89		97
37) Mirex	63.216	272	1078250	955.91		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000ICV.D
 Acq On : 2 Nov 2013 7:22 pm
 Operator :
 Sample : OCP_DDMU1000ICV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 11 10:56:06 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP_DDMU_130911.M
 Quant Title : CHCs
 QLast Update : Wed Oct 02 14:49:23 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	55.371	391	298459	1000.00		-0.13
System Monitoring Compounds						
2) (PCB112)	49.499	326	531727	368.50		-0.02
Spiked Amount 400.000			Recovery	=	92.13%	
3) (PCB198)	63.709	358	169520m	392.64		-0.27
Spiked Amount 400.000			Recovery	=	98.16%	
Target Compounds						
4) 4,4'-DDMU	47.951	212	2429640	1087.96		Qvalue 93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000CCV.D
 Acq On : 4 Nov 2013 4:39 am
 Operator :
 Sample : OCP_DDMU1000CCV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 07 15:47:40 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP130821.M
 Quant Title : FIPRONIL
 QLast Update : Thu Nov 07 15:37:36 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	44.214	312	2163300	1000.00		0.02
14) 2,2',5,5'-Tetrabromobi...	55.393	391	387834	1000.00		0.02
System Monitoring Compounds						
2) (TCMX)	29.542	244	403300	372.83		0.00
Spiked Amount 400.000			Recovery	=	93.21%	
3) (PCB030)	34.786	256	1060733	396.25		0.00
Spiked Amount 400.000			Recovery	=	99.06%	
15) (PCB112)	49.518	326	742039m	439.09		0.00
Spiked Amount 400.000			Recovery	=	109.77%	
16) (PCB198)	63.721	358	232976	388.88		0.00
Spiked Amount 400.000			Recovery	=	97.22%	
Target Compounds						Qvalue
4) BHC-alpha	32.592	219	910343	944.69		99
5) Hexachlorobenzene	33.221	284	2150439	986.38		100
6) BHC-beta	34.580	219	745828	1022.93		98
7) BHC-gamma	35.082	219	725923	993.86		100
8) BHC-delta	36.839	219	718620	1060.16		96
9) Heptachlor	40.585	272	521816	641.03		99
10) Aldrin	43.181	263	607951	885.67		97
11) DCPA (Dacthal)	44.076	301	1905558	1018.65		99
12) Heptachlor epoxide	46.160	353	662251	904.26		97
13) Oxychlordane	46.243	115	650458	972.42		97
17) Chlordane-gamma	47.908	373	993199	1012.89		100
18) 2,4'-DDE	48.298	246	2567571	1101.68		98
19) Endosulfan-I	48.804	241	244064	1053.38		96
20) Chlordane-alpha	49.036	373	907754	1019.83		100
21) trans-Nonachlor	49.420	409	1038199	992.67		98
22) 4,4'-DDE	50.605	246	1790288	1117.01		99
23) Dieldrin	50.719	263	292026	1018.04		97
24) 2,4'-DDD	51.204	235	2802295	1071.65		98
25) Perthane	52.419	223	5462656	1061.90		99
26) Endrin	52.275	263	252059	855.91	#	71
27) Endosulfan-II	52.914	241	182598	1026.32	#	84
28) 4,4'-DDD	53.599	235	2829166	1091.78		100
29) 2,4'-DDT	53.861	235	2002585	920.62		99
30) cis-Nonachlor	53.924	409	932002	1033.60	#	99
31) Endrin aldehyde	54.277	345	240113	1001.09	#	74
32) Endosulfan sulfate	55.984	272	512224	1072.10	#	69
33) 4,4'-DDT	56.283	235	1626857	819.62		96
34) Endrin ketone	59.248	317	356915	976.09	#	95
35) Methoxychlor	60.346	227	2917405	791.10		99
36) Dicofol	60.380	139	369768	490.16	#	85
37) Mirex	63.219	272	1410470	961.07		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000CCV.D
 Acq On : 4 Nov 2013 4:39 am
 Operator :
 Sample : OCP_DDMU1000CCV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 11 10:55:10 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP_DDMU_130911.M
 Quant Title : CHCs
 QLast Update : Wed Oct 02 14:49:23 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	55.393	391	387205	1000.00		-0.10
System Monitoring Compounds						
2) (PCB112)	49.520	326	777809	415.49		0.00
Spiked Amount	400.000		Recovery	=	103.87%	
3) (PCB198)	63.721	358	232980	415.95		-0.26
Spiked Amount	400.000		Recovery	=	103.99%	
Target Compounds						
4) 4,4'-DDMU	47.955	212	3469732	1197.60		Qvalue 93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000FCV.D
 Acq On : 5 Nov 2013 1:39 am
 Operator :
 Sample : OCP_DDMU1000FCV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 07 15:48:43 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP130821.M
 Quant Title : FIPRONIL
 QLast Update : Thu Nov 07 15:37:36 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	44.213	312	2412817	1000.00		0.02
14) 2,2',5,5'-Tetrabromobi...	55.390	391	455435	1000.00		0.02
System Monitoring Compounds						
2) (TCMX)	29.547	244	460989	382.09		0.00
Spiked Amount	400.000		Recovery	=	95.52%	
3) (PCB030)	34.789	256	1153383	386.30		0.00
Spiked Amount	400.000		Recovery	=	96.58%	
15) (PCB112)	49.514	326	874409	440.62		0.00
Spiked Amount	400.000		Recovery	=	110.16%	
16) (PCB198)	63.715	358	255929	363.79		0.00
Spiked Amount	400.000		Recovery	=	90.95%	
Target Compounds						Qvalue
4) BHC-alpha	32.588	219	1058579	984.91		94
5) Hexachlorobenzene	33.222	284	2421512	995.85		99
6) BHC-beta	34.583	219	801813	985.99		98
7) BHC-gamma	35.087	219	801784	984.20		99
8) BHC-delta	36.838	219	752068	994.77		97
9) Heptachlor	40.585	272	560398	617.24		98
10) Aldrin	43.175	263	708708	925.69		95
11) DCPA (Dacthal)	44.075	301	2119188	1015.70		99
12) Heptachlor epoxide	46.156	353	818337	1001.83		93
13) Oxychlordane	46.250	115	701576	940.38		97
17) Chlordane-gamma	47.902	373	1096421	952.19		99
18) 2,4'-DDE	48.296	246	2811363	1027.23		99
19) Endosulfan-I	48.805	241	261342	960.53		96
20) Chlordane-alpha	49.037	373	1011513	967.72		99
21) trans-Nonachlor	49.411	409	1156411	941.58		99
22) 4,4'-DDE	50.601	246	1976558	1050.18		99
23) Dieldrin	50.715	263	315629	937.00		92
24) 2,4'-DDD	51.205	235	3084899	1004.62		99
25) Perthane	52.419	223	6013267	995.43		99
26) Endrin	52.282	263	273681	791.39	#	75
27) Endosulfan-II	52.922	241	199884	956.72		91
28) 4,4'-DDD	53.598	235	3118991	1024.97		98
29) 2,4'-DDT	53.860	235	2325662	910.45		98
30) cis-Nonachlor	53.923	409	1054133	995.52	#	98
31) Endrin aldehyde	54.276	345	279591	992.66	#	76
32) Endosulfan sulfate	55.978	272	539605	961.77		99
33) 4,4'-DDT	56.277	235	1961503	841.54		98
34) Endrin ketone	59.252	317	402476	937.32	#	93
35) Methoxychlor	60.342	227	3487898	805.41	#	94
36) Dicofol	60.382	139	385068	434.68	#	82
37) Mirex	63.218	272	1571037	911.59		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000FCV.D
 Acq On : 5 Nov 2013 1:39 am
 Operator :
 Sample : OCP_DDMU1000FCV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 11 10:55:22 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP_DDMU_130911.M
 Quant Title : CHCs
 QLast Update : Wed Oct 02 14:49:23 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	55.390	391	454721	1000.00		-0.11
System Monitoring Compounds						
2) (PCB112)	49.514	326	874409	397.74		0.00
Spiked Amount	400.000		Recovery	=	99.44%	
3) (PCB198)	63.715	358	255124	387.85		-0.27
Spiked Amount	400.000		Recovery	=	96.96%	
Target Compounds						
4) 4,4'-DDMU	47.960	212	3817948	1122.12		Qvalue 94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	OCP1000 ICV			OCP1000 CCV			OCP1000 FCV		
	11/2/13 7:22 PM			11/4/13 4:39 AM			11/5/13 1:39 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
BHC-alpha	1000	998	0	1000	945	6	1000	985	2
Hexachlorobenzene	1000	1009	1	1000	986	1	1000	996	0
BHC-beta	1000	1054	5	1000	1023	2	1000	986	1
BHC-gamma	1000	1008	1	1000	994	1	1000	984	2
BHC-delta	1000	1029	3	1000	1060	6	1000	995	1
Heptachlor	1000	935	6	1000	641	36	1000	617	38
Aldrin	1000	963	4	1000	886	11	1000	926	7
DCPA (Dacthal)	1000	1008	1	1000	1019	2	1000	1016	2
Heptachlor epoxide	1000	944	6	1000	904	10	1000	1002	0
Oxychlordane	1000	973	3	1000	972	3	1000	940	6
Chlordane-gamma	1000	958	4	1000	1013	1	1000	952	5
2,4'-DDE	1000	1001	0	1000	1102	10	1000	1027	3
Endosulfan-I	1000	990	1	1000	1053	5	1000	961	4
Chlordane-alpha	1000	962	4	1000	1020	2	1000	968	3
trans-Nonachlor	1000	969	3	1000	993	1	1000	942	6
4,4'-DDE	1000	998	0	1000	1117	12	1000	1050	5
Dieldrin	1000	980	2	1000	1018	2	1000	937	6
2,4'-DDD	1000	992	1	1000	1072	7	1000	1005	0
Perthane	1000	1005	1	1000	1062	6	1000	995	0
Endrin	1000	948	5	1000	856	14	1000	791	21
Endosulfan-II	1000	1003	0	1000	1026	3	1000	957	4
4,4'-DDD	1000	1002	0	1000	1092	9	1000	1025	2
2,4'-DDT	1000	1014	1	1000	921	8	1000	910	9
cis-Nonachlor	1000	994	1	1000	1034	3	1000	996	0
Endrin aldehyde	1000	971	3	1000	1001	0	1000	993	1
Endosulfan sulfate	1000	986	1	1000	1072	7	1000	962	4
4,4'-DDT	1000	1034	3	1000	820	18	1000	842	16
Endrin ketone	1000	933	7	1000	976	2	1000	937	6
Methoxychlor	1000	1030	3	1000	791	21	1000	805	19
Dicofol	1000	1133	13	1000	490	51	1000	435	57
Mirex	1000	956	4	1000	961	4	1000	912	9
4,4'-DDMU	1000	1088	9	1000	1198	20	1000	1122	12
Average	-	-	3	-	-	9	-	-	8

PHYSIS

PCB Congeners

TERRA

FAUNA

FLORA

AQUA

AURA

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PHYSIS

Initial Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\METHODS\
 Method File : Q_PCB+6_130910.M
 Title : PCBs (Richs Version)
 Last Update : Tue Sep 10 11:06:40 2013
 Response Via : Initial Calibration

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Calibration Files

10 =PCB+6_10.D 25 =PCB+6_25.D 50 =PCB+6_50.D 75 =PCB+6_75.D 100 =PCB+6_100.D
 200 =PCB+6_200.D

Compound	10	25	50	75	100	200	Avg	%RSD

1) I 4,4'-Dibromobiphenyl	-----ISTD-----							
2) PCB003	2.398	2.074	1.853	2.265	2.136	2.485	2.202	10.45
3) PCB008	1.812	1.421	1.586	1.689	1.738	2.148	1.732	14.13
4) PCB005	2.043	1.733	1.423	1.693	1.465	1.530	1.648	13.92
5) PCB018	0.996	0.874	0.882	0.912	0.872	1.015	0.925	6.93
6) PCB015	1.755	1.410	1.357	1.451	1.422	1.482	1.479	9.56
7) PCB027	0.963	0.800	0.756	0.789	0.756	0.841	0.817	9.52
8) PCB029	1.189	0.950	0.964	1.059	0.969	1.081	1.035	8.96
9) I PCB031	1.157	1.150	1.174	1.160	1.253	1.259	1.192	4.21
10) PCB028	1.376	1.188	1.135	1.233	1.175	1.413	1.253	9.13
11) PCB033	1.223	1.088	1.084	1.183	1.150	1.281	1.168	6.61
12) PCB052	0.822	0.741	0.796	0.838	0.826	0.913	0.823	6.84
13) PCB049	0.887	0.750	0.816	0.828	0.863	0.963	0.851	8.46
14) PCB044	0.691	0.652	0.638	0.700	0.707	0.785	0.695	7.44
15) PCB037	1.006	0.898	1.021	1.044	1.071	1.163	1.034	8.39
16) PCB074	1.056	0.902	0.997	1.068	1.037	1.103	1.027	6.88
17) PCB070	1.062	0.926	1.056	1.022	1.065	1.150	1.047	6.97
18) PCB066	1.084	0.866	1.054	1.093	1.114	1.212	1.070	10.64
19) PCB095	0.810	0.792	0.832	0.813	0.824	0.911	0.831	5.04
20) PCB056(060)	0.907	0.767	0.922	0.865	0.881	0.998	0.890	8.52
21) PCB101	0.741	0.678	0.674	0.746	0.714	0.797	0.725	6.42
22) PCB099	0.800	0.730	0.752	0.795	0.772	0.849	0.783	5.32
23) PCB119	0.968	0.873	0.907	0.949	0.973	1.001	0.945	5.00
24) PCB097	0.677	0.552	0.639	0.698	0.663	0.741	0.662	9.64
25) PCB087	0.706	0.631	0.660	0.760	0.716	0.790	0.710	8.34
26) PCB081	1.060	0.923	0.969	0.992	1.051	1.139	1.022	7.53
27) PCB110	1.013	0.818	0.910	1.018	0.974	1.028	0.960	8.56
28) PCB077	0.987	0.728	0.945	0.969	0.938	1.087	0.942	12.52
29) PCB151	0.695	0.570	0.612	0.645	0.647	0.703	0.645	7.79
30) PCB149	0.778	0.625	0.718	0.733	0.753	0.796	0.734	8.24
31) PCB123	0.914	0.720	0.895	0.907	0.857	0.962	0.876	9.52
32) PCB118	1.022	0.819	1.001	0.953	0.950	1.032	0.963	8.15
33) PCB114	0.877	0.715	0.820	0.821	0.833	0.943	0.835	9.00
34) I 2,2',5,5'-Tetrabro...	-----ISTD-----							
35) PCB153	3.157	3.403	3.120	3.271	3.247	3.981	3.363	9.46
36) PCB168+132	3.345	3.517	3.520	3.388	3.607	4.116	3.582	7.78
37) PCB105	4.690	4.335	4.739	4.752	4.946	5.837	4.883	10.40
38) PCB141	2.911	3.205	2.695	2.940	3.142	3.529	3.070	9.40
39) PCB137	2.437	1.912	1.824	1.920	2.100	2.389	2.097	12.45
40) PCB138	2.998	3.008	2.983	3.057	3.075	3.616	3.123	7.82
41) PCB158	4.036	3.996	4.138	4.047	4.259	4.984	4.243	8.83
42) PCB126	3.640	3.080	3.586	3.545	3.780	4.415	3.674	11.79
43) PCB187	2.581	2.601	2.489	2.525	2.638	3.056	2.648	7.81
44) PCB183	2.571	2.749	2.800	2.783	2.721	3.239	2.811	8.01
45) PCB128	2.183	2.496	2.973	2.561	2.699	3.117	2.672	12.66
46) PCB167	3.971	3.592	3.691	3.786	4.506	4.567	4.019	10.46
47) PCB174	2.040	2.213	2.078	2.216	2.277	2.512	2.223	7.55
48) PCB177	2.173	2.378	2.241	2.421	2.439	2.773	2.404	8.69
49) PCB156	3.644	3.185	3.417	3.423	3.722	4.314	3.618	10.80
50) PCB199(200)	3.213	3.521	3.351	3.352	3.573	4.011	3.503	8.01
51) PCB157	4.909	4.398	5.033	5.140	5.303	6.039	5.137	10.49
52) PCB180	2.355	2.106	2.397	2.327	2.469	2.699	2.392	8.09
53) PCB169	2.956	2.420	2.783	2.922	2.901	3.688	2.945	14.05
54) PCB170	2.056	1.916	2.127	2.205	2.275	2.606	2.197	10.72
55) PCB201	1.856	1.572	1.832	1.684	2.012	2.107	1.844	10.77
56) PCB203	2.171	1.872	1.795	2.013	2.025	2.074	1.992	6.87
57) PCB189	2.923	2.393	2.725	2.604	2.791	3.235	2.779	10.32
58) PCB195	1.742	1.760	1.866	1.707	1.973	1.992	1.840	6.68
59) PCB194	1.944	1.747	1.909	1.846	2.157	2.311	1.986	10.54
60) PCB206	1.704	1.726	1.866	1.694	1.896	1.982	1.811	6.62

Method Path : C:\msdchem\1\METHODS\

Method File : Q_PCB+6_130910.M

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Title : PCBs (Richs Version)

61)	PCB209	2.354	2.146	2.224	2.336	2.400	2.700	2.360	8.09
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(#) = Out of Range

PHYSIS

Continuing Calibration Data

TERRA

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ENVIRONMENTAL LABORATORIES, INC.

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Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : PCB+6_1000ICV.D
 Acq On : 2 Nov 2013 10:47 pm
 Operator :
 Sample : PCB+6_1000ICV
 Misc :
 ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 18:57:57 2013

Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M

Quant Title : PCBs (Richs Version)

QLast Update : Wed Nov 06 18:55:11 2013

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	44.200	312	1867274	1000.00		0.00
34) 2,2',5,5'-Tetrabromobi...	55.378	389	371506	1000.00		0.00
Target Compounds						
					Qvalue	
2) PCB003	27.801	188	2396075	540.67		99
3) PCB008	32.570	222	1863536	498.36	#	98
4) PCB005	32.634	222	1256655m	438.99		
5) PCB018	35.845	256	857602	471.69	#	85
6) PCB015	36.012	222	1424273	521.27		96
7) PCB027	36.656	256	698005	457.26		95
8) PCB029	38.314	256	1009929	513.48	#	84
9) PCB031	39.295	256	1260787	542.88		89
10) PCB028	39.396	256	1277552m	510.26		
11) PCB033	40.124	256	1245748	538.51		97
12) PCB052	42.007	292	846428	512.69		92
13) PCB049	42.341	292	881359	510.65	#	86
14) PCB044	43.555	292	760001	538.80		94
15) PCB037	43.808	256	1240494	589.40	#	87
16) PCB074	46.201	292	1169109	578.85	#	65
17) PCB070	46.470	292	1189762	570.63		99
18) PCB066	46.741	292	1186051	541.40		96
19) PCB095	46.801	326	771831	468.46	#	76
20) PCB056(060)	47.967	292	1064341	593.87		94
21) PCB101	48.484	326	803802	558.02		95
22) PCB099	48.874	326	837236m	543.39		
23) PCB119	49.349	326	1027211	557.89		97
24) PCB097	50.055	326	746493	557.42		94
25) PCB087	50.422	326	742277	518.36	#	100
26) PCB081	50.422	292	1167920	568.28		95
27) PCB110	51.141	326	1045095	553.70		97
28) PCB077	51.135	292	1142021	587.89	#	85
29) PCB151	52.041	360	676994	530.94	#	86
30) PCB149	52.889	360	734581	506.04		97
31) PCB123	52.842	326	997552m	572.26		
32) PCB118	53.009	326	1071947	570.09		96
33) PCB114	53.817	326	1007888	596.23	#	93
35) PCB153	54.628	360	771504	554.65	#	48
36) PCB168+132	54.825	360	1470548	1007.98		98
37) PCB105	54.900	326	1077512	525.71		98
38) PCB141	55.527	360	582260	465.51	#	57
39) PCB137	56.027	360	463101	550.09		93
40) PCB138	56.582	360	702548	550.30	#	77
41) PCB158	56.769	360	931966	531.11	#	38
42) PCB126	57.194	326	927225	598.05	#	75
43) PCB187	57.775	394	597569	553.76		94
44) PCB183	58.131	394	615138	537.17		97
45) PCB128	58.514	360	531167m	479.99		
46) PCB167	58.556	360	1004264m	609.77		
47) PCB174	59.412	394	465499	517.47		96
48) PCB177	59.789	394	531641	539.11		97
49) PCB156	60.153	360	886118	585.00		95
50) PCB199(200)	60.587	430	657819	461.25		98
51) PCB157	60.544	360	1137317	530.92	#	59
52) PCB180	61.303	394	573691	592.92	#	96
53) PCB169	62.726	360	825218	648.02	#	49
54) PCB170	63.327	394	514732	558.05	#	95
55) PCB201	63.926	430	406053	537.75		97

Data Path : C:\msdchem\1\DATA\O-5024 EI\
Data File : PCB+6_1000ICV.D
Acq On : 2 Nov 2013 10:47 pm
Operator :
Sample : PCB+6_1000ICV
Misc :
ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 18:57:57 2013
Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M
Quant Title : PCBs (Richs Version)
QLast Update : Wed Nov 06 18:55:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	64.279	430	394384	518.83		88
57) PCB189	65.259	394	689546	604.95		97
58) PCB195	66.308	430	402695	554.88	#	95
59) PCB194	67.619	430	452259	549.16	#	51
60) PCB206	70.104	464	371087	517.08	#	100
61) PCB209	72.109	498	430830	448.13		90

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : PCB+6_1000CCV.D
 Acq On : 4 Nov 2013 8:05 am
 Operator :
 Sample : PCB+6_1000CCV
 Misc :
 ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 19:36:08 2013

Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M

Quant Title : PCBs (Richs Version)

QLast Update : Wed Nov 06 19:33:03 2013

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	44.210	312	2285137	1000.00		0.01
34) 2,2',5,5'-Tetrabromobi...	55.392	389	419808	1000.00		0.02
Target Compounds						
2) PCB003	27.806	188	2914489	537.39		Qvalue 99
3) PCB008	32.574	222	2456704	536.85	#	94
4) PCB005	32.646	222	1444877	412.44		96
5) PCB018	35.847	256	1080576	485.65		97
6) PCB015	36.019	222	1791886	535.89		93
7) PCB027	36.660	256	865329	463.22		96
8) PCB029	38.320	256	1235853	513.44		96
9) PCB031	39.304	256	1626337	572.23		94
10) PCB028	39.408	256	1512946	493.78		94
11) PCB033	40.131	256	1569115	554.26		98
12) PCB052	42.013	292	1051820	520.59		96
13) PCB049	42.349	292	1104449	522.89		99
14) PCB044	43.559	292	901671	522.35		88
15) PCB037	43.822	256	1540807	598.22		98
16) PCB074	46.209	292	1474283	596.47		99
17) PCB070	46.471	292	1453898	569.80	100	
18) PCB066	46.751	292	1474185	549.88		96
19) PCB095	46.809	326	940889	466.64		94
20) PCB056(060)	47.970	292	1284792	585.79	#	90
21) PCB101	48.494	326	968068	549.16		91
22) PCB099	48.880	326	1043306	553.31		95
23) PCB119	49.353	326	1256631	557.69		96
24) PCB097	50.056	326	907667	553.83		96
25) PCB087	50.428	326	876382	500.10		92
26) PCB081	50.437	292	1415778	562.91		98
27) PCB110	51.150	326	1247802	540.21		98
28) PCB077	51.139	292	1387648	583.71		98
29) PCB151	52.039	360	812890	520.94		92
30) PCB149	52.897	360	857449	482.67		97
31) PCB123	52.852	326	1220874	572.30		97
32) PCB118	53.023	326	1271141	552.41		97
33) PCB114	53.826	326	1196363	578.31		98
35) PCB153	54.635	360	919682	585.11		92
36) PCB168+132	54.830	360	1739313	1055.03		95
37) PCB105	54.910	326	1285141	554.87	#	86
38) PCB141	55.536	360	710308	502.54	#	89
39) PCB137	56.031	360	527669	554.66		91
40) PCB138	56.591	360	838089	580.94		96
41) PCB158	56.773	360	1063102	536.13		90
42) PCB126	57.208	326	1135436	648.09		98
43) PCB187	57.784	394	671109	550.35		97
44) PCB183	58.140	394	689001	532.45		93
45) PCB128	58.519	360	632666m	505.93		
46) PCB167	58.561	360	1190756m	639.82		
47) PCB174	59.408	394	549888	540.95		92
48) PCB177	59.795	394	629848	565.21		96
49) PCB156	60.155	360	1095616m	640.09		
50) PCB199(200)	60.587	430	761053	472.24		98
51) PCB157	60.554	360	1345147	555.69		92
52) PCB180	61.312	394	692102	633.00		90
53) PCB169	62.741	360	1013331	704.18		99
54) PCB170	63.329	394	600238	575.88		87
55) PCB201	63.928	430	461313	540.64		95

Data Path : C:\msdchem\1\DATA\O-5024 EI\
Data File : PCB+6_1000CCV.D
Acq On : 4 Nov 2013 8:05 am
Operator :
Sample : PCB+6_1000CCV
Misc :
ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 19:36:08 2013
Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M
Quant Title : PCBs (Richs Version)
QLast Update : Wed Nov 06 19:33:03 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	64.275	430	438744	510.78	#	79
57) PCB189	65.269	394	861718	669.01		96
58) PCB195	66.314	430	478497	583.46		98
59) PCB194	67.628	430	561827	603.71		96
60) PCB206	70.116	464	430513	530.86	#	82
61) PCB209	72.119	498	514572	473.66		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : PCB+6_1000FCV.D
 Acq On : 5 Nov 2013 5:04 am
 Operator :
 Sample : PCB+6_1000FCV
 Misc :
 ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 19:39:34 2013

Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M

Quant Title : PCBs (Richs Version)

QLast Update : Tue Sep 10 11:06:40 2013

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	44.209	312	2747068	1000.00		0.01
34) 2,2',5,5'-Tetrabromobi...	55.382	389	512356	1000.00		0.00
Target Compounds						
					Qvalue	
2) PCB003	27.807	188	3391481	520.19		99
3) PCB008	32.575	222	2819882	512.59	#	94
4) PCB005	32.646	222	1690481	401.41		97
5) PCB018	35.845	256	1256563	469.78		98
6) PCB015	36.013	222	2075770	516.40		93
7) PCB027	36.654	256	1002780	446.53		96
8) PCB029	38.317	256	1447501	500.25		95
9) PCB031	39.305	256	1906599	558.04		94
10) PCB028	39.411	256	1765391	479.28		96
11) PCB033	40.128	256	1788898	525.64		97
12) PCB052	42.010	292	1215819	500.57		95
13) PCB049	42.348	292	1251081	492.71		97
14) PCB044	43.563	292	1073022	517.09		89
15) PCB037	43.817	256	1813385	585.66		97
16) PCB074	46.210	292	1693988	570.11		98
17) PCB070	46.478	292	1724416m	562.18		
18) PCB066	46.749	292	1768660	548.78		97
19) PCB095	46.804	326	1130084	466.23		95
20) PCB056(060)	47.975	292	1526520	578.97	#	90
21) PCB101	48.488	326	1151683	543.46		92
22) PCB099	48.881	326	1212255	534.81		95
23) PCB119	49.353	326	1498625	553.25		97
24) PCB097	50.057	326	1082327	549.35		93
25) PCB087	50.428	326	1072320	509.02		95
26) PCB081	50.436	292	1679477	555.47		97
27) PCB110	51.148	326	1508144	543.12		98
28) PCB077	51.144	292	1671894	585.02		98
29) PCB151	52.046	360	975246	519.89		91
30) PCB149	52.897	360	1057239	495.06		97
31) PCB123	52.850	326	1490959	581.39		95
32) PCB118	53.019	326	1538626	556.22		99
33) PCB114	53.823	326	1423296	572.31		98
35) PCB153	54.632	360	1141801	595.20		97
36) PCB168+132	54.833	360	2081829	1034.70		94
37) PCB105	54.909	326	1561819	552.52	#	87
38) PCB141	55.535	360	861244	499.26	#	89
39) PCB137	56.030	360	656762	565.66	#	90
40) PCB138	56.595	360	1010069	573.68		97
41) PCB158	56.777	360	1301896	537.96		91
42) PCB126	57.209	326	1409151	659.03		98
43) PCB187	57.782	394	820055	551.03		95
44) PCB183	58.133	394	863719	546.90		95
45) PCB128	58.514	360	861044m	564.18		
46) PCB167	58.561	360	1504972m	662.59		
47) PCB174	59.411	394	658825	531.05		92
48) PCB177	59.792	394	738134	542.74		98
49) PCB156	60.155	360	1315969m	629.95		
50) PCB199(200)	60.586	430	963705	489.97	#	91
51) PCB157	60.555	360	1690651	572.26		91
52) PCB180	61.319	394	840259	629.69	#	68
53) PCB169	62.735	360	1237267	704.49		99
54) PCB170	63.336	394	749061	588.85		89
55) PCB201	63.931	430	606725	582.62		98

Data Path : C:\msdchem\1\DATA\O-5024 EI\
Data File : PCB+6_1000FCV.D
Acq On : 5 Nov 2013 5:04 am
Operator :
Sample : PCB+6_1000FCV
Misc :
ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 19:39:34 2013
Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M
Quant Title : PCBs (Richs Version)
QLast Update : Tue Sep 10 11:06:40 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	64.283	430	548736	523.43	#	83
57) PCB189	65.266	394	1041018	662.23		99
58) PCB195	66.315	430	570074	569.57		98
59) PCB194	67.627	430	674544	593.90		94
60) PCB206	70.111	464	539094	544.68	#	89
61) PCB209	72.118	498	629402	474.71		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PCB500 CCV			PCB500 CCV2			PCB500 CCV2		
	11/2/2013 10:47:00 PM			11/4/13 8:05 AM			11/5/12 5:04 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PCB003	500	540.67	8	500	537.39	7	500	520.19	4
PCB008	500	498.36	0	500	536.85	7	500	512.59	3
PCB005	500	438.99	12	500	412.44	18	500	401.41	20
PCB018	500	471.69	6	500	485.65	3	500	469.78	6
PCB015	500	521.27	4	500	535.89	7	500	516.4	3
PCB027	500	457.26	9	500	463.22	7	500	446.53	11
PCB029	500	513.48	3	500	513.44	3	500	500.25	0
PCB031	500	542.88	9	500	572.23	14	500	558.04	12
PCB028	500	510.26	2	500	493.78	1	500	479.28	4
PCB033	500	538.51	8	500	554.26	11	500	525.64	5
PCB052	500	512.69	3	500	520.59	4	500	500.57	0
PCB049	500	510.65	2	500	522.89	5	500	492.71	1
PCB044	500	538.8	8	500	522.35	4	500	517.09	3
PCB037	500	589.4	18	500	598.22	20	500	585.66	17
PCB074	500	578.85	16	500	596.47	19	500	570.11	14
PCB070	500	570.63	14	500	569.8	14	500	562.18	12
PCB066	500	541.4	8	500	549.88	10	500	548.78	10
PCB095	500	468.46	6	500	466.64	7	500	466.23	7
PCB056 (060)	500	593.87	19	500	585.79	17	500	578.97	16
PCB101	500	558.02	12	500	549.16	10	500	543.46	9
PCB099	500	543.39	9	500	553.31	11	500	534.81	7
PCB119	500	557.89	12	500	557.69	12	500	553.25	11
PCB097	500	557.42	11	500	553.83	11	500	549.35	10
PCB087	500	518.36	4	500	500.1	0	500	509.02	2
PCB081	500	568.28	14	500	562.91	13	500	555.47	11
PCB110	500	553.7	11	500	540.21	8	500	543.12	9
PCB077	500	587.79	18	500	583.71	17	500	585.02	17
PCB151	500	530.94	6	500	520.94	4	500	519.89	4
PCB149	500	506.04	1	500	482.67	3	500	495.06	1
PCB123	500	572.26	14	500	572.3	14	500	581.39	16
PCB118	500	570.09	14	500	552.41	10	500	556.22	11
PCB114	500	596.23	19	500	578.31	16	500	572.31	14
PCB153	500	554.65	11	500	585.11	17	500	595.2	19
PCB168+132	1000	1007.98	1	1000	1055.03	6	1000	1034.7	3
PCB105	500	525.71	5	500	554.87	11	500	552.52	11
PCB141	500	465.51	7	500	502.54	1	500	499.26	0
PCB137	500	550.09	10	500	554.66	11	500	565.66	13
PCB138	500	550.3	10	500	580.94	16	500	573.68	15
PCB158	500	531.11	6	500	536.13	7	500	537.96	8
PCB126	500	598.05	20	500	648.09	30	500	659.03	32
PCB187	500	553.76	11	500	550.35	10	500	551.03	10
PCB183	500	537.17	7	500	532.45	6	500	546.9	9
PCB128	500	479.99	4	500	505.93	1	500	564.18	13
PCB167	500	609.77	22	500	639.82	28	500	662.59	33
PCB174	500	517.47	3	500	540.95	8	500	531.05	6
PCB177	500	539.11	8	500	565.21	13	500	542.74	9
PCB156	500	585	17	500	640.09	28	500	629.95	26
PCB199 (200)	500	461.25	8	500	472.24	6	500	489.97	2
PCB157	500	530.92	6	500	555.69	11	500	572.26	14
PCB180	500	592.92	19	500	633	27	500	629.69	26
PCB169	500	648.02	30	500	704.18	41	500	704.49	41
PCB170	500	558.05	12	500	575.88	15	500	588.85	18
PCB201	500	537.75	8	500	540.64	8	500	582.62	17
PCB203	500	518.83	4	500	510.78	2	500	523.43	5
PCB189	500	604.95	21	500	669.01	34	500	662.23	32
PCB195	500	554.88	11	500	583.46	17	500	569.57	14
PCB194	500	549.16	10	500	603.71	21	500	593.9	19
PCB206	500	517.08	3	500	530.86	6	500	544.68	9
PCB209	500	448.13	10	500	473.66	5	500	474.71	5
Average	-	-	10	-	-	12	-	-	11

Polynuclear

Aromatic

Hydrocarbons

(PAHs)

PHYSIS

Summary of Internal Standards

TERRA FACTORY AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

	D10-Anthracene		D-12 Perylene	
	Response	Retention Time	Response	Retention Time
PAH1000SPEX	6654505	36.057	1943594	83.612
B_5024	34611984	36.072	16820912	83.653
BS1_5024	9114089	36.057	7963655	83.641
BS2_5024	10134115	36.064	10152647	83.642
21958MS1	46636000	36.087	17197570	83.669
21958MS2	21131353	36.071	9325894	83.642
22623	6514013	36.057	2378662	83.623
21964	43874583	36.133	5452801	83.736
21957	40758084	36.086	11018503	83.69
21958	42375957	36.08	13330247	83.664
21958R2	24065887	36.071	10301893	83.659
21959	35702175	36.091	12593599	83.682
21960	35119386	36.089	6929255	83.702
21961	38472631	36.089	10190058	83.682
21962	32904357	36.083	9019775	83.68
21963	34551292	36.081	10596074	83.679
PAH1000CCV	11081824	36.068	2661700	83.66
22036	28204272	36.081	6672047	83.674
22037	26132953	36.075	6028310	83.684
22038	36462488	36.078	11221185	83.681
22039	26631226	36.078	7095628	83.672
22040	24806147	36.074	7621328	83.67
22041	23732884	36.073	7532582	83.673
22042	29920771	36.081	7526315	83.679
22043	38608466	36.082	10086523	83.695
22044	28695734	36.079	7726055	83.688
PAH500FCV	12365686	36.068	2631186	83.644

PHYSIS

Initial Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\DATA\O-5024 EI\
 Method File : Q_PAH131107.M
 Title : PAH
 Last Update : Thu Nov 07 13:02:12 2013
 Response Via : Initial Calibration

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Calibration Files

500 =PAH500.D 250 =PAH250.D 1000=PAH1000.D 100 =PAH100.D 50 =PAH50.D 25 =PAH25.D

Compound		500	250	1000	100	50	25	Avg	%RSD

1) I	d10-Anthracene	-----ISTD-----							
2) S	(d8-Naphthalene)	2.323	2.000	1.949	1.977	2.613	2.207	2.178	11.90
3) S	(d10-Acenaphth...	0.992	0.914	0.895	0.888	1.048	0.953	0.948	6.62
4) S	(d10-Phenanthr...	1.205	1.200	1.190	1.182	1.241	1.206	1.204	1.70
5) S	(d12-Chrysene)	1.024	0.946	1.058	0.941	0.938	0.884	0.965	6.61
6) S	(d12-Perylene)	0.826	0.753	0.812	0.762	0.795	0.760	0.785	3.88
7)	Naphthalene	2.201	1.960	1.892	1.847	2.520	2.141	2.094	11.98
8)	2-Methylnaphth...	1.486	1.269	1.292	1.182	1.447	1.380	1.343	8.61
9)	1-Methylnaphth...	1.492	1.311	1.299	1.114	1.501	1.306	1.337	10.77
10)	Biphenyl	1.571	1.410	1.396	1.347	1.531	1.570	1.471	6.67
11)	2,6-Dimethylna...	1.180	1.032	1.084	0.913	1.176	1.161	1.091	9.64
12)	Acenaphthylene	1.397	1.248	1.378	1.146	1.349	1.316	1.306	7.22
13)	Acenaphthene	1.047	0.969	0.979	0.882	1.044	1.053	0.996	6.68
14)	2,3,5-Trimethy...	0.958	0.860	0.932	0.778	0.882	0.841	0.875	7.41
15)	Fluorene	0.958	0.871	0.947	0.798	0.880	0.885	0.890	6.52
16)	Dibenzothiophene	1.362	1.278	1.354	1.221	1.226	1.250	1.282	4.88
17)	Phenanthrene	1.254	1.209	1.250	1.115	1.154	1.234	1.203	4.70
18)	Anthracene	0.537	0.518	0.540	0.495	0.532	0.615	0.540	7.52
19)	1-Methylphenan...	0.821	0.778	0.885	0.681	0.713	0.657	0.756	11.62
20)	Fluoranthene	0.966	0.889	1.058	0.798	0.832	0.790	0.889	11.90
21)	Pyrene	1.018	0.908	1.107	0.817	0.825	0.855	0.922	12.73
22)	Benz[a]anthracene	0.619	0.544	0.702	0.489	0.508	0.552	0.569	13.87
23)	Chrysene	0.842	0.744	0.886	0.703	0.716	0.689	0.763	10.65
24)	Benzo[b]fluora...	0.771	0.653	0.823	0.563	0.582	0.592	0.664	16.37
25)	Benzo[k]fluora...	0.638	0.536	0.786	0.499	0.564	0.625	0.608	16.73
26)	Benzo[e]pyrene	0.896	0.721	0.876	0.639	0.668	0.659	0.743	15.36
27)	Benzo[a]pyrene	0.524	0.456	0.613	0.413	0.505	0.417	0.488	15.59
28)	Perylene	0.633	0.555	0.684	0.500	0.582	0.521	0.579	11.99

29) I	d12-Benzo[g,h,i]pe...	-----ISTD-----							
30)	Indeno[1,2,3-c...	0.890	0.779	0.916	0.738	0.802	0.784	0.818	8.49
31)	Dibenz[a,h]ant...	0.782	0.703	0.907	0.637	0.663	0.643	0.722	14.54
32)	Benzo[g,h,i]pe...	1.262	1.162	1.333	1.112	1.359	1.352	1.263	8.29

(#) = Out of Range

PHYSIS

Continuing Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : SPEX1000MIX.D
 Acq On : 3 Nov 2013 12:30 am
 Operator :
 Sample : SPEX1000MIX
 Misc :
 ALS Vial : 134 Sample Multiplier: 1

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Quant Time: Jan 29 12:55:47 2014
 Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PAH131107.M
 Quant Title : PAH
 QLast Update : Thu Nov 07 13:02:12 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	36.057	188	6654505m	2000.00		0.49
29) d12-Benzo[g,h,i]perylene	83.612	288	1943594m	2000.00		0.65
System Monitoring Compounds						
2) (d8-Naphthalene)	15.104	136	6810064	939.65		0.31
3) (d10-Acenaphthene)	24.221	164	2780250m	881.24		0.45
4) (d10-Phenanthrene)	35.643	188	3815955m	952.48		0.49
5) (d12-Chrysene)	59.615	240	3122527m	972.37		0.47
6) (d12-Perylene)	71.787	264	2139185m	819.26		0.44
Target Compounds						Qvalue
7) Naphthalene	15.176	128	6680038	1027.21		100
8) 2-Methylnaphthalene	18.032	142	3681954	834.07		95
9) 1-Methylnaphthalene	18.565	142	3846343m	865.91		
10) Biphenyl	20.562	154	4176131	878.17		100
11) 2,6-Dimethylnaphthalene	21.469	156	2781669	761.05		96
12) Acenaphthylene	23.162	152	4561634m	998.16		
13) Acenaphthene	24.431	153	3077027m	933.68		
14) 2,3,5-Trimethylnaphtha...	27.319	170	2111788m	680.71		
15) Fluorene	28.105	166	3005097m	956.59		
16) Dibenzothiophene	34.773	184	3474537m	773.27		
17) Phenanthrene	35.827	178	3844571m	926.34		
18) Anthracene	36.204	178	2865067m	1599.77		
19) 1-Methylphenanthrene	41.378	192	2445004m	848.70		
20) Fluoranthene	46.405	202	3596586m	1049.41		
21) Pyrene	48.308	202	3653946m	1018.48		
22) Benz[a]anthracene	59.489	228	2782948m	1235.87		
23) Chrysene	59.835	228	2952751m	1020.88		
24) Benzo[b]fluoranthene	68.856	252	2552499m	955.36		
25) Benzo[k]fluoranthene	69.045	252	2635057m	1064.93		
26) Benzo[e]pyrene	70.953	252	2338536m	807.62		
27) Benzo[a]pyrene	71.315	252	1956846m	1001.62		
28) Perylene	71.981	252	2041037m	920.09		
30) Indeno[1,2,3-c,d]pyrene	81.264	276	1141286m	1300.84		
31) Dibenz[a,h]anthracene	81.699	278	973239m	1149.61		
32) Benzo[g,h,i]perylene	83.901	276	1455796m	1143.57		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : PAH1000CCV.D
 Acq On : 4 Nov 2013 6:22 am
 Operator :
 Sample : PAH1000CCV
 Misc :
 ALS Vial : 132 Sample Multiplier: 1

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Quant Time: Jan 29 12:52:39 2014
 Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PAH131107.M
 Quant Title : PAH
 QLast Update : Thu Nov 07 13:02:12 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	36.068	188	11081824m	2000.00		0.50
29) d12-Benzo[g,h,i]perylene	83.660	288	2661700m	2000.00		0.70
System Monitoring Compounds						
2) (d8-Naphthalene)	15.113	136	9335936	773.53		0.31
3) (d10-Acenaphthene)	24.226	164	4277337m	814.12		0.45
4) (d10-Phenanthrene)	35.654	188	6207254m	930.37		0.50
5) (d12-Chrysene)	59.636	240	4670851m	873.43		0.49
6) (d12-Perylene)	71.813	264	3435900m	790.16		0.47
Target Compounds						
					Qvalue	
7) Naphthalene	15.184	128	9259806	855.04		100
8) 2-Methylnaphthalene	18.041	142	6213246	845.17		97
9) 1-Methylnaphthalene	18.575	142	6219877m	840.83		
10) Biphenyl	20.569	154	6456037	815.22		100
11) 2,6-Dimethylnaphthalene	21.476	156	4769819	783.64		96
12) Acenaphthylene	23.173	152	7571192m	994.82		
13) Acenaphthene	24.441	153	4835535m	881.09		
14) 2,3,5-Trimethylnaphtha...	27.324	170	4539898m	878.74		
15) Fluorene	28.126	166	4966076m	949.26		
16) Dibenzothiophene	34.789	184	6928337m	925.91		
17) Phenanthrene	35.837	178	6393597m	925.07		
18) Anthracene	36.220	178	3187935m	1068.90		
19) 1-Methylphenanthrene	41.394	192	4864396m	1013.93		
20) Fluoranthene	46.421	202	5792136m	1014.85		
21) Pyrene	48.324	202	6039522m	1010.87		
22) Benz[a]anthracene	59.515	228	4050119m	1080.04		
23) Chrysene	59.856	228	4267695m	886.02		
24) Benzo[b]fluoranthene	68.877	252	3782199m	850.06		
25) Benzo[k]fluoranthene	69.071	252	3571384m	866.70		
26) Benzo[e]pyrene	70.969	252	3606665m	747.95		
27) Benzo[a]pyrene	71.341	252	2887265m	887.44		
28) Perylene	71.991	252	3060039m	828.35		
30) Indeno[1,2,3-c,d]pyrene	81.296	276	1723980m	1434.86		
31) Dibenz[a,h]anthracene	81.725	278	1483449m	1279.53		
32) Benzo[g,h,i]perylene	83.953	276	1941777m	1113.80		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : PAH1000FCV.D
 Acq On : 5 Nov 2013 3:21 am
 Operator :
 Sample : PAH1000FCV
 Misc :
 ALS Vial : 132 Sample Multiplier: 1

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Quant Time: Jan 29 12:54:25 2014
 Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PAH131107.M
 Quant Title : PAH
 QLast Update : Thu Nov 07 13:02:12 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	36.068	188	12365686m	2000.00		0.50
29) d12-Benzo[g,h,i]perylene	83.644	288	2631186m	2000.00		0.69
System Monitoring Compounds						
2) (d8-Naphthalene)	15.111	136	10513640	780.67		0.31
3) (d10-Acenaphthene)	24.226	164	4850593m	827.37		0.45
4) (d10-Phenanthrene)	35.648	188	6953169m	933.97		0.50
5) (d12-Chrysene)	59.630	240	4738498m	794.08		0.49
6) (d12-Perylene)	71.808	264	3206223m	660.79		0.46
Target Compounds						Qvalue
7) Naphthalene	15.183	128	10314237	853.52		100
8) 2-Methylnaphthalene	18.040	142	6944273	846.54		96
9) 1-Methylnaphthalene	18.570	142	6970962m	844.53		
10) Biphenyl	20.569	154	7175164	811.96		100
11) 2,6-Dimethylnaphthalene	21.474	156	5952057m	876.34		
12) Acenaphthylene	23.167	152	8507820m	1001.83		
13) Acenaphthene	24.436	153	5473665m	893.81		
14) 2,3,5-Trimethylnaphtha...	27.319	170	5118330m	887.84		
15) Fluorene	28.121	166	5535590m	948.26		
16) Dibenzothiophene	34.784	184	7744357m	927.51		
17) Phenanthrene	35.837	178	7067866m	916.45		
18) Anthracene	36.220	178	3505168m	1053.24		
19) 1-Methylphenanthrene	41.394	192	5449287m	1017.91		
20) Fluoranthene	46.415	202	6309121m	990.66		
21) Pyrene	48.329	202	6552850m	982.92		
22) Benz[a]anthracene	59.510	228	4102595m	980.45		
23) Chrysene	59.861	228	4402124m	819.04		
24) Benzo[b]fluoranthene	68.877	252	3555953m	716.24		
25) Benzo[k]fluoranthene	69.066	252	3464164m	753.40		
26) Benzo[e]pyrene	70.974	252	3231836m	600.63		
27) Benzo[a]pyrene	71.336	252	2617806m	721.08		
28) Perylene	72.002	252	2879503m	698.55		
30) Indeno[1,2,3-c,d]pyrene	81.306	276	1657219m	1395.29		
31) Dibenz[a,h]anthracene	81.725	278	1517787m	1324.33		
32) Benzo[g,h,i]perylene	83.948	276	1743609m	1011.73		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PAH1000 ICV			PAH1000 CCV			PAH1000 FCV		
	11/2/13 9:04 PM			11/4/13 6:22 AM			11/5/13 3:21 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
d8-Naphthalene	1000	1080.24	8	1000	773.53	23	1000	780.67	22
d10-Acenaphthene	1000	964.2	4	1000	814.12	19	1000	827.37	17
d10-Phenanthrene	1000	938.82	6	1000	930.37	7	1000	933.97	7
d10-Chrysene	1000	871.57	13	1000	873.43	13	1000	794.08	21
d12-Perylene	1000	779.52	22	1000	790.16	21	1000	660.79	34
Naphthalene	1000	1167.88	17	1000	855.04	14	1000	853.52	15
2-Methylnaphthalene	1000	1107.91	11	1000	845.17	15	1000	846.54	15
1-Methylnaphthalene	1000	1081.62	8	1000	840.83	16	1000	844.53	16
Biphenyl	1000	1036.67	4	1000	815.22	18	1000	811.96	19
2,6-Dimethylnaphthalene	1000	1049.48	5	1000	783.64	22	1000	876.34	12
Acenaphthylene	1000	1144.08	14	1000	994.82	1	1000	1001.83	0
Acenaphthene	1000	1022.12	2	1000	881.09	12	1000	893.81	11
2,3,5-Trimethylnaphthalene	1000	1016.35	2	1000	878.74	12	1000	887.84	11
Fluorene	1000	1017.41	2	1000	949.26	5	1000	948.26	5
Dibenzothiophene	1000	962.73	4	1000	925.91	7	1000	927.51	7
Phenanthrene	1000	940.7	6	1000	925.07	7	1000	916.45	8
Anthracene	1000	1014.18	1	1000	1068.9	7	1000	1053.24	5
1-Methylphenanthrene	1000	985.5	1	1000	1013.93	1	1000	1017.91	2
Fluoranthene	1000	989.43	1	1000	1014.85	1	1000	990.66	1
Pyrene	1000	977	2	1000	1010.87	1	1000	982.92	2
Benz[a]anthracene	1000	1058.65	6	1000	1080.04	8	1000	980.45	2
Chrysene	1000	875.72	12	1000	886.02	11	1000	819.04	18
Benzo[b]fluoranthene	1000	841.51	16	1000	850.06	15	1000	716.24	28
Benzo[k]fluoranthene	1000	869.81	13	1000	866.7	13	1000	753.4	25
Benzo[e]pyrene	1000	747.3	25	1000	747.95	25	1000	600.63	40
Benzo[a]pyrene	1000	862.88	14	1000	887.44	11	1000	721.08	28
Perylene	1000	789.11	21	1000	828.35	17	1000	698.55	30
Indeno[1,2,3-c,d]pyrene	1000	1189.05	19	1000	1434.86	43	1000	1395.29	40
Dibenz[a,h]anthracene	1000	1194.79	19	1000	1279.53	28	1000	1324.33	32
Benzo[g,h,i]perylene	1000	1082.39	8	1000	1113.8	11	1000	1011.73	1
Average	-	-	10	-	-	14	-	-	16

Organics - GC-MS-NCI

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Innovative Analytical Solutions
(EPA 8270C)

PHYSIS

Instrument Run Log

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Innovative Solutions for Nature

2013 Oct 24 1214 Sequence Log .LOG
Starting sequence Wed Oct 23 14:49:11 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MassHunter\GCMS\1\sequence\131023 NCI . sequence. xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131023 NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
------	------	------	----------	--------	-------------

Limits fail: EM Voltage

1)	Sample	141	HEX	HEX_NCI	HEX
2)	Sample	131	PBDE10	PYR_NCI	PBDE10
3)	Sample	132	PBDE25	PYR_NCI	PBDE25
4)	Sample	133	PBDE50	PYR_NCI	PBDE50
5)	Sample	134	PBDE75	PYR_NCI	PBDE75
6)	Sample	135	PBDE100	PYR_NCI	PBDE100
7)	Sample	136	PBDE200	PYR_NCI	PBDE200
8)	Sample	121	FIP25	PYR_NCI	FIP25
9)	Sample	122	FIP50	PYR_NCI	FIP50
10)	Sample	123	FIP100	PYR_NCI	FIP100
11)	Sample	124	FIP250	PYR_NCI	FIP250
12)	Sample	125	FIP500	PYR_NCI	FIP500
13)	Sample	126	FIP1000	PYR_NCI	FIP1000
14)	Sample	111	PYR25	PYR_NCI	PYR25
15)	Sample	112	PYR50	PYR_NCI	PYR50
16)	Sample	113	PYR100	PYR_NCI	PYR100
17)	Sample	114	PYR250	PYR_NCI	PYR250
18)	Sample	115	PYR500	PYR_NCI	PYR500
19)	Sample	116	PYR1000	PYR_NCI	PYR1000

Thu Oct 24 11:32:11 2013
Fatal sequence error detected.
Failed to write scan record to the data file.

D:\MassHunter\GCMS\1\data\131023 NCI\2013 Oct 23 1449 Sequence Log .LOG

Resuming sequence Thu Oct 24 12:14:18 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MassHunter\GCMS\1\sequence\131023 NCI . sequence. xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131023 NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
------	------	------	----------	--------	-------------

21)	Sample	101	TOX10KICVRR		
	Datafile		TOX10KICVRR		
	Method		PYR_NCI		
22)	Sample	102	TRAL01000ICV		
	Datafile		TRAL01000ICV		
	Method		PYR_NCI		
23)	Sample	103	PYR1000SPEX		
	Datafile		PYR1000SPEX		
	Method		PYR_NCI		

Limits fail: EM Voltage

24)	Sample	141	HEX2	HEX_NCI	HEX2
25)	Sample	1	B_5024	PYR_NCI	B_5024
26)	Sample	2	BS1_5024	PYR_NCI	BS1_5024

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2013 Oct 24 1214 Sequence Log . LOG
27) Sample      3 BS2_5024  PYR_NCI  BS2_5024
28) Sample      4 21958MS1 PYR_NCI  21958MS1
29) Sample      5 21958MS2 PYR_NCI  21958MS2
Limits fail: EM Voltage
30) Sample     141 HEX3      HEX_NCI  HEX3
31) Sample      6 21964      PYR_NCI  21964
32) Sample      7 21957      PYR_NCI  21957
33) Sample      8 21958      PYR_NCI  21958
34) Sample      9 21958R2    PYR_NCI  21958R2
35) Sample     10 21959      PYR_NCI  21959
36) Sample     11 21960      PYR_NCI  21960
37) Sample     12 21961      PYR_NCI  21961
38) Sample     13 21962      PYR_NCI  21962
39) Sample     14 21963      PYR_NCI  21963
40) Sample     116 PYR1000CCV
    Datafile      PYR1000CCV
    Method        PYR_NCI
41) Sample     101 TOX10KCCV
    Datafile      TOX10KCCV
    Method        PYR_NCI
42) Sample     102 TRAL01000CCV
    Datafile      TRAL01000CCV
    Method        PYR_NCI

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Fri Oct 25 10:01:16 2013
 Fatal sequence error detected.
 User aborted run

D:\MassHunter\GCMS\1\data\131023 NCI\2013 Oct 24 1214 Sequence Log . LOG

2013 Oct 25 1635 Sequence Log .LOG
 Starting sequence Fri Oct 25 12:55:34 2013

Instrument Name: GCMSQQQ
 Sequence File: D:\MassHunter\GCMS\1\sequence\131023 NCI . sequence.xml
 Comment:
 Operator: DATASYSTEM01\Admin
 Data Path: D:\MassHunter\GCMS\1\data\131023 NCI\
 Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
42)	Sample	102	TRAL01000CCV		
	Datafile		TRAL01000CCV		
	Method		PYR_NCI		
43)	Sample	136	PBDE200CCV		
	Datafile		PBDE200CCV		
	Method		PYR_NCI		
44)	Sample	126	FIP1000CCV		
	Datafile		FIP1000CCV		
	Method		PYR_NCI		

Fri Oct 25 16:34:54 2013
 Fatal sequence error detected.
 There was no bottle in the gripper.

D:\MassHunter\GCMS\1\data\131023 NCI\2013 Oct 25 1255 Sequence Log .LOG

Resuming sequence Fri Oct 25 16:35:31 2013

Instrument Name: GCMSQQQ
 Sequence File: D:\MassHunter\GCMS\1\sequence\131023 NCI . sequence.xml
 Comment:
 Operator: DATASYSTEM01\Admin
 Data Path: D:\MassHunter\GCMS\1\data\131023 NCI\
 Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
Limits fail: EM Voltage					
46)	Sample	141	HEX4	HEX_NCI	HEX4
47)	Sample	15	22036	PYR_NCI	22036
48)	Sample	16	22037	PYR_NCI	22037
49)	Sample	17	22038	PYR_NCI	22038
50)	Sample	18	22039	PYR_NCI	22039
51)	Sample	19	22040	PYR_NCI	22040
52)	Sample	20	22041	PYR_NCI	22041
53)	Sample	21	22042	PYR_NCI	22042
54)	Sample	22	22043	PYR_NCI	22043
55)	Sample	23	22044	PYR_NCI	22044
56)	Sample	116	PYR1000FCV		
	Datafile		PYR1000FCV		
	Method		PYR_NCI		
57)	Sample	101	TOX10KF CV		
	Datafile		TOX10KF CV		
	Method		PYR_NCI		
58)	Sample	102	TRAL01000FCV		
	Datafile		TRAL01000FCV		
	Method		PYR_NCI		
59)	Sample	136	PBDE200FCV		
	Datafile		PBDE200FCV		
	Method		PYR_NCI		
60)	Sample	126	FIP1000FCV		

Datafile	2013 Oct 25 1635 Sequence Log .LOG
Method	FIP1000FCV PYR_NCI

Sequence completed Sat Oct 26 07:57:56 2013

D:\MassHunter\GCMS\1\data\131023 NCI\2013 Oct 25 1635 Sequence Log .LOG

Fipronil & Degradates

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Innovative Solutions for Nature

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Initial Calibration Data

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Innovative Solutions for Nature

Quantitative Analysis Calibration Report

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Batch Info

Batch Data Path	C:\Masshunter\Data\131023 NCI\QuantResults\O-5024.batch.bin		
Analysis Time	10/23/2013 1:45 AM	Analyst Name	ryanhong
Report Time	5/29/2014 5:09 PM	Reporter Name	ryanhong
Last Calib Update	10/29/2013 8:44 AM	Batch State	Processed

Calibration Information

Fipronil Desulfinyl

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\131023 NCI CURVES\FIP100.D	Calibration	4	110228	100.0000	1.6732	7.28
C:\msdchem\1\DATA\131023 NCI CURVES\FIP1000.D	Calibration	1	1057587	1000.0000	1.4727	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP25.D	Calibration	6	35165	25.0000	1.5828	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP250.D	Calibration	3	287803	250.0000	1.8380	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP50.D	Calibration	5	52194	50.0000	1.6656	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP500.D	Calibration	2	590187	500.0000	1.6544	

Fipronil Sulfide

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\131023 NCI CURVES\FIP100.D	Calibration	4	89560	100.0000	1.3595	8.74
C:\msdchem\1\DATA\131023 NCI CURVES\FIP1000.D	Calibration	1	937731	1000.0000	1.3058	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP25.D	Calibration	6	28771	25.0000	1.2950	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP250.D	Calibration	3	245957	250.0000	1.5707	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP50.D	Calibration	5	41188	50.0000	1.3144	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP500.D	Calibration	2	545180	500.0000	1.5283	

Fipronil

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\131023 NCI CURVES\FIP100.D	Calibration	4	21093	100.0000	0.3202	9.51
C:\msdchem\1\DATA\131023 NCI CURVES\FIP1000.D	Calibration	1	251955	1000.0000	0.3509	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP25.D	Calibration	6	6342	25.0000	0.2854	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP250.D	Calibration	3	54429	250.0000	0.3476	

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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP50.D	Calibration	5	9184	50.0000	0.2931
C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP500.D	Calibration	2	127316	500.0000	0.3569

Fipronil Sulfone

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP100.D	Calibration	4	19076	100.0000	0.2896	27.49
C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP1000.D	Calibration	1	239084	1000.0000	0.3329	
C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP25.D	Calibration	6	2892	25.0000	0.1302	
C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP250.D	Calibration	3	47336	250.0000	0.3023	
C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP50.D	Calibration	5	9856	50.0000	0.3145	
C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP500.D	Calibration	2	122199	500.0000	0.3426	

2,2',5,5'-Tetrabromobiphenyl

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP100.D	Calibration	4	658798	1000.0000	658.7980	13.95
C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP1000.D	Calibration	1	718110	1000.0000	718.1097	
C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP25.D	Calibration	6	888686	1000.0000	888.6858	
C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP250.D	Calibration	3	626349	1000.0000	626.3489	
C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP50.D	Calibration	5	626710	1000.0000	626.7098	
C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP500.D	Calibration	2	713454	1000.0000	713.4542	

PHYSIS

Continuing Calibration Data

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\Masshunter\Data\131023 NCI\QuantResults\O-5024.batch.bin		
Analysis Time	10/25/2013 3:07 PM	Analyst Name	ryanhong
Report Time	5/29/2014 5:09 PM	Reporter Name	ryanhong
Last Calib Update	10/29/2013 8:44 AM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	FIP1000CCV
Level		Data File	FIP1000CCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD 2,2',5,5'-	RT	Response	ISTD Resp	RR	Final Conc	
Fipronil Desulfinyl	Tetrabromobiphenyl	17.571	1202946	1830388	0.6572	430.6303	ng
Fipronil Sulfide	Tetrabromobiphenyl	19.609	1289015	1830388	0.7042	517.5540	ng
Fipronil	Tetrabromobiphenyl	19.930	322647	1830388	0.1763	501.5264	ng
Fipronil Sulfone	Tetrabromobiphenyl	22.246	484225	1830388	0.2645	794.8000	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\Masshunter\Data\131023 NCI\QuantResults\O-5024.batch.bin		
Analysis Time	10/26/2013 6:59 AM	Analyst Name	ryanhong
Report Time	5/29/2014 5:09 PM	Reporter Name	ryanhong
Last Calib Update	10/29/2013 8:44 AM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	FIP1000FCV
Level		Data File	FIP1000FCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD 2,2',5,5'-	RT	Response	ISTD Resp	RR	Final Conc	
Fipronil Desulfinyl	Tetrabromobiphenyl	17.521	1081011	1093032	0.9890	648.0356	ng
Fipronil Sulfide	Tetrabromobiphenyl	19.541	1002757	1093032	0.9174	674.2236	ng
Fipronil	Tetrabromobiphenyl	19.854	272532	1093032	0.2493	709.4040	ng
Fipronil Sulfone	Tetrabromobiphenyl	22.136	378868	1093032	0.3466	1041.3801	ng

	FIP1000 CCV			FIP1000 FCV		
	10/25/13 3:07 PM			10/26/13 6:59 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Fipronil Desulfinyl	1000	430.6303	56.94	1000	648.0356	35.20
Fipronil Sulfide	1000	517.5540	48.24	1000	674.2236	32.58
Fipronil	1000	501.5264	49.85	1000	709.4040	29.06
Fipronil Sulfone	1000	794.8000	20.52	1000	1041.3801	4.14
Average	-	-	43.89	-	-	25.24

PolyBrominated Diphenyl Ethers (PBDEs)

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Summary of Internal Standards

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	2,2',5,5' - Tetrabromobiphenyl	
	Response	Retention Time
PBDE10.D	8420757	16.8053
PBDE25.D	7138104	16.8051
PBDE50.D	6755020	16.8051
PBDE75.D	6636959	16.8051
PBDE100.D	7765091	16.8003
PBDE200.D	11371385	16.8003
PBDE049_90ICV.D	20744851	16.8051
B_5024.D	10777911	16.8004
BS1_5024.D	8213000	16.8003
BS2_5024.D	8212451	16.8003
21958MS1.D	11857487	16.8003
21958MS2.D	8490905	16.8003
21964.D	11309330	16.8392
21957.D	11751888	16.8051
21958.D	10774088	16.8051
21958R2.D	9170704	16.8051
21959.D	9723165	16.8100
21960.D	9572421	16.8100
PBDE100CCV.D	8179220	16.8003
21961.D	8825184	16.8053
21962.D	8772217	16.8100
21963.D	8379874	16.8051
22037.D	9431406	16.8100
22038.D	7534555	16.8051
22039.D	8831017	16.8051
22040.D	6816735	16.8051
22041.D	6922464	16.8051
22042.D	8701208	16.8051
22043.D	8353643	16.8051
22044.D	13173921	16.8051
22036.D	7719963	16.8051
PBDE100FCV.D	7232405	16.8051

PHYSIS

Initial Calibration Data

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Batch Info

Batch Data Path	C:\Masshunter\Data\O-5024 PBDE\QuantResults\O-5024 PBDE.batch.bin		
Analysis Time	10/29/2013 12:57 PM	Analyst Name	eugenechae
Report Time	5/29/2014 7:28 PM	Reporter Name	ryanhong
Last Calib Update	11/1/2013 11:41 AM	Batch State	Processed

Calibration Information*(FTBDE)*

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	362466	50.0000	0.8609	9.34
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	337714	50.0000	0.8698	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	607995	50.0000	1.0693	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	307831	50.0000	0.8625	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	296957	50.0000	0.8792	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	282764	50.0000	0.8521	

PBDE017

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	52253	10.0000	0.6205	6.24
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	528996	100.0000	0.6812	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1704812	200.0000	0.7496	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	123267	25.0000	0.6908	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	223360	50.0000	0.6613	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	332929	75.0000	0.6688	

PBDE028

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	58500	10.0000	0.6947	9.32
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	566816	100.0000	0.7300	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1874211	200.0000	0.8241	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	117608	25.0000	0.6590	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	216999	50.0000	0.6425	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	338205	75.0000	0.6794	

2,2',5,5'Tetrabromobiphenyl

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	8420757	1000.0000	8420.7572	22.14
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	7765091	1000.0000	7765.0915	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	11371385	1000.0000	11371.3849	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	7138104	1000.0000	7138.1044	

C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	6755020	1000.0000	6755.0195
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	6636959	1000.0000	6636.9590

PBDE049

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	61371	10.0000	0.7288	5.22
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	585232	100.0000	0.7537	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1850487	200.0000	0.8137	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	133638	25.0000	0.7489	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	238360	50.0000	0.7057	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	355624	75.0000	0.7144	

PBDE071

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	54217	10.0000	0.6438	8.94
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	493999	100.0000	0.6362	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1680098	200.0000	0.7387	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	110183	25.0000	0.6174	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	192682	50.0000	0.5705	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	301875	75.0000	0.6065	

PBDE047

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	54571	10.0000	0.6481	11.41
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	454915	100.0000	0.5858	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1606336	200.0000	0.7063	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	103036	25.0000	0.5774	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	173451	50.0000	0.5135	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	279045	75.0000	0.5606	

PBDE066

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	76790	10.0000	0.9119	17.54
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	505778	100.0000	0.6513	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1657219	200.0000	0.7287	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	120178	25.0000	0.6734	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	194152	50.0000	0.5748	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	300050	75.0000	0.6028	

PBDE100

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	47004	10.0000	0.5582	9.08
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	424904	100.0000	0.5472	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1356524	200.0000	0.5965	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	92995	25.0000	0.5211	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	155825	50.0000	0.4614	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	246104	75.0000	0.4944	

(DFPBDE)

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	255002	50.0000	0.6057	13.12
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	271392	50.0000	0.6990	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	448005	50.0000	0.7880	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	211378	50.0000	0.5923	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	189019	50.0000	0.5596	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	205194	50.0000	0.6183	

PBDE099

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	50407	10.0000	0.5986	11.90
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	442583	100.0000	0.5700	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1386670	200.0000	0.6097	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	92620	25.0000	0.5190	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	148404	50.0000	0.4394	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	253216	75.0000	0.5087	

PBDE085

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	39462	10.0000	0.4686	10.84
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	360304	100.0000	0.4640	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1060242	200.0000	0.4662	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	72504	25.0000	0.4063	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	120379	50.0000	0.3564	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	199688	75.0000	0.4012	

PBDE154

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
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C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	44515	10.0000	0.5286	9.07
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	412441	100.0000	0.5311	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1209803	200.0000	0.5320	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	83023	25.0000	0.4652	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	142484	50.0000	0.4219	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	243445	75.0000	0.4891	

PBDE153

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	39939	10.0000	0.4743	9.21
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	390618	100.0000	0.5030	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1095420	200.0000	0.4817	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	80633	25.0000	0.4518	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	129283	50.0000	0.3828	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	219510	75.0000	0.4410	

PBDE138

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	33029	10.0000	0.3922	13.44
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	358264	100.0000	0.4614	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	993361	200.0000	0.4368	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	72370	25.0000	0.4055	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	102656	50.0000	0.3039	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	198720	75.0000	0.3992	

PBDE183

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	38071	10.0000	0.4521	13.07
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	311176	100.0000	0.4007	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	846727	200.0000	0.3723	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	66367	25.0000	0.3719	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	101259	50.0000	0.2998	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	185387	75.0000	0.3724	

PBDE190

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	13841	10.0000	0.1644	15.50
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	154666	100.0000	0.1992	

C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	367277	200.0000	0.1615
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	32494	25.0000	0.1821
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	41375	50.0000	0.1225
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	88271	75.0000	0.1773

PBDE209

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	1273	50.0000	0.0030	27.17
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	7426	500.0000	0.0019	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	19867	1000.0000	0.0017	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	2479	125.0000	0.0028	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	2622	250.0000	0.0016	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	5048	375.0000	0.0020	

PHYSIS

Continuing Calibration Data

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path C:\Masshunter\Data\O-5024 PBDE\QuantResults\O-5024 PBDE.batch.bin
Analysis Time 10/30/2013 1:40 AM **Analyst Name** eugenechae
Report Time 5/29/2014 7:28 PM **Reporter Name** ryanhong
Last Calib Update 11/1/2013 11:41 AM **Batch State** Processed

Analysis Info

Acq Time
Level
Position
Sample Type Sample
Dilution 1

Sample Name PBDE100CCV
Data File PBDE100CCV.D
Acq Method File NCI-15m PBDE.M
Sample Info
Comment

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphe nyl	15.255	361252	8179220	0.0442	49.1303	ng
PBDE017	2,2',5,5'Tetrabromobiphe nyl	15.812	567255	8179220	0.0694	95.5705	ng
PBDE028	2,2',5,5'Tetrabromobiphe nyl	16.161	585951	8179220	0.0716	91.3086	ng
PBDE049	2,2',5,5'Tetrabromobiphe nyl	18.147	554960	8179220	0.0679	86.0425	ng
PBDE071	2,2',5,5'Tetrabromobiphe nyl	18.239	492586	8179220	0.0602	86.0257	ng
PBDE047	2,2',5,5'Tetrabromobiphe nyl	18.539	438121	8179220	0.0536	80.8832	ng
PBDE066	2,2',5,5'Tetrabromobiphe nyl	18.873	486967	8179220	0.0595	85.4564	ng
PBDE100	2,2',5,5'Tetrabromobiphe nyl	20.375	392074	8179220	0.0479	83.8421	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphe nyl	20.709	245451	8179220	0.0300	46.6121	ng
PBDE099	2,2',5,5'Tetrabromobiphe nyl	20.878	402964	8179220	0.0493	84.2037	ng
PBDE085	2,2',5,5'Tetrabromobiphe nyl	21.740	319782	8179220	0.0391	86.0584	ng
PBDE154	2,2',5,5'Tetrabromobiphe nyl	22.336	367466	8179220	0.0449	86.0130	ng
PBDE153	2,2',5,5'Tetrabromobiphe nyl	23.048	343166	8179220	0.0420	87.9811	ng
PBDE138	2,2',5,5'Tetrabromobiphe nyl	23.910	304044	8179220	0.0372	86.1837	ng
PBDE183	2,2',5,5'Tetrabromobiphe nyl	25.058	277466	8179220	0.0339	90.6554	ng
PBDE190	2,2',5,5'Tetrabromobiphe nyl	26.206	140904	8179220	0.0172	102.5555	ng
PBDE209	2,2',5,5'Tetrabromobiphe nyl	30.119	9009	8179220	0.0011	609.5662	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\Masshunter\Data\O-5024 PBDE\QuantResults\O-5024 PBDE.batch.bin	Analyst Name	eugenechae
Analysis Time	10/30/2013 10:38 AM	Reporter Name	ryanhong
Report Time	5/29/2014 7:28 PM	Batch State	Processed
Last Calib Update	11/1/2013 11:41 AM		

Analysis Info

Acq Time		Sample Name	PBDE100FCV
Level		Data File	PBDE100FCV.D
Position		Acq Method File	NCI-15m PBDE.M
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphenyl	15.255	309637	7232405	0.0428	47.6234	ng
PBDE017	2,2',5,5'Tetrabromobiphenyl	15.812	486269	7232405	0.0672	92.6512	ng
PBDE028	2,2',5,5'Tetrabromobiphenyl	16.161	501377	7232405	0.0693	88.3577	ng
PBDE049	2,2',5,5'Tetrabromobiphenyl	18.152	491320	7232405	0.0679	86.1479	ng
PBDE071	2,2',5,5'Tetrabromobiphenyl	18.234	425242	7232405	0.0588	83.9869	ng
PBDE047	2,2',5,5'Tetrabromobiphenyl	18.544	375716	7232405	0.0519	78.4429	ng
PBDE066	2,2',5,5'Tetrabromobiphenyl	18.873	403822	7232405	0.0558	80.1428	ng
PBDE100	2,2',5,5'Tetrabromobiphenyl	20.375	328147	7232405	0.0454	79.3583	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphenyl	20.704	204635	7232405	0.0283	43.9482	ng
PBDE099	2,2',5,5'Tetrabromobiphenyl	20.878	337006	7232405	0.0466	79.6402	ng
PBDE085	2,2',5,5'Tetrabromobiphenyl	21.740	268715	7232405	0.0372	81.7824	ng
PBDE154	2,2',5,5'Tetrabromobiphenyl	22.336	294971	7232405	0.0408	78.0829	ng
PBDE153	2,2',5,5'Tetrabromobiphenyl	23.048	275923	7232405	0.0382	80.0022	ng
PBDE138	2,2',5,5'Tetrabromobiphenyl	23.910	245449	7232405	0.0339	78.6828	ng
PBDE183	2,2',5,5'Tetrabromobiphenyl	25.058	226894	7232405	0.0314	83.8371	ng
PBDE190	2,2',5,5'Tetrabromobiphenyl	26.211	119439	7232405	0.0165	98.3133	ng
PBDE209	2,2',5,5'Tetrabromobiphenyl	30.119	9660	7232405	0.0013	739.1707	ng

	PBDE100 CCV			PBDE100 FCV		
	10/30/13 1:40 AM			10/30/13 10:38 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PBDE017	100	95.5705	4.43	100	92.6512	7.35
PBDE028	100	91.3086	8.69	100	88.3577	11.64
PBDE049	100	86.0425	13.96	100	86.1479	13.85
PBDE071	100	86.0257	13.97	100	83.9869	16.01
PBDE047	100	80.8832	19.12	100	78.4429	21.56
PBDE066	100	85.4564	14.54	100	80.1428	19.86
PBDE100	100	83.8421	16.16	100	79.3583	20.64
PBDE099	100	84.2037	15.80	100	79.6402	20.36
PBDE085	100	86.0584	13.94	100	81.7824	18.22
PBDE154	100	86.0130	13.99	100	78.0829	21.92
PBDE153	100	87.9811	12.02	100	80.0022	20.00
PBDE138	100	86.1837	13.82	100	78.6828	21.32
PBDE183	100	90.6554	9.34	100	83.8371	16.16
PBDE190	100	102.5555	2.56	100	98.3133	1.69
PBDE209	500	609.5662	21.91	500	739.1707	47.83
Average	-	-	12.95	-	-	18.56

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Pyrethroids

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	2,2',5,5' - Tetrabromobiphenyl	
	Response	Retention Time
TRALO1000ICV.D	659337	25.1376
PYR1000SPEX.D	771891	25.0953
B_5024.D	1468891	25.0362
BS1_5024.D	1703336	25.0108
BS2_5024.D	1700302	25.0023
21958MS1.D	2108317	24.9854
21958MS2.D	2115480	24.9770
21964.D	1451439	24.9939
21957.D	2276267	24.9516
21958.D	1904097	24.9432
21958R2.D	1829360	24.9347
21959.D	1899326	24.9178
21960.D	1927079	24.9178
21961.D	1971899	24.9009
21962.D	1560273	24.8924
21963.D	1733017	24.8755
PYR1000CCV.D	977217	24.8924
TRALO1000CCV.D	1818447	24.8679
22036.D	2727498	24.8080
22037.D	2407241	24.7995
22038.D	2819943	24.7825
22039.D	2476010	24.7825
22040.D	2320762	24.7741
22041.D	2606261	24.7656
22042.D	2077278	24.7656
22043.D	2419115	24.7572
22044.D	2449562	24.7487
PYR1000FCV.D	1431015	24.7572
TRALO1000FCV.D	1210736	24.7572

PHYSIS

Initial Calibration Data

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Quantitative Analysis Calibration Report

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Batch Info

Batch Data Path	C:\Masshunter\Data\131023 NCI\QuantResults\O-5024 PYR.batch.bin		
Analysis Time	10/24/2013 11:32 AM	Analyst Name	ryanhong
Report Time	5/29/2014 4:41 PM	Reporter Name	ryanhong
Last Calib Update	11/1/2013 4:40 PM	Batch State	Processed

Calibration Information

Allethrin

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\131023 NCI CURVES\PYR100.D	Calibration	4	9647	100.0000	0.1369	20.88
C:\msdchem\1\DATA\131023 NCI CURVES\PYR1000.D	Calibration	1	172858	1000.0000	0.2266	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR25.D	Calibration	6	2758	25.0000	0.1438	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR250.D	Calibration	3	34927	250.0000	0.1731	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR50.D	Calibration	5	4284	50.0000	0.1462	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR500.D	Calibration	2	67821	500.0000	0.1984	

Prallethrin

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\131023 NCI CURVES\PYR100.D	Calibration	4	69544	100.0000	0.9870	20.29
C:\msdchem\1\DATA\131023 NCI CURVES\PYR1000.D	Calibration	1	1171056	1000.0000	1.5350	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR25.D	Calibration	6	20849	25.0000	1.0866	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR250.D	Calibration	3	220363	250.0000	1.0924	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR50.D	Calibration	5	32147	50.0000	1.0974	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR500.D	Calibration	2	528290	500.0000	1.5451	

Resmethrin

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\131023 NCI CURVES\PYR100.D	Calibration	4	53933	100.0000	0.7655	21.24
C:\msdchem\1\DATA\131023 NCI CURVES\PYR1000.D	Calibration	1	987470	1000.0000	1.2944	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR25.D	Calibration	6	16197	25.0000	0.8441	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR250.D	Calibration	3	190465	250.0000	0.9442	

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\1310
23 NCI CURVES\PYR50.D Calibration 5 24359 50.0000 0.8315

C:\msdchem\1\DATA\1310
23 NCI CURVES\PYR500.D Calibration 2 390386 500.0000 1.1418

(PCB112)

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	81282	400.0000	0.2884	6.29
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	92596	400.0000	0.3034	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	92570	400.0000	0.3015	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	83027	400.0000	0.2572	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	71872	400.0000	0.3067	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	78506	400.0000	0.2870	

TBBP

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	704570	1000.0000	704.5701	10.99
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	762895	1000.0000	762.8955	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	767526	1000.0000	767.5256	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	806894	1000.0000	806.8945	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	585883	1000.0000	585.8831	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	683807	1000.0000	683.8073	

Bifenthrin

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	15943	100.0000	0.2263	8.30
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	207118	1000.0000	0.2715	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	5597	25.0000	0.2917	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	54132	250.0000	0.2683	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	7466	50.0000	0.2549	

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\1310
23 NCI CURVES\PYR500.D Calibration 2 92740 500.0000 0.2712

Danitol (Fenpropathrin)

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	41260	100.0000	0.5856	9.57
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	456874	1000.0000	0.5989	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	10217	25.0000	0.5324	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	140017	250.0000	0.6941	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	16234	50.0000	0.5542	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	195180	500.0000	0.5709	

L-Cyhalothrin

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	12893	100.0000	0.1830	4.83
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	139416	1000.0000	0.1827	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	3676	25.0000	0.1916	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	39462	250.0000	0.1956	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	5313	50.0000	0.1814	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	58149	500.0000	0.1701	

(PCB198)

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	16701	400.0000	0.0593	4.66
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	16665	400.0000	0.0546	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	19143	400.0000	0.0624	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	19647	400.0000	0.0609	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	13810	400.0000	0.0589	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	15614	400.0000	0.0571	

Quantitative Analysis Calibration Report

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Permethrin-cis

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	937	26.7000	0.0498	20.80
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	6757	267.0000	0.0332	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	0	6.6750	0.0000	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	2133	66.7500	0.0396	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	0	13.3500	0.0000	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	3895	133.5000	0.0427	

Permethrin-trans

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	509	71.6000	0.0101	26.76
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	8519	716.0000	0.0156	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	0	17.9000	0.0000	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	2908	179.0000	0.0201	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	0	35.8000	0.0000	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	4187	358.0000	0.0171	

Cyfluthrin-1

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	3127	100.0000	0.0444	11.47
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	32457	1000.0000	0.0425	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	1106	25.0000	0.0576	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	10021	250.0000	0.0497	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	1589	50.0000	0.0542	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	17106	500.0000	0.0500	

Cyfluthrin-2

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
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Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	2924	100.0000	0.0415	23.41
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	35356	1000.0000	0.0463	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	495	25.0000	0.0258	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	10536	250.0000	0.0522	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	981	50.0000	0.0335	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	13703	500.0000	0.0401	

Cyfluthrin-3

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	2609	100.0000	0.0370	16.52
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	36133	1000.0000	0.0474	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	949	25.0000	0.0495	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	11450	250.0000	0.0568	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	1093	50.0000	0.0373	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	15971	500.0000	0.0467	

Cyfluthrin-4

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	3791	100.0000	0.0538	13.06
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	32506	1000.0000	0.0426	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	1036	25.0000	0.0540	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	10673	250.0000	0.0529	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	1761	50.0000	0.0601	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	15016	500.0000	0.0439	

Cypermethrin-1

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	2824	100.0000	0.0401	17.57

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR1000.D	Calibration	1	32317	1000.0000	0.0424
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR25.D	Calibration	6	1147	25.0000	0.0598
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR250.D	Calibration	3	9461	250.0000	0.0469
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR50.D	Calibration	5	1125	50.0000	0.0384
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR500.D	Calibration	2	14122	500.0000	0.0413

Cypermethrin-2

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	1826	100.0000	0.0259	13.11
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	23026	1000.0000	0.0302	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	437	25.0000	0.0227	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	6126	250.0000	0.0304	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	659	50.0000	0.0225	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	8778	500.0000	0.0257	

Cypermethrin-3

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	2796	100.0000	0.0397	15.04
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	37574	1000.0000	0.0493	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	940	25.0000	0.0490	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	10159	250.0000	0.0504	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	984	50.0000	0.0336	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	14712	500.0000	0.0430	

Cypermethrin-4

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	3896	100.0000	0.0553	15.08
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	28965	1000.0000	0.0380	

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR25.D	Calibration	6	979	25.0000	0.0510
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR250.D	Calibration	3	8097	250.0000	0.0401
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR50.D	Calibration	5	1234	50.0000	0.0421
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR500.D	Calibration	2	14584	500.0000	0.0427

Fenvalerate

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	27418	100.0000	0.3891	8.66
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	304380	1000.0000	0.3990	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	7130	25.0000	0.3716	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	93152	250.0000	0.4618	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	11057	50.0000	0.3775	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	127444	500.0000	0.3727	

Fluvalinate

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	7547	100.0000	0.1071	9.98
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	72859	1000.0000	0.0955	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	0	25.0000	0.0000	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	23491	250.0000	0.1165	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	3563	50.0000	0.1216	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	34426	500.0000	0.1007	

Esfenvalerate

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	22383	100.0000	0.3177	12.60
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	250308	1000.0000	0.3281	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	8227	25.0000	0.4287	

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR250.D	Calibration	3	78571	250.0000	0.3895
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR50.D	Calibration	5	9777	50.0000	0.3338
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR500.D	Calibration	2	111866	500.0000	0.3272

Deltamethrin/Tralomethrin

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	262	100.0000	0.0037	139.98
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	4920	1000.0000	0.0064	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	1050	25.0000	0.0547	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	423	250.0000	0.0021	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	637	50.0000	0.0218	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	319	500.0000	0.0009	

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path C:\Masshunter\Data\131023 NCI\QuantResults\O-5024 PYR.batch.bin
Analysis Time 10/24/2013 2:24 PM **Analyst Name** ryanhong
Report Time 5/29/2014 4:41 PM **Reporter Name** ryanhong
Last Calib Update 11/1/2013 4:40 PM **Batch State** Processed

Analysis Info

Acq Time
Level
Position
Sample Type Sample
Dilution 1

Sample Name PYR1000SPEX
Data File PYR1000SPEX.D
Acq Method File PYR_NCI.m
Sample Info
Comment

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
Allethrin	TBBP	19.778	0	771891	0.0000	0.0000	ng/ml
Prallethrin	TBBP	19.778	1064186	771891	1.3787	912.4943	ng/ml
Resmethrin	TBBP	20.226	642521	771891	0.8324	669.1240	ng/ml
(PCB112)	TBBP	21.629	81175	771891	0.1052	361.7364	ng/ml
Bifenthrin	TBBP	27.386	195897	771891	0.2538	936.7243	ng
Danitol (Fenpropathrin)	TBBP	27.961	485741	771891	0.6293	1052.5647	ng
L-Cyhalothrin	TBBP	30.413	147485	771891	0.1911	1055.8262	ng
(PCB198)	TBBP	30.709	16960	771891	0.0220	373.3472	ng/ml
Permethrin-cis	TBBP	32.839	4825	771891	0.0063	177.0095	ng
Permethrin-trans	TBBP	33.279	11098	771891	0.0144	897.7420	ng/ml
Cyfluthrin-1	TBBP	34.843	33505	771891	0.0434	979.0330	ng
Cyfluthrin-2	TBBP	35.181	37898	771891	0.0491	1082.1694	ng
Cyfluthrin-3	TBBP	35.409	37308	771891	0.0483	1015.6713	ng
Cyfluthrin-4	TBBP	35.570	37582	771891	0.0487	1120.1940	ng
Cypermethrin-1	TBBP	35.916	36789	771891	0.0477	1125.1668	ng
Cypermethrin-2	TBBP	36.280	29217	771891	0.0379	1292.2407	ng
Cypermethrin-3	TBBP	36.500	40263	771891	0.0522	1086.0487	ng
Cypermethrin-4	TBBP	36.660	35238	771891	0.0457	1167.5893	ng
Fenvalerate	TBBP	39.475	356048	771891	0.4613	1162.2754	ng
Esfenvalerate	TBBP	40.354	303390	771891	0.3930	1188.1614	ng
Fluvalinate	TBBP	40.464	93467	771891	0.1211	1241.1525	ng
Deltamethrin/Tralomethrin	TBBP	43.026	4962	771891		1228.1959	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path C:\Masshunter\Data\131023 NCI\QuantResults\O-5024 PYR.batch.bin
Analysis Time 10/25/2013 7:26 AM **Analyst Name** ryanhong
Report Time 5/29/2014 4:41 PM **Reporter Name** ryanhong
Last Calib Update 11/1/2013 4:40 PM **Batch State** Processed

Analysis Info

Acq Time
Level
Position
Sample Type Sample
Dilution 1

Sample Name PYR1000CCV
Data File PYR1000CCV.D
Acq Method File PYR_NCI.m
Sample Info
Comment

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
Allethrin	TBBP	19.592	234483	977217	0.2400	1101.3257	ng/ml
Prallethrin	TBBP	19.668	1189883	977217	1.2176	805.9011	ng/ml
Resmethrin	TBBP	20.099	1113414	977217	1.1394	915.8852	ng/ml
(PCB112)	TBBP	21.494	98104	977217	0.1004	345.3224	ng/ml
Bifenthrin	TBBP	27.200	202488	977217	0.2072	764.8004	ng
Danitol (Fenpropathrin)	TBBP	27.741	612144	977217	0.6264	1047.7612	ng
L-Cyhalothrin	TBBP	30.176	197728	977217	0.2023	1118.0932	ng
(PCB198)	TBBP	30.480	16583	977217	0.0170	288.3462	ng/ml
Permethrin-cis	TBBP	32.585	8465	977217	0.0087	245.2872	ng
Permethrin-trans	TBBP	33.008	11283	977217	0.0115	720.9218	ng/ml
Cyfluthrin-1	TBBP	34.564	56332	977217	0.0576	1300.1901	ng
Cyfluthrin-2	TBBP	34.885	56127	977217	0.0574	1265.9282	ng
Cyfluthrin-3	TBBP	35.130	52212	977217	0.0534	1122.7618	ng
Cyfluthrin-4	TBBP	35.282	47590	977217	0.0487	1120.4463	ng
Cypermethrin-1	TBBP	35.629	50688	977217	0.0519	1224.5124	ng
Cypermethrin-2	TBBP	35.975	37468	977217	0.0383	1308.9934	ng
Cypermethrin-3	TBBP	36.212	53137	977217	0.0544	1132.1591	ng
Cypermethrin-4	TBBP	36.356	40336	977217	0.0413	1055.6936	ng
Fenvalerate	TBBP	39.103	406889	977217	0.4164	1049.1598	ng
Esfenvalerate	TBBP	39.949	336838	977217	0.3447	1041.9794	ng
Fluvalinate	TBBP	40.050	100918	977217	0.1033	1058.5306	ng
Deltamethrin/Tralomethrin	TBBP	41.437	6373	977217		1245.8860	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\Masshunter\Data\131023 NCI\QuantResults\O-5024 PYR.batch.bin		
Analysis Time	10/26/2013 2:43 AM	Analyst Name	ryanhong
Report Time	5/29/2014 4:41 PM	Reporter Name	ryanhong
Last Calib Update	11/1/2013 4:40 PM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	PYR1000FCV
Level		Data File	PYR1000FCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
Allethrin	TBBP	19.524	292035	1431015	0.2041	936.6663	ng/ml
Prallethrin	TBBP	19.592	1404663	1431015	0.9816	649.6753	ng/ml
Resmethrin	TBBP	20.015	1292049	1431015	0.9029	725.7888	ng/ml
(PCB112)	TBBP	21.384	129636	1431015	0.0906	311.6078	ng/ml
Bifenthrin	TBBP	27.082	219616	1431015	0.1535	566.4474	ng
Danitol (Fenpropathrin)	TBBP	27.589	801838	1431015	0.5603	937.2216	ng
L-Cyhalothrin	TBBP	30.015	320028	1431015	0.2236	1235.7882	ng
(PCB198)	TBBP	30.320	27885	1431015	0.0195	331.1051	ng/ml
Permethrin-cis	TBBP	32.416	10875	1431015	0.0076	215.1983	ng
Permethrin-trans	TBBP	32.831	14836	1431015	0.0104	647.3129	ng/ml
Cyfluthrin-1	TBBP	34.378	109148	1431015	0.0763	1720.3517	ng
Cyfluthrin-2	TBBP	34.699	106205	1431015	0.0742	1635.8097	ng
Cyfluthrin-3	TBBP	34.944	100552	1431015	0.0703	1476.5670	ng
Cyfluthrin-4	TBBP	35.088	90635	1431015	0.0633	1457.1901	ng
Cypermethrin-1	TBBP	35.443	97146	1431015	0.0679	1602.6294	ng
Cypermethrin-2	TBBP	35.781	73643	1431015	0.0515	1756.9342	ng
Cypermethrin-3	TBBP	36.026	99835	1431015	0.0698	1452.5819	ng
Cypermethrin-4	TBBP	36.161	77342	1431015	0.0540	1382.3115	ng
Fenvalerate	TBBP	38.858	838919	1431015	0.5862	1477.1775	ng
Esfenvalerate	TBBP	39.695	698434	1431015	0.4881	1475.4033	ng
Fluvalinate	TBBP	39.797	185823	1431015	0.1299	1331.0039	ng
Deltamethrin/Tralomethrin	TBBP	41.158	16031	1431015		2140.0946	ng

	PYR1000 ICV			PYR1000 CCV			PYR1000 FCV		
	10/24/13 2:24 PM			10/25/13 7:26 AM			10/26/13 2:43 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Allethrin	0	0.0000	NA	1000	1101.3257	10.13	1000	936.6663	6.33
Prallethrin	1000	912.4943	8.75	1000	805.9011	19.41	1000	649.6753	35.03
Resmethrin	1000	669.1240	33.09	1000	915.8852	8.41	1000	725.7888	27.42
(PCB112)	400	361.7364	9.57	400	345.3224	13.67	400	311.6078	22.10
Bifenthrin	1000	936.7243	6.33	1000	764.8004	23.52	1000	566.4474	43.36
Danitol (Fenpropathrin)	1000	1052.5647	5.26	1000	1047.7612	4.78	1000	937.2216	6.28
L-Cyhalothrin	1000	1055.8262	5.58	1000	1118.0932	11.81	1000	1235.7882	23.58
(PCB198)	400	373.3472	6.66	400	288.3462	27.91	400	331.1051	17.22
Permethrin-cis	267	177.0095	33.70	267	245.2872	8.13	267	215.1983	19.40
Permethrin-trans	716	897.7420	25.38	716	720.9218	0.69	716	647.3129	9.59
Cyfluthrin-1	1000	979.0330	2.10	1000	1300.1901	30.02	1000	1720.3517	72.04
Cyfluthrin-2	1000	1082.1694	8.22	1000	1265.9282	26.59	1000	1635.8097	63.58
Cyfluthrin-3	1000	1015.6713	1.57	1000	1122.7618	12.28	1000	1476.5670	47.66
Cyfluthrin-4	1000	1120.1940	12.02	1000	1120.4463	12.04	1000	1457.1901	45.72
Cypermethrin-1	1000	1125.1668	12.52	1000	1224.5124	22.45	1000	1602.6294	60.26
Cypermethrin-2	1000	1292.2407	29.22	1000	1308.9934	30.90	1000	1756.9342	75.69
Cypermethrin-3	1000	1086.0487	8.60	1000	1132.1591	13.22	1000	1452.5819	45.26
Cypermethrin-4	1000	1167.5893	16.76	1000	1055.6936	5.57	1000	1382.3115	38.23
Fenvalerate	1000	1162.2754	16.23	1000	1049.1598	4.92	1000	1477.1775	47.72
Fluvalinate	1000	1188.1614	18.82	1000	1041.9794	4.20	1000	1475.4033	47.54
Esfenvalerate	1000	1241.1525	24.12	1000	1058.5306	5.85	1000	1331.0039	33.10
Deltamethrin/Tralomethrin	1000	1228.1959	22.82	1000	1245.8860	24.59	1000	2140.0946	114.01
Average	-	-	14.63	-	-	14.59	-	-	40.96

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Summary of Internal Standards

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	2,2',5,5' - Tetrabromobiphenyl	
	Response	Retention Time
TOX10KICV.D	553142	19.6173
TOX10KICVRR.D	836752	25.1377
B_5024.D	1470030	25.0362
BS1_5024.D	114583	23.6751
BS2_5024.D	125579	23.6582
21958MS1.D	169144	23.6497
21958MS2.D	171616	23.6413
21964.D	1453956	24.9939
21957.D	2275965	24.9516
21958.D	1905244	24.9432
21958R2.D	1829815	24.9347
21959.D	1899725	24.9178
21960.D	1927128	24.9178
21961.D	1972556	24.9009
21962.D	1561715	24.8924
21963.D	1734166	24.8755
TOX10KCCV.D	982463	24.8840
22036.D	2728323	24.8080
22037.D	2408711	24.7995
22038.D	2821018	24.7825
22039.D	2476812	24.7825
22040.D	2322072	24.7741
22041.D	2607301	24.7656
22042.D	2078019	24.7656
22043.D	2420267	24.7572
22044.D	2451852	24.7487
TOX10KFCV.D	1266400	24.7487

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	TOX10000 CCV			TOX10000 FCV		
	10/25/13 8:29 PM			10/26/13 3:47 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Toxaphene	10000	8427.6801	15.72	10000	8260.3746	17.40

February 0 , 2014

Chris Stransky
 AMEC
 9210 Sky Park Court
 Suite 200
 San Diego, CA 92123-

Project Name: RHMP B'13
 Physis Project ID: 1307002-004

Dear Chris,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 8/8/2013. A total of 9 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventional
Percent Solids by SM 2540B
Ammonia as N by SM 4500-NH ₃ D
Acid Volatile Sulfides (AVS) by Plumb, 1981 and TERL
Elements
Trace Metals by EPA 6020
Trace Mercury by EPA 245.7
Total Phosphorus by EPA 6020
Simultaneously Extracted Metals Analysis (AVS-SEM) by EPA 200.8
Organics
Toxaphene w/ OCPs by EPA 8270C-NCI
Synthetic Pyrethroid Pesticides by EPA 8270C-NCI
Polynuclear Aromatic Hydrocarbons by EPA 8270C
PBDE Congeners by EPA 8270C-NCI
Organochlorine Pesticides & PCB Congeners/Aroclors by EPA 8270C
Fipronil & Degradates by EPA 8270C-NCI
Subcontract
Total Organic Carbon by SM 5310 B
Total Nitrogen by SM 4500-N

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity

to provide you with our analytical and support services.

Regards,

Misty Mercier
Extension 202
714-335-5918 cell
mistymercier@physislabs.com

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and are used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use was assessed through the analysis of procedural blanks at a minimum frequency of one per batch. Physis' QM requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the procedural blanks be flagged in the project sample results with a B qualifier.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS1/MS2, BS1/BS2, LCS1/LCS2, LCM1/LCM2, CRM1/CRM2, surrogate spikes and/or replicate project sample analysis (R1/R2) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

MATRIX SPIKES: MS samples were employed to assess the effect a particular project sample matrix has on the accuracy of a measurement. It is prepared by adding a known amount of the target analyte(s) to an aliquot of the project sample. Matrix spikes indicate the bias of analytical measurements due to chemical interferences inherent in the sample matrix. If the matrix spike recovery does not fall within the specified acceptance limits, it may be an indication of sample matrix interference in the specific project sample used for the MS. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

BLANK SPIKES: BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

CERTIFIED REFERENCE MATERIALS: CRMs are pre-homogenized materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of a preparation and analytical method. CRMs are analyzed to provide evidence that the laboratory method produces results that are comparable to those obtained by an independent organization.

SURROGATES: Where CRMs are unavailable, target analyte recovery can be assessed by monitoring added surrogate compounds/elements. A surrogate is a pure analyte unlikely to be found in any project sample and most often used with organic analytical procedures. Percent recovery is calculated for each surrogate and is used to monitor method performance within each discrete sample and is indicative of the procedure's ability to recover the actual analytes of interest.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's

concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes. Physis' QM requires that all samples analyzed beyond the method recommended holding time be flagged in the sample results with an H qualifier.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
*	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified recovery and/or RPD acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore MS recovery and/or RPD acceptance limits do not apply
SL	analyte results for R1 and/or R2 were lower than 10 times the MDL, therefore RPD acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore MS recovery and/or RPD were outside the specified acceptance limits
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples



CASE NARRATIVE

QUALIFIER NOTES

In addition to the use of analyte specific Physis Qualifier Codes where applicable, the following were also noted.

ELEMENTS CRM: Five elements, Aluminum (Al), Antimony (Sb), Beryllium (Be), Chromium (Cr) and Iron (Fe) were above the specified acceptance limits in one or more CRM - RTC 016-050 and/or CRM - ERA 540. This occurred as a result of a more rigorous digestion employed by Physis, which causes a higher yield for some lithogenous elements. These values are in agreement with past internal results for CRM - RTC 016-050 and CRM - ERA 540.

ELEMENTS: A calibration point in the middle of the curve (50 PPB mix) was not used for the calibration of the instrument. This was due to the calibration solution not being spiked with internal standard.

ORGANICS TUNE: Physis uses the software supplied with its Agilent GCMS systems to tune its instruments. Moreover, with today's technology software algorithms provided by the instrument manufacturer provide a more stable system across a wider mass range than manual tuning to achieve specific tuning targets such as DFTPP. The following quote is from EPA Method 8270D Section 11.3.1.

“The analyst is always free to choose criteria that are tighter than those included in this method or to use other documented criteria provided they are used consistently throughout the initial calibration, calibration verification, and sample analyses.”

The key here is that the instrument is tuned and that those tune settings are used for the subsequent analysis of the calibration curve, calibration verification, and samples. Moreover, another key reason for tuning to specific criteria is to insure that the GCMS is generating spectra that match the spectra in the NIST Library for confirming the identification of the target analyte. Physis can provide library search results for our calibration standards indicating a very high match quality with the NIST library spectra.

Physis did analyze the DFTPP tune solution with each batch (except for the first batch where the tune solution was mis-injected) and the passing tune reports have been provided indicating that using the instrument tuning software is closely matched to DFTPP tune requirements.



ORGANICS CALIBRATION: A calibration point in the middle of the curve (250 ng) for DCPA (Dacthal) and Dicofol were not used for the calibration of the instrument. This was an error of the analyst that has since been corrected.

ORGANICS CCVS: CCVs for Fipronils, Pyrethroids, PAHs and Chlorinated Pesticides were done at 1000 ng, while the CCVs for PCBs were done at 500 ng. These values are either at or above the high point of the calibration. This was an error of the analyst that has since been corrected.

Revisions 6/17/2014-

- Aroclors:
 - Updated Aroclor MDLs/RLs from 10/20 to 1/2
 - Added Aroclor 1262 and Aroclor 1268
 - After review of the data, the Technical Director made a decision to revise the data for the Aroclors
- RPDs:
 - Reviewed and updated all RPDs to 25%, per the RHMP QAPP. Revised Passes to Fails and added QA Qualifiers, where needed due to update.
- Acceptance Ranges:
 - Reviewed and updated all Acceptance ranges per the RHMP QAPP. Revised Passes to Fails and added QA Qualifier, where needed due to update.
- Level 3 reports:
 - Toxaphene CCV Drift table was revised.

Revisions 8/18/2014-

- Analytical Report:
 - Revised Date Analyzed for Chlorinated Pesticides, PCBs, and PAHs.
 - Added Time Analyzed to all analysis.
- Level 3 reports:
 - Added instrument tune report.

Performance-Based Chemistry-

The chemistry results provided in this report are derived from “performance-based” chemistry rather than the use of specific EPA published laboratory methods. This does not eliminate our responsibility to use Good Laboratory Practices. It does allow for incorporation of improvements in technology or the use of laboratory preferences for techniques that improve the efficiency and sensitivity of the laboratory and maintain or enhance the quality of the data.



“The Environmental Protection Agency (EPA) is actively working to implement the President’s program for reinventing government and reforming regulatory policy. As part of this program, EPA has been working at breaking down barriers to using new monitoring techniques. One barrier is the requirement to use specific measurement methods or technologies in complying with some of the Agency’s regulations. EPA’s Environmental Monitoring Management Council (EMMC), members of the regulated community, and Congress agree that EPA needs to change the way it specifies monitoring requirements in regulations and permits. There is broad acceptance for Agency-wide use of a nonprescriptive performance-based measurement system (PBMS)”. PBMS conveys "what" needs to be accomplished, but not prescriptively "how" to do it. EPA defines PBMS as a set of processes wherein the data needs, mandates, or limitations of a program or project are specified, and serve as criteria for selecting appropriate methods to meet those needs in a cost-effective manner. The criteria may be published in regulations, technical guidance documents, permits, work plans, or enforcement orders. Under a performance-based approach, EPA would specify:

- Questions to be answered by monitoring.
- Decisions to be supported by the data.
- Level of uncertainty acceptable for making decisions.
- Documentation to be generated to support this approach in the RCRA monitoring program.

(Taken from OSWER PBMS Implementation Plan, October 9, 1998, A Cooperative Effort Among: OSW, OERR, OUST, TIO, FFROL and CEPPO).”

The US EPA has included references to being “performance-based” in many of their newer methods. The use of performance-based methods is even more critical for programs like this study in order to allow the laboratory to adapt methods that optimize the goal of the project in terms of achieving ultra-low sensitivity and analysis of new chemicals of concern. I would also like to quote US EPA Method 8270-

“In addition, SW-846 methods, with the exception of required method use for the analysis of method-defined parameters, are intended to be guidance methods which contain general information on how to perform an analytical procedure or technique which a laboratory can use as a basic starting point for generating its own detailed Standard Operating Procedure (SOP), either for its own general use or for a specific project application.”

Performance-based chemistry was first used for NOAA’s National Status and Trends Program in the early 1980’s which is now operated under the US EPA as the National Coastal Condition Assessment



Program (NCCA). The NS&T program included 3 large well-established laboratories for the analysis of samples from each of 3 regions of the United States. It was concluded at the beginning of this program that a significant improvement in the quality and comparability of the results would be achieved by allowing the participating laboratories to optimize their own individual methods. The key to this approach and any subsequent performance-based chemistry programs is the successful inclusion of an interlaboratory comparison as well as the clear detailed specification of data quality objectives (DQOs) for the project. All the Bight Survey projects from 1994 to 2013 have been performance-based and each of the surveys included interlaboratory comparisons as a key component for ensuring high quality data that is comparable between laboratories over time.

The one area that has not evolved along with the advent of performance-based chemistry is the data validation process. Today's data validation process still relies upon collecting and evaluating laboratory analytical information and comparing it to the details of a specific EPA analytical method such as EPA 8270 for GCMS analysis or EPA 6020 for ICPMS analysis. This can occur even when the requirement in the method is out-dated and based on old technology. Data validation procedures need to be adapted to performance-based chemistry allowing for any individual laboratory to use or not use any method or any part of a method they choose as long as they can demonstrate their ability to successfully pass interlaboratory comparisons, performance evaluation samples, and meet the data quality objectives of the project QA Plan.

EPA Method Modifications-

With reference to performance-based methods, the following information is provided as a basis of comparison between the Physis methods used for this study and the associated EPA Method. Its purpose is solely to provide information and is not intended to highlight errors. Physis has successfully participated in several interlaboratory comparison studies including the Bight 13 Project demonstrating the viability of our analytical process. Physis has included the QAQC data in this report necessary to show that the results comply with the project QA Plan and indicate acceptable accuracy and precision.

1. Internal Laboratory QAQC Frequency for GCMS Analyses- Physis uses GC columns that are longer and narrower and the GC oven is programmed at a very slow rate of 2.5°C per minute both of which are not typically used by most laboratories. The purpose for this is to maximize separation of the 100's to 1000's of compounds present in environmental samples reducing co-elution with interfering compounds, reducing background noise, and enhancing the accuracy of quantitation. At the same time this process extends the run-time for each sample to ca. 90 minutes as compared to the 15-30 minutes with typical conditions. At 90



minutes per run, the maximum number of runs for any 12-hour period is 8. Each batch of samples typically includes the DFTPP tune solution and the initial calibration verification of from 1 to 4 solutions (Depending on the target parameters) for a total of 2-5 runs leaving an opening for 3-6 samples before having to redo the QA samples if the 12-hour constraint is applied. At this rate it's not economically viable to follow the 12-hour rule and complete the analyses of the samples.

Since the 12-hour criteria was established when the state-of-the-art was GCs equipped with packed columns and GCMS systems were not anywhere near as stable as the electronics of today. Physis does follow the criteria's intent by analyzing the calibration verification standards at the beginning, middle, and end of each batch of no more than 20 samples rather than every 12 hours.

2. Calibration and Quantitation- Physis bases its calibration curve on the mass of each compound rather than concentration. Using the internal standard method of quantitation, use of mass rather than concentration eliminates the extract or digestate volume term from the formula used to calculate concentrations in the samples. Therefore there is no need to measure the precise volume of the extract or digestate. For GCMS analysis, extract volumes can be quite low and small volume changes will be reflected in increased variation of the internal standard response from sample to sample due to differences in the extract volume and not due to the instability of the GCMS. Through long-term experience, Physis chemists are trained to take into consideration this change in volume when evaluating whether a change in the internal standard response is caused by a change in the GCMS sensitivity or extract volume.

The "recovery" of the Internal Standard and its variability is reported in Form VII SV-1 for reporting IS peak areas. For the sample IS compared to the ICV/CCV IS peak area, this form has a wide acceptance range at 50-200% which is considerably larger than the variation in the nominal estimate made of our extract volumes. Therefore significant deviations from expected IS responses are clearly obvious to the analyst and would require corrective action and re-analysis. The difficulty is the fact that Form VII SV-1 does not accommodate volumes and therefore does not allow for evaluation of the sample IS as it compares to the ICV/CCV on an even basis.

3. Negative Chemical Ionization- Some target analytes are analyzed using the GCMS in the Negative Chemical Ionization Mode (NCI). This results in non-standard mass spectra that cannot be compared to the EI spectra in the NIST library.



4. Aroclor PCBs- Physis analyzes PCBs using a congener-based calibration standard composed of 52 or more different congeners representing ca. 75-80% of the PCBs discharged into the environment. Physis uses the results from the congener analysis to estimate Aroclor concentrations. To do this, Physis determines the Aroclor mixture present in the sample, sums the results for the congeners present in that Aroclor mixture then corrects the result to account for the missing mass based on a previous comparison of an Aroclor calibration standard to the congener mixture. Physis does not perform blank or matrix spikes using Aroclor mixtures since PCB spiking is done via the congener solution. Aroclor-based quantitation is inherently inaccurate and imprecise and results based on our process are as accurate if not more accurate than the Aroclor-based process since the quantitation is based on individual peaks rather than summing peaks.
5. Pyrethroid/Fipronil Surrogates- Physis spikes all samples with a surrogate solution containing TCMX, PCB030, PCB112, and PCB198 for the Chlorinated Pesticides, Congener PCBs, Pyrethroids, and Fipronils; d8-Naphthalene, d10-Acenaphthene, d10-Phenanthrene, d12-Chrysene, and d12-Perylene for the PAHs; and FBDE-3002, FBDE-5004, and FBDE-8001 for the PBDEs. Since Pyrethroids and Fipronils are quantified using NCI, only the PCB112 and PCB198 surrogates are used as surrogates for these compounds.
6. Sample Preservation - According to the Standard Operating Procedure for Sample Logistics, sediment and tissue samples were placed in a freezer maintained at $-20 \pm 4^{\circ}\text{C}$ until preserved or processed.

ANALYTICAL

REPORT

PHYSICS

TERRA **AMERICA** **AURORA**

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CA ELAP #2769

Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div> Sample ID: 22036-R1 B13-8145 Grab Method: EPA 8270C </div> <div> Matrix: Sediment Batch ID: O-5024 </div> <div> Sampled: 07-Aug-13 10:34 Prepared: 16-Oct-13 </div> <div> Received: 08-Aug-13 Analyzed: 04-Nov-13 0:00 </div> </div>						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	2.4	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	
<div> <div> Sample ID: 22037-R1 B13-8163 Grab Method: EPA 8270C </div> <div> Matrix: Sediment Batch ID: O-5024 </div> <div> Sampled: 08-Aug-13 9:57 Prepared: 16-Oct-13 </div> <div> Received: 08-Aug-13 Analyzed: 04-Nov-13 0:00 </div> </div>						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	ND	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	
<div> <div> Sample ID: 22038-R1 B13-8160 Grab Method: EPA 8270C </div> <div> Matrix: Sediment Batch ID: O-5024 </div> <div> Sampled: 08-Aug-13 9:05 Prepared: 16-Oct-13 </div> <div> Received: 08-Aug-13 Analyzed: 04-Nov-13 0:00 </div> </div>						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	



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CA ELAP #2769

Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1260	NA	ND	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22039-R1**B13-8159 Grab****Matrix: Sediment****Sampled: 08-Aug-13 11:50****Received: 08-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	ND	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22040-R1**B13-8157 Grab****Matrix: Sediment****Sampled: 08-Aug-13 7:24****Received: 08-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	ND	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22041-R1**B13-8156 Grab****Matrix: Sediment****Sampled: 07-Aug-13 16:58****Received: 08-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	



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Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	ND	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22042-R1**B13-8152 Grab****Matrix: Sediment****Sampled: 07-Aug-13 13:56****Received: 08-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	ND	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22043-R1**B13-8151 Grab****Matrix: Sediment****Sampled: 07-Aug-13 15:25****Received: 08-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	4.6	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22044-R1**B13-8146 Grab****Matrix: Sediment****Sampled: 07-Aug-13 11:37****Received: 08-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 0:00



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Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	ND	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22036-R1</div> <div>B13-8145 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5024</div> </div> <div> <div>Sampled: 07-Aug-13 10:34</div> <div>Prepared: 16-Oct-13</div> </div> <div> <div>Received: 08-Aug-13</div> <div>Analyzed: 04-Nov-13 10:15</div> </div>						
(PCB030)	NA	82			% Recovery	
(PCB112)	NA	92			% Recovery	
(PCB198)	NA	69			% Recovery	
(TCMX)	NA	72			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	0.87	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	0.35	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	0.81	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	0.13	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	0.7	0.05	0.1	ng/dry g	

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 17:07

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
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Sample ID: 22037-R1**B13-8163 Grab****Matrix: Sediment****Sampled: 08-Aug-13 9:57****Received: 08-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 11:58

(PCB030)	NA	81			% Recovery	
(PCB112)	NA	69			% Recovery	
(PCB198)	NA	62			% Recovery	
(TCMX)	NA	76			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	1.76	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	1.79	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	2.5	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	0.86	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	1.95	0.05	0.1	ng/dry g	

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 18:11

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
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Sample ID: 22038-R1**B13-8160 Grab****Matrix: Sediment****Sampled: 08-Aug-13 9:05****Received: 08-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 13:41

(PCB030)	NA	62			% Recovery	
(PCB112)	NA	66			% Recovery	
(PCB198)	NA	54			% Recovery	
(TCMX)	NA	50			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 19:15

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
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Sample ID: 22039-R1**B13-8159 Grab****Matrix: Sediment****Sampled: 08-Aug-13 11:50****Received: 08-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 15:23

(PCB030)	NA	69			% Recovery	
(PCB112)	NA	62			% Recovery	
(PCB198)	NA	59			% Recovery	
(TCMX)	NA	66			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
Method: EPA 8270C-NCI		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 25-Oct-13 20:19
Toxaphene	NA	ND	0.1	0.2	ng/dry g	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22040-R1</div> <div>B13-8157 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5024</div> </div> <div> <div>Sampled: 08-Aug-13 7:24</div> <div>Prepared: 16-Oct-13</div> </div> <div> <div>Received: 08-Aug-13</div> <div>Analyzed: 04-Nov-13 17:06</div> </div>						
(PCB030)	NA	77			% Recovery	
(PCB112)	NA	59			% Recovery	
(PCB198)	NA	50			% Recovery	
(TCMX)	NA	69			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 21:22

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
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Sample ID: 22041-R1**B13-8156 Grab****Matrix: Sediment****Sampled: 07-Aug-13 16:58****Received: 08-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 18:48

(PCB030)	NA	79			% Recovery
(PCB112)	NA	69			% Recovery
(PCB198)	NA	64			% Recovery
(TCMX)	NA	73			% Recovery
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g
Aldrin	NA	ND	0.05	0.1	ng/dry g
BHC-alpha	NA	ND	0.05	0.1	ng/dry g
BHC-beta	NA	ND	0.05	0.1	ng/dry g
BHC-delta	NA	ND	0.05	0.1	ng/dry g
BHC-gamma	NA	ND	0.05	0.1	ng/dry g
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g
Dicofol	NA	ND	0.05	0.1	ng/dry g
Dieldrin	NA	ND	0.05	0.1	ng/dry g



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 22:27

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
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Sample ID: 22042-R1**B13-8152 Grab****Matrix: Sediment****Sampled: 07-Aug-13 13:56****Received: 08-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 20:31

(PCB030)	NA	74			% Recovery	
(PCB112)	NA	63			% Recovery	
(PCB198)	NA	54			% Recovery	
(TCMX)	NA	59			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	0.22	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	0.68	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	1.02	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	0.38	0.05	0.1	ng/dry g	

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 23:31

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
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Sample ID: 22043-R1**B13-8151 Grab****Matrix: Sediment****Sampled: 07-Aug-13 15:25****Received: 08-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 22:14

(PCB030)	NA	64			% Recovery	
(PCB112)	NA	76			% Recovery	
(PCB198)	NA	66			% Recovery	
(TCMX)	NA	60			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
Method: EPA 8270C-NCI		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 26-Oct-13 0:35
Toxaphene	NA	ND	0.1	0.2	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22044-R1</div> <div>B13-8146 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5024</div> </div> <div> <div>Sampled: 07-Aug-13 11:37</div> <div>Prepared: 16-Oct-13</div> </div> <div> <div>Received: 08-Aug-13</div> <div>Analyzed: 04-Nov-13 23:56</div> </div>						
(PCB030)	NA	72			% Recovery	
(PCB112)	NA	62			% Recovery	
(PCB198)	NA	56			% Recovery	
(TCMX)	NA	69			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	0.92	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
Method: EPA 8270C-NCI		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 26-Oct-13 1:39
Toxaphene	NA	ND	0.1	0.2	ng/dry g	



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Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22036-R1		B13-8145 Grab	Matrix: Sediment	Sampled: 07-Aug-13 10:34	Received: 08-Aug-13	
	Method: SM 2540B	Batch ID: C-14034		Prepared: 25-Sep-13	Analyzed: 25-Sep-13 0:00	
Percent Solids	NA	57.7	0.1	0.1	% Dry Weight	
	Method: Plumb, 1981 and TERL	Batch ID: C-14036		Prepared: 27-Sep-13	Analyzed: 27-Sep-13 0:00	
Acid Volatile Sulfides	NA	32.01	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14038		Prepared: 25-Sep-13	Analyzed: 26-Sep-13 0:00	
Ammonia as N	NA	5.41	0.02	0.03	mg/dry kg	
	Method: EPA 6020	Batch ID: E-5146		Prepared: 25-Sep-13	Analyzed: 02-Oct-13 16:58	
Total Phosphorus	NA	732.177	0.016	0.05	µg/dry g	
Sample ID: 22037-R1		B13-8163 Grab	Matrix: Sediment	Sampled: 08-Aug-13 9:57	Received: 08-Aug-13	
	Method: SM 2540B	Batch ID: C-14034		Prepared: 25-Sep-13	Analyzed: 25-Sep-13 0:00	
Percent Solids	NA	45.6	0.1	0.1	% Dry Weight	
	Method: Plumb, 1981 and TERL	Batch ID: C-14036		Prepared: 27-Sep-13	Analyzed: 27-Sep-13 0:00	
Acid Volatile Sulfides	NA	137.45	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14038		Prepared: 25-Sep-13	Analyzed: 26-Sep-13 0:00	
Ammonia as N	NA	7.87	0.02	0.03	mg/dry kg	
	Method: EPA 6020	Batch ID: E-5146		Prepared: 25-Sep-13	Analyzed: 02-Oct-13 17:07	
Total Phosphorus	NA	537.256	0.016	0.05	µg/dry g	
Sample ID: 22038-R1		B13-8160 Grab	Matrix: Sediment	Sampled: 08-Aug-13 9:05	Received: 08-Aug-13	
	Method: SM 2540B	Batch ID: C-14034		Prepared: 25-Sep-13	Analyzed: 25-Sep-13 0:00	
Percent Solids	NA	34.7	0.1	0.1	% Dry Weight	
	Method: Plumb, 1981 and TERL	Batch ID: C-14036		Prepared: 27-Sep-13	Analyzed: 27-Sep-13 0:00	
Acid Volatile Sulfides	NA	85.91	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14038		Prepared: 25-Sep-13	Analyzed: 26-Sep-13 0:00	
Ammonia as N	NA	9.62	0.02	0.03	mg/dry kg	
	Method: EPA 6020	Batch ID: E-5146		Prepared: 25-Sep-13	Analyzed: 02-Oct-13 17:12	
Total Phosphorus	NA	748.119	0.016	0.05	µg/dry g	
Sample ID: 22039-R1		B13-8159 Grab	Matrix: Sediment	Sampled: 08-Aug-13 11:50	Received: 08-Aug-13	
	Method: SM 2540B	Batch ID: C-14034		Prepared: 25-Sep-13	Analyzed: 25-Sep-13 0:00	
Percent Solids	NA	30.9	0.1	0.1	% Dry Weight	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Acid Volatile Sulfides	Method: Plumb, 1981 and TERL	Batch ID: C-14036		Prepared: 27-Sep-13		Analyzed: 27-Sep-13 0:00
	NA	190.18	0.05	0.1	mg/dry kg	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14038		Prepared: 25-Sep-13		Analyzed: 26-Sep-13 0:00
	NA	6.08	0.02	0.03	mg/dry kg	
Total Phosphorus	Method: EPA 6020	Batch ID: E-5146		Prepared: 25-Sep-13		Analyzed: 02-Oct-13 17:16
	NA	802.902	0.016	0.05	µg/dry g	
Sample ID: 22040-R1		B13-8157 Grab	Matrix: Sediment	Sampled: 08-Aug-13 7:24	Received: 08-Aug-13	
		Method: SM 2540B	Batch ID: C-14034	Prepared: 25-Sep-13	Analyzed: 25-Sep-13 0:00	
Percent Solids	NA	47.3	0.1	0.1	% Dry Weight	
Acid Volatile Sulfides	Method: Plumb, 1981 and TERL	Batch ID: C-14036		Prepared: 27-Sep-13		Analyzed: 27-Sep-13 0:00
	NA	180.29	0.05	0.1	mg/dry kg	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14038		Prepared: 25-Sep-13		Analyzed: 26-Sep-13 0:00
	NA	5.86	0.02	0.03	mg/dry kg	
Total Phosphorus	Method: EPA 6020	Batch ID: E-5146		Prepared: 25-Sep-13		Analyzed: 02-Oct-13 17:21
	NA	588.419	0.016	0.05	µg/dry g	
Sample ID: 22041-R1		B13-8156 Grab	Matrix: Sediment	Sampled: 07-Aug-13 16:58	Received: 08-Aug-13	
		Method: SM 2540B	Batch ID: C-14034	Prepared: 25-Sep-13	Analyzed: 25-Sep-13 0:00	
Percent Solids	NA	41.2	0.1	0.1	% Dry Weight	
Acid Volatile Sulfides	Method: Plumb, 1981 and TERL	Batch ID: C-14036		Prepared: 27-Sep-13		Analyzed: 27-Sep-13 0:00
	NA	24.37	0.05	0.1	mg/dry kg	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14038		Prepared: 25-Sep-13		Analyzed: 26-Sep-13 0:00
	NA	5.7	0.02	0.03	mg/dry kg	
Total Phosphorus	Method: EPA 6020	Batch ID: E-5146		Prepared: 25-Sep-13		Analyzed: 02-Oct-13 17:25
	NA	562.799	0.016	0.05	µg/dry g	
Sample ID: 22042-R1		B13-8152 Grab	Matrix: Sediment	Sampled: 07-Aug-13 13:56	Received: 08-Aug-13	
		Method: SM 2540B	Batch ID: C-14034	Prepared: 25-Sep-13	Analyzed: 25-Sep-13 0:00	
Percent Solids	NA	76.1	0.1	0.1	% Dry Weight	
Acid Volatile Sulfides	Method: Plumb, 1981 and TERL	Batch ID: C-14036		Prepared: 27-Sep-13		Analyzed: 27-Sep-13 0:00
	NA	0.08	0.05	0.1	mg/dry kg	J
	Method: SM 4500-NH ₃ D	Batch ID: C-14038		Prepared: 25-Sep-13		Analyzed: 26-Sep-13 0:00



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Ammonia as N	NA	1.87	0.02	0.03	mg/dry kg	
	Method: EPA 6020	Batch ID: E-5146		Prepared: 25-Sep-13		Analyzed: 02-Oct-13 17:30
Total Phosphorus	NA	171.707	0.016	0.05	µg/dry g	
Sample ID: 22043-R1	B13-8151 Grab	Matrix: Sediment		Sampled: 07-Aug-13 15:25		Received: 08-Aug-13
	Method: SM 2540B	Batch ID: C-14034		Prepared: 25-Sep-13		Analyzed: 25-Sep-13 0:00
Percent Solids	NA	31.9	0.1	0.1	% Dry Weight	
	Method: Plumb, 1981 and TERL	Batch ID: C-14036		Prepared: 27-Sep-13		Analyzed: 27-Sep-13 0:00
Acid Volatile Sulfides	NA	99.85	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14038		Prepared: 25-Sep-13		Analyzed: 26-Sep-13 0:00
Ammonia as N	NA	7.46	0.02	0.03	mg/dry kg	
	Method: EPA 6020	Batch ID: E-5146		Prepared: 25-Sep-13		Analyzed: 02-Oct-13 17:35
Total Phosphorus	NA	706.448	0.016	0.05	µg/dry g	
Sample ID: 22044-R1	B13-8146 Grab	Matrix: Sediment		Sampled: 07-Aug-13 11:37		Received: 08-Aug-13
	Method: SM 2540B	Batch ID: C-14034		Prepared: 25-Sep-13		Analyzed: 25-Sep-13 0:00
Percent Solids	NA	53	0.1	0.1	% Dry Weight	
	Method: Plumb, 1981 and TERL	Batch ID: C-14036		Prepared: 27-Sep-13		Analyzed: 27-Sep-13 0:00
Acid Volatile Sulfides	NA	8.09	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14038		Prepared: 25-Sep-13		Analyzed: 26-Sep-13 0:00
Ammonia as N	NA	2.97	0.02	0.03	mg/dry kg	
	Method: EPA 6020	Batch ID: E-5146		Prepared: 25-Sep-13		Analyzed: 02-Oct-13 17:39
Total Phosphorus	NA	892.91	0.016	0.05	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22036-R1 B13-8145 Grab Matrix: Sediment Sampled: 07-Aug-13 10:34 Received: 08-Aug-13 Method: EPA 6020 Batch ID: E-5146 Prepared: 25-Sep-13 Analyzed: 02-Oct-13 23:39						
Aluminum (Al)	NA	15662.9	1	5	µg/dry g	
Antimony (Sb)	NA	0.2	0.025	0.05	µg/dry g	
Arsenic (As)	NA	5.831	0.025	0.05	µg/dry g	
Barium (Ba)	NA	67.037	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.303	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1482	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	26.2175	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	105.2292	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	18607.7	1	5	µg/dry g	
Lead (Pb)	NA	13.4335	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	7.72	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.29	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.1	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	91.676	0.025	0.05	µg/dry g	
Method: EPA 245-7 Batch ID: E-6029 Prepared: 04-Oct-13 Analyzed: 04-Oct-13 0:00						
Mercury (Hg)	NA	0.1128	0.00001	0.00002	µg/dry g	
Sample ID: 22037-R1 B13-8163 Grab Matrix: Sediment Sampled: 08-Aug-13 9:57 Received: 08-Aug-13 Method: EPA 6020 Batch ID: E-5146 Prepared: 25-Sep-13 Analyzed: 02-Oct-13 23:49						
Aluminum (Al)	NA	27114	1	5	µg/dry g	
Antimony (Sb)	NA	0.628	0.025	0.05	µg/dry g	
Arsenic (As)	NA	10.164	0.025	0.05	µg/dry g	
Barium (Ba)	NA	97.343	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.817	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.3262	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	28.8573	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	34.6117	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	24265.4	1	5	µg/dry g	
Lead (Pb)	NA	27.4319	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	11.2	0.01	0.02	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	NA	0.505	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.13	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	132.681	0.025	0.05	µg/dry g	
Method: EPA 245.7		Batch ID: E-6029		Prepared: 04-Oct-13		Analyzed: 04-Oct-13 0:00
Mercury (Hg)	NA	0.0623	0.00001	0.00002	µg/dry g	

Sample ID: 22038-R1**B13-8160 Grab****Matrix: Sediment****Sampled: 08-Aug-13 9:05****Received: 08-Aug-13**

Method: EPA 6020

Batch ID: E-5146

Prepared: 25-Sep-13

Analyzed: 02-Oct-13 23:53

Aluminum (Al)	NA	30271.3	1	5	µg/dry g	
Antimony (Sb)	NA	0.442	0.025	0.05	µg/dry g	
Arsenic (As)	NA	13.776	0.025	0.05	µg/dry g	
Barium (Ba)	NA	93.279	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.848	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.3038	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	41.6714	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	42.6612	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	34072	1	5	µg/dry g	
Lead (Pb)	NA	36.5303	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	14.84	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.505	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.21	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	144.931	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.0753	0.00001	0.00002	µg/dry g	
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Sample ID: 22039-R1**B13-8159 Grab****Matrix: Sediment****Sampled: 08-Aug-13 11:50****Received: 08-Aug-13**

Method: EPA 6020

Batch ID: E-5146

Prepared: 25-Sep-13

Analyzed: 02-Oct-13 23:58

Aluminum (Al)	NA	52121.3	1	5	µg/dry g	
Antimony (Sb)	NA	0.499	0.025	0.05	µg/dry g	
Arsenic (As)	NA	16.303	0.025	0.05	µg/dry g	
Barium (Ba)	NA	119.575	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	1.184	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2424	0.0025	0.005	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	NA	55.7947	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	48.3923	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	44487.9	1	5	µg/dry g	
Lead (Pb)	NA	42.8165	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	19.33	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.513	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.22	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	152.299	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.0812	0.00001	0.00002	µg/dry g	
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Sample ID: 22040-R1**B13-8157 Grab****Matrix: Sediment****Sampled: 08-Aug-13 7:24****Received: 08-Aug-13**

Method: EPA 6020

Batch ID: E-5146

Prepared: 25-Sep-13

Analyzed: 03-Oct-13 0:03

Aluminum (Al)	NA	32718.5	1	5	µg/dry g	
Antimony (Sb)	NA	0.232	0.025	0.05	µg/dry g	
Arsenic (As)	NA	8.199	0.025	0.05	µg/dry g	
Barium (Ba)	NA	120.505	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.579	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1999	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	44.075	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	28.3573	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	31319.9	1	5	µg/dry g	
Lead (Pb)	NA	17.5552	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	12.8	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.282	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.12	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	98.804	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.0462	0.00001	0.00002	µg/dry g	
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Sample ID: 22041-R1**B13-8156 Grab****Matrix: Sediment****Sampled: 07-Aug-13 16:58****Received: 08-Aug-13**

Method: EPA 6020

Batch ID: E-5146

Prepared: 25-Sep-13

Analyzed: 03-Oct-13 0:07

Aluminum (Al)	NA	19156.7	1	5	µg/dry g	
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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Antimony (Sb)	NA	0.164	0.025	0.05	µg/dry g	
Arsenic (As)	NA	6.625	0.025	0.05	µg/dry g	
Barium (Ba)	NA	90.091	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.393	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2348	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	37.5169	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	31.6003	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	24942.4	1	5	µg/dry g	
Lead (Pb)	NA	15.6703	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	11.11	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.346	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.14	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	89.781	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.0765	0.00001	0.00002	µg/dry g	
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Sample ID: 22042-R1**B13-8152 Grab****Matrix: Sediment****Sampled: 07-Aug-13 13:56****Received: 08-Aug-13**

Method: EPA 6020

Batch ID: E-5146

Prepared: 25-Sep-13

Analyzed: 03-Oct-13 0:12

Aluminum (Al)	NA	2830	1	5	µg/dry g	
Antimony (Sb)	NA	0.044	0.025	0.05	µg/dry g	J
Arsenic (As)	NA	1.368	0.025	0.05	µg/dry g	
Barium (Ba)	NA	13.146	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.05	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.0245	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	4.884	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	1.8384	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	3441.2	1	5	µg/dry g	
Lead (Pb)	NA	1.957	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	1.14	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.034	0.025	0.05	µg/dry g	J
Silver (Ag)	NA	ND	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	10.178	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Mercury (Hg)	NA	0.0043	0.00001	0.00002	µg/dry g	
Sample ID: 22043-R1 B13-8151 Grab Matrix: Sediment Sampled: 07-Aug-13 15:25 Received: 08-Aug-13 Method: EPA 6020 Batch ID: E-5146 Prepared: 25-Sep-13 Analyzed: 03-Oct-13 0:17						
Aluminum (Al)	NA	30565.3	1	5	µg/dry g	
Antimony (Sb)	NA	0.365	0.025	0.05	µg/dry g	
Arsenic (As)	NA	9.813	0.025	0.05	µg/dry g	
Barium (Ba)	NA	114.084	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.587	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2501	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	50.9315	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	101.8778	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	32936.1	1	5	µg/dry g	
Lead (Pb)	NA	28.0842	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	15.6	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.643	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.19	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	159.807	0.025	0.05	µg/dry g	
Method: EPA 245-7 Batch ID: E-6029 Prepared: 04-Oct-13 Analyzed: 04-Oct-13 0:00						
Mercury (Hg)	NA	0.1811	0.00001	0.00002	µg/dry g	
Sample ID: 22044-R1 B13-8146 Grab Matrix: Sediment Sampled: 07-Aug-13 11:37 Received: 08-Aug-13 Method: EPA 6020 Batch ID: E-5146 Prepared: 25-Sep-13 Analyzed: 03-Oct-13 0:21						
Aluminum (Al)	NA	20272	1	5	µg/dry g	
Antimony (Sb)	NA	0.275	0.025	0.05	µg/dry g	
Arsenic (As)	NA	7.261	0.025	0.05	µg/dry g	
Barium (Ba)	NA	72.45	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.388	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.3629	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	32.6866	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	132.3745	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	21032.2	1	5	µg/dry g	
Lead (Pb)	NA	19.6353	0.0025	0.005	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Nickel (Ni)	NA	9.22	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.406	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.15	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	485.516	0.025	0.05	µg/dry g	
Method: EPA 245.7		Batch ID: E-6029		Prepared: 04-Oct-13		Analyzed: 04-Oct-13 0:00
Mercury (Hg)	NA	0.1881	0.00001	0.00002	µg/dry g	



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22036-R1 B13-8145 Grab Matrix: Sediment Sampled: 07-Aug-13 10:34 Received: 08-Aug-13 Method: EPA 200.8 Batch ID: E-5153 Prepared: 08-Oct-13 Analyzed: 10-Oct-13 15:19						
Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu)	NA	0.5146	0.0062	0.0124	µmol/dry g	
Lead (Pb)	NA	0.044	0.0002	0.0004	µmol/dry g	
Nickel (Ni)	NA	0.0098	0.0033	0.0066	µmol/dry g	
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn)	NA	0.7579	0.0015	0.003	µmol/dry g	
Sample ID: 22037-R1 B13-8163 Grab Matrix: Sediment Sampled: 08-Aug-13 9:57 Received: 08-Aug-13 Method: EPA 200.8 Batch ID: E-5153 Prepared: 08-Oct-13 Analyzed: 10-Oct-13 15:28						
Cadmium (Cd)	NA	0.002	0.0018	0.0036	µmol/dry g	J
Copper (Cu)	NA	0.1192	0.0062	0.0124	µmol/dry g	
Lead (Pb)	NA	0.0887	0.0002	0.0004	µmol/dry g	
Nickel (Ni)	NA	0.0183	0.0033	0.0066	µmol/dry g	
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn)	NA	0.9639	0.0015	0.003	µmol/dry g	
Sample ID: 22038-R1 B13-8160 Grab Matrix: Sediment Sampled: 08-Aug-13 9:05 Received: 08-Aug-13 Method: EPA 200.8 Batch ID: E-5153 Prepared: 08-Oct-13 Analyzed: 10-Oct-13 15:33						
Cadmium (Cd)	NA	0.0019	0.0018	0.0036	µmol/dry g	J
Copper (Cu)	NA	0.1329	0.0062	0.0124	µmol/dry g	
Lead (Pb)	NA	0.1142	0.0002	0.0004	µmol/dry g	
Nickel (Ni)	NA	0.019	0.0033	0.0066	µmol/dry g	
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn)	NA	0.9162	0.0015	0.003	µmol/dry g	
Sample ID: 22039-R1 B13-8159 Grab Matrix: Sediment Sampled: 08-Aug-13 11:50 Received: 08-Aug-13 Method: EPA 200.8 Batch ID: E-5153 Prepared: 08-Oct-13 Analyzed: 10-Oct-13 15:38						
Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu)	NA	0.0791	0.0062	0.0124	µmol/dry g	
Lead (Pb)	NA	0.1336	0.0002	0.0004	µmol/dry g	
Nickel (Ni)	NA	0.023	0.0033	0.0066	µmol/dry g	



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn)	NA	0.9003	0.0015	0.003	µmol/dry g	

Sample ID: 22040-R1**B13-8157 Grab****Matrix: Sediment****Sampled: 08-Aug-13 7:24****Received: 08-Aug-13**

Method: EPA 200.8

Batch ID: E-5153

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 15:42

Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu)	NA	0.0702	0.0062	0.0124	µmol/dry g	
Lead (Pb)	NA	0.0639	0.0002	0.0004	µmol/dry g	
Nickel (Ni)	NA	0.0135	0.0033	0.0066	µmol/dry g	
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn)	NA	0.5166	0.0015	0.003	µmol/dry g	

Sample ID: 22041-R1**B13-8156 Grab****Matrix: Sediment****Sampled: 07-Aug-13 16:58****Received: 08-Aug-13**

Method: EPA 200.8

Batch ID: E-5153

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 15:42

Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu)	NA	0.1286	0.0062	0.0124	µmol/dry g	
Lead (Pb)	NA	0.0604	0.0002	0.0004	µmol/dry g	
Nickel (Ni)	NA	0.0162	0.0033	0.0066	µmol/dry g	
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn)	NA	0.5513	0.0015	0.003	µmol/dry g	

Sample ID: 22042-R1**B13-8152 Grab****Matrix: Sediment****Sampled: 07-Aug-13 13:56****Received: 08-Aug-13**

Method: EPA 200.8

Batch ID: E-5153

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 15:52

Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu)	NA	0.0076	0.0062	0.0124	µmol/dry g	J
Lead (Pb)	NA	0.0047	0.0002	0.0004	µmol/dry g	
Nickel (Ni)	NA	ND	0.0033	0.0066	µmol/dry g	
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn)	NA	0.0563	0.0015	0.003	µmol/dry g	

Sample ID: 22043-R1**B13-8151 Grab****Matrix: Sediment****Sampled: 07-Aug-13 15:25****Received: 08-Aug-13**

Method: EPA 200.8

Batch ID: E-5153

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 15:57

Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu)	NA	0.2096	0.0062	0.0124	µmol/dry g	



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Lead (Pb)	NA	0.0937	0.0002	0.0004	µmol/dry g	
Nickel (Ni)	NA	0.0199	0.0033	0.0066	µmol/dry g	
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn)	NA	1.1788	0.0015	0.003	µmol/dry g	

Sample ID: 22044-R1**B13-8146 Grab****Matrix: Sediment****Sampled: 07-Aug-13 11:37****Received: 08-Aug-13**

Method: EPA 200.8

Batch ID: E-5153

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 16:01

Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu)	NA	0.6723	0.0062	0.0124	µmol/dry g	
Lead (Pb)	NA	0.0661	0.0002	0.0004	µmol/dry g	
Nickel (Ni)	NA	0.0139	0.0033	0.0066	µmol/dry g	
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn)	NA	2.8545	0.0015	0.003	µmol/dry g	



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Fipronil & Degradates**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22036-R1		B13-8145 Grab		Matrix: Sediment		Sampled: 07-Aug-13 10:34
		Method: EPA 8270C-NCI		Batch ID: O-5024		Received: 08-Aug-13
				Prepared: 16-Oct-13		Analyzed: 25-Oct-13 17:07
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22037-R1		B13-8163 Grab		Matrix: Sediment		Sampled: 08-Aug-13 9:57
		Method: EPA 8270C-NCI		Batch ID: O-5024		Received: 08-Aug-13
				Prepared: 16-Oct-13		Analyzed: 25-Oct-13 18:11
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22038-R1		B13-8160 Grab		Matrix: Sediment		Sampled: 08-Aug-13 9:05
		Method: EPA 8270C-NCI		Batch ID: O-5024		Received: 08-Aug-13
				Prepared: 16-Oct-13		Analyzed: 25-Oct-13 19:15
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22039-R1		B13-8159 Grab		Matrix: Sediment		Sampled: 08-Aug-13 11:50
		Method: EPA 8270C-NCI		Batch ID: O-5024		Received: 08-Aug-13
				Prepared: 16-Oct-13		Analyzed: 25-Oct-13 20:19
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22040-R1		B13-8157 Grab		Matrix: Sediment		Sampled: 08-Aug-13 7:24
		Method: EPA 8270C-NCI		Batch ID: O-5024		Received: 08-Aug-13
				Prepared: 16-Oct-13		Analyzed: 25-Oct-13 21:22
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	



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Fipronil & Degradates

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22041-R1 B13-8156 Grab Matrix: Sediment Sampled: 07-Aug-13 16:58 Received: 08-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 25-Oct-13 22:27						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22042-R1 B13-8152 Grab Matrix: Sediment Sampled: 07-Aug-13 13:56 Received: 08-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 25-Oct-13 23:31						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22043-R1 B13-8151 Grab Matrix: Sediment Sampled: 07-Aug-13 15:25 Received: 08-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 26-Oct-13 0:35						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22044-R1 B13-8146 Grab Matrix: Sediment Sampled: 07-Aug-13 11:37 Received: 08-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 26-Oct-13 1:39						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22036-R1</div> <div>B13-8145 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5024</div> </div> <div> <div>Sampled: 07-Aug-13 10:34</div> <div>Prepared: 16-Oct-13</div> </div> <div> <div>Received: 08-Aug-13</div> <div>Analyzed: 04-Nov-13 10:15</div> </div>						
PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	0.29	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.38	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.39	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	0.46	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	0.1	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	0.28	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22037-R1

B13-8163 Grab

Matrix: Sediment

Sampled: 08-Aug-13 9:57

Received: 08-Aug-13

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 11:58

PCB003	NA	ND	0.05	0.1	ng/dry g	
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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	ND	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22038-R1**B13-8160 Grab****Matrix: Sediment****Sampled: 08-Aug-13 9:05****Received: 08-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 13:41

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	ND	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22039-R1**B13-8159 Grab****Matrix: Sediment****Sampled: 08-Aug-13 11:50****Received: 08-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 15:23

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22040-R1**B13-8157 Grab****Matrix: Sediment****Sampled: 08-Aug-13 7:24****Received: 08-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 17:06

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	ND	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22041-R1**B13-8156 Grab****Matrix: Sediment****Sampled: 07-Aug-13 16:58****Received: 08-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 18:48

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	ND	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22042-R1**B13-8152 Grab****Matrix: Sediment****Sampled: 07-Aug-13 13:56****Received: 08-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 20:31

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	ND	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22043-R1**B13-8151 Grab****Matrix: Sediment****Sampled: 07-Aug-13 15:25****Received: 08-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 22:14

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.27	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	0.95	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	1.04	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	0.43	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	1	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22044-R1**B13-8146 Grab****Matrix: Sediment****Sampled: 07-Aug-13 11:37****Received: 08-Aug-13**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 04-Nov-13 23:56

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	ND	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22036-R1		B13-8145 Grab		Matrix: Sediment		Sampled: 07-Aug-13 10:34
Method: EPA 8270C-NCI		Batch ID: O-5024		Prepared: 16-Oct-13		Received: 08-Aug-13
(DFPBDE)	NA	78			% Recovery	Analyzed: 30-Oct-13 9:59
(FTBDE)	NA	90			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.41	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22037-R1		B13-8163 Grab		Matrix: Sediment		Sampled: 08-Aug-13 9:57
Method: EPA 8270C-NCI		Batch ID: O-5024		Prepared: 16-Oct-13		Received: 08-Aug-13
(DFPBDE)	NA	76			% Recovery	Analyzed: 30-Oct-13 4:47
(FTBDE)	NA	105			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.48	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	0.21	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	0.05	0.05	0.1	ng/dry g	J
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22038-R1

B13-8160 Grab

Matrix: Sediment

Sampled: 08-Aug-13 9:05

Received: 08-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 30-Oct-13 5:26

(DFPBDE)	NA	75			% Recovery	
(FTBDE)	NA	95			% Recovery	
PBDE017	NA	0.05	0.05	0.1	ng/dry g	J
PBDE028	NA	0.15	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.63	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	0.26	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22039-R1

B13-8159 Grab

Matrix: Sediment

Sampled: 08-Aug-13 11:50

Received: 08-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 30-Oct-13 6:05

(DFPBDE)	NA	77			% Recovery	
(FTBDE)	NA	91			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.74	0.05	0.1	ng/dry g	
PBDE071	NA	0.3	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22040-R1

B13-8157 Grab

Matrix: Sediment

Sampled: 08-Aug-13 7:24

Received: 08-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 30-Oct-13 6:44

(DFPBDE)	NA	62			% Recovery
(FTBDE)	NA	89			% Recovery
PBDE017	NA	ND	0.05	0.1	ng/dry g
PBDE028	NA	ND	0.05	0.1	ng/dry g
PBDE047	NA	ND	0.05	0.1	ng/dry g
PBDE049	NA	ND	0.05	0.1	ng/dry g
PBDE066	NA	0.41	0.05	0.1	ng/dry g
PBDE071	NA	ND	0.05	0.1	ng/dry g
PBDE085	NA	ND	0.05	0.1	ng/dry g
PBDE099	NA	ND	0.05	0.1	ng/dry g
PBDE100	NA	ND	0.05	0.1	ng/dry g
PBDE138	NA	ND	0.05	0.1	ng/dry g
PBDE153	NA	ND	0.05	0.1	ng/dry g
PBDE154	NA	ND	0.05	0.1	ng/dry g
PBDE183	NA	ND	0.05	0.1	ng/dry g
PBDE190	NA	ND	0.05	0.1	ng/dry g



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PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22041-R1

B13-8156 Grab

Matrix: Sediment

Sampled: 07-Aug-13 16:58

Received: 08-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 30-Oct-13 7:23

(DFPBDE)	NA	70			% Recovery	
(FTBDE)	NA	94			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.53	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22042-R1

B13-8152 Grab

Matrix: Sediment

Sampled: 07-Aug-13 13:56

Received: 08-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 30-Oct-13 8:02

(DFPBDE)	NA	54			% Recovery	
(FTBDE)	NA	100			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.26	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22043-R1

B13-8151 Grab

Matrix: Sediment

Sampled: 07-Aug-13 15:25

Received: 08-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 30-Oct-13 8:41

(DFPBDE)	NA	66			% Recovery	
(FTBDE)	NA	99			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.76	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22044-R1

B13-8146 Grab

Matrix: Sediment

Sampled: 07-Aug-13 11:37

Received: 08-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 30-Oct-13 9:20

(DFPBDE)	NA	61			% Recovery	
(FTBDE)	NA	101			% Recovery	



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PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22036-R1</div> <div>B13-8145 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5024</div> </div> <div> <div>Sampled: 07-Aug-13 10:34</div> <div>Prepared: 16-Oct-13</div> </div> <div> <div>Received: 08-Aug-13</div> <div>Analyzed: 04-Nov-13 10:15</div> </div>						
(d10-Acenaphthene)	NA	57			% Recovery	
(d10-Phenanthrene)	NA	81			% Recovery	
(d12-Chrysene)	NA	85			% Recovery	
(d8-Naphthalene)	NA	27			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	3.8	1	5	ng/dry g	J
Benz[a]anthracene	NA	8.2	1	5	ng/dry g	
Benzo[a]pyrene	NA	8	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	6.7	1	5	ng/dry g	
Benzo[e]pyrene	NA	5.7	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	10.5	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	4.8	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	10.2	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	2.6	1	5	ng/dry g	J
Dibenzothiophene	NA	1	1	5	ng/dry g	J
Fluoranthene	NA	20.6	1	5	ng/dry g	
Fluorene	NA	ND	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	9.8	1	5	ng/dry g	
Naphthalene	NA	ND	1	5	ng/dry g	
Perylene	NA	2.7	1	5	ng/dry g	J
Phenanthrene	NA	12	1	5	ng/dry g	
Pyrene	NA	19.7	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22037-R1		B13-8163 Grab		Matrix: Sediment		Sampled: 08-Aug-13 9:57
Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13		Received: 08-Aug-13
						Analyzed: 04-Nov-13 11:58
(d10-Acenaphthene)	NA	55			% Recovery	
(d10-Phenanthrene)	NA	75			% Recovery	
(d12-Chrysene)	NA	85			% Recovery	
(d8-Naphthalene)	NA	26			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	2.6	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	4.6	1	5	ng/dry g	J
Benz[a]anthracene	NA	21.8	1	5	ng/dry g	
Benzo[a]pyrene	NA	22.6	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	21.8	1	5	ng/dry g	
Benzo[e]pyrene	NA	16.6	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	27.5	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	16.7	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	32.5	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	6.6	1	5	ng/dry g	
Dibenzothiophene	NA	1.4	1	5	ng/dry g	J
Fluoranthene	NA	55.6	1	5	ng/dry g	
Fluorene	NA	1.2	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	30.7	1	5	ng/dry g	
Naphthalene	NA	1.4	1	5	ng/dry g	J
Perylene	NA	7.1	1	5	ng/dry g	
Phenanthrene	NA	22.9	1	5	ng/dry g	
Pyrene	NA	48.7	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22038-R1</div> <div>B13-8160 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5024</div> </div> <div> <div>Sampled: 08-Aug-13 9:05</div> <div>Prepared: 16-Oct-13</div> </div> <div> <div>Received: 08-Aug-13</div> <div>Analyzed: 04-Nov-13 13:41</div> </div>						
(d10-Acenaphthene)	NA	50			% Recovery	
(d10-Phenanthrene)	NA	63			% Recovery	
(d12-Chrysene)	NA	93			% Recovery	
(d8-Naphthalene)	NA	27			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	1.7	1	5	ng/dry g	J
Benz[a]anthracene	NA	3.6	1	5	ng/dry g	J
Benzo[a]pyrene	NA	5.2	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	4.9	1	5	ng/dry g	J
Benzo[e]pyrene	NA	3.7	1	5	ng/dry g	J
Benzo[g,h,i]perylene	NA	6.1	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	3.3	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	5.5	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	1.2	1	5	ng/dry g	J
Dibenzothiophene	NA	ND	1	5	ng/dry g	
Fluoranthene	NA	8.6	1	5	ng/dry g	
Fluorene	NA	ND	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	7.5	1	5	ng/dry g	
Naphthalene	NA	1	1	5	ng/dry g	J
Perylene	NA	1.5	1	5	ng/dry g	J
Phenanthrene	NA	8	1	5	ng/dry g	
Pyrene	NA	8.3	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22039-R1	B13-8159 Grab	Matrix: Sediment		Sampled: 08-Aug-13 11:50		Received: 08-Aug-13
	Method: EPA 8270C	Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 04-Nov-13 15:23
(d10-Acenaphthene)	NA	50			% Recovery	
(d10-Phenanthrene)	NA	67			% Recovery	
(d12-Chrysene)	NA	78			% Recovery	
(d8-Naphthalene)	NA	28			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	1.6	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	2.8	1	5	ng/dry g	J
Benz[a]anthracene	NA	7.3	1	5	ng/dry g	
Benzo[a]pyrene	NA	6.2	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	5.8	1	5	ng/dry g	
Benzo[e]pyrene	NA	4.2	1	5	ng/dry g	J
Benzo[g,h,i]perylene	NA	5.3	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	4.3	1	5	ng/dry g	J
Biphenyl	NA	1	1	5	ng/dry g	J
Chrysene	NA	7.9	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	ND	1	5	ng/dry g	
Dibenzothiophene	NA	1.3	1	5	ng/dry g	J
Fluoranthene	NA	20.6	1	5	ng/dry g	
Fluorene	NA	1.9	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	6.4	1	5	ng/dry g	
Naphthalene	NA	1.4	1	5	ng/dry g	J
Perylene	NA	2	1	5	ng/dry g	J
Phenanthrene	NA	12.9	1	5	ng/dry g	
Pyrene	NA	18.2	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22040-R1</div> <div>B13-8157 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5024</div> </div> <div> <div>Sampled: 08-Aug-13 7:24</div> <div>Prepared: 16-Oct-13</div> </div> <div> <div>Received: 08-Aug-13</div> <div>Analyzed: 04-Nov-13 17:06</div> </div>						
(d10-Acenaphthene)	NA	56			% Recovery	
(d10-Phenanthrene)	NA	77			% Recovery	
(d12-Chrysene)	NA	83			% Recovery	
(d8-Naphthalene)	NA	27			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	1.5	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	1.8	1	5	ng/dry g	J
Benz[a]anthracene	NA	2.2	1	5	ng/dry g	J
Benzo[a]pyrene	NA	1.9	1	5	ng/dry g	J
Benzo[b]fluoranthene	NA	1.8	1	5	ng/dry g	J
Benzo[e]pyrene	NA	1.3	1	5	ng/dry g	J
Benzo[g,h,i]perylene	NA	2.8	1	5	ng/dry g	J
Benzo[k]fluoranthene	NA	1.7	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	2.9	1	5	ng/dry g	J
Dibenz[a,h]anthracene	NA	ND	1	5	ng/dry g	
Dibenzothiophene	NA	ND	1	5	ng/dry g	
Fluoranthene	NA	5.6	1	5	ng/dry g	
Fluorene	NA	ND	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	3.4	1	5	ng/dry g	J
Naphthalene	NA	ND	1	5	ng/dry g	
Perylene	NA	ND	1	5	ng/dry g	
Phenanthrene	NA	7.6	1	5	ng/dry g	
Pyrene	NA	4.3	1	5	ng/dry g	J



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22041-R1	B13-8156 Grab Method: EPA 8270C	Matrix: Sediment Batch ID: O-5024		Sampled: 07-Aug-13 16:58 Prepared: 16-Oct-13		Received: 08-Aug-13 Analyzed: 04-Nov-13 18:48
(d10-Acenaphthene)	NA	54			% Recovery	
(d10-Phenanthrene)	NA	74			% Recovery	
(d12-Chrysene)	NA	91			% Recovery	
(d8-Naphthalene)	NA	32			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	4	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	5.5	1	5	ng/dry g	
Anthracene	NA	31.2	1	5	ng/dry g	
Benz[a]anthracene	NA	64.4	1	5	ng/dry g	
Benzo[a]pyrene	NA	257.2	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	228.7	1	5	ng/dry g	
Benzo[e]pyrene	NA	129	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	75.5	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	156.9	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	104.7	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	32.1	1	5	ng/dry g	
Dibenzothiophene	NA	1.1	1	5	ng/dry g	J
Fluoranthene	NA	12.4	1	5	ng/dry g	
Fluorene	NA	1.9	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	125	1	5	ng/dry g	
Naphthalene	NA	ND	1	5	ng/dry g	
Perylene	NA	60.5	1	5	ng/dry g	
Phenanthrene	NA	15	1	5	ng/dry g	
Pyrene	NA	16.6	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22042-R1</div> <div>B13-8152 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5024</div> </div> <div> <div>Sampled: 07-Aug-13 13:56</div> <div>Prepared: 16-Oct-13</div> </div> <div> <div>Received: 08-Aug-13</div> <div>Analyzed: 04-Nov-13 20:31</div> </div>						
(d10-Acenaphthene)	NA	50			% Recovery	
(d10-Phenanthrene)	NA	73			% Recovery	
(d12-Chrysene)	NA	84			% Recovery	
(d8-Naphthalene)	NA	25			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	1.2	1	5	ng/dry g	J
Benz[a]anthracene	NA	1.5	1	5	ng/dry g	J
Benzo[a]pyrene	NA	2	1	5	ng/dry g	J
Benzo[b]fluoranthene	NA	1.7	1	5	ng/dry g	J
Benzo[e]pyrene	NA	1.2	1	5	ng/dry g	J
Benzo[g,h,i]perylene	NA	2.6	1	5	ng/dry g	J
Benzo[k]fluoranthene	NA	1.5	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	2.9	1	5	ng/dry g	J
Dibenz[a,h]anthracene	NA	ND	1	5	ng/dry g	
Dibenzothiophene	NA	ND	1	5	ng/dry g	
Fluoranthene	NA	3.9	1	5	ng/dry g	J
Fluorene	NA	ND	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	3.5	1	5	ng/dry g	J
Naphthalene	NA	ND	1	5	ng/dry g	
Perylene	NA	ND	1	5	ng/dry g	
Phenanthrene	NA	3.9	1	5	ng/dry g	J
Pyrene	NA	3.6	1	5	ng/dry g	J



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22043-R1</div> <div>B13-8151 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5024</div> </div> <div> <div>Sampled: 07-Aug-13 15:25</div> <div>Prepared: 16-Oct-13</div> </div> <div> <div>Received: 08-Aug-13</div> <div>Analyzed: 04-Nov-13 22:14</div> </div>						
(d10-Acenaphthene)	NA	50			% Recovery	
(d10-Phenanthrene)	NA	64			% Recovery	
(d12-Chrysene)	NA	82			% Recovery	
(d8-Naphthalene)	NA	26			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	2.2	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	10	1	5	ng/dry g	
Benz[a]anthracene	NA	13.6	1	5	ng/dry g	
Benzo[a]pyrene	NA	20.5	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	20	1	5	ng/dry g	
Benzo[e]pyrene	NA	11.3	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	13.6	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	14.7	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	19.4	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	3.8	1	5	ng/dry g	J
Dibenzothiophene	NA	1.4	1	5	ng/dry g	J
Fluoranthene	NA	13.8	1	5	ng/dry g	
Fluorene	NA	2.1	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	19.8	1	5	ng/dry g	
Naphthalene	NA	1.1	1	5	ng/dry g	J
Perylene	NA	4.7	1	5	ng/dry g	J
Phenanthrene	NA	14.5	1	5	ng/dry g	
Pyrene	NA	13.4	1	5	ng/dry g	



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22044-R1</div> <div>B13-8146 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5024</div> </div> <div> <div>Sampled: 07-Aug-13 11:37</div> <div>Prepared: 16-Oct-13</div> </div> <div> <div>Received: 08-Aug-13</div> <div>Analyzed: 04-Nov-13 23:56</div> </div>						
(d10-Acenaphthene)	NA	52			% Recovery	
(d10-Phenanthrene)	NA	71			% Recovery	
(d12-Chrysene)	NA	85			% Recovery	
(d8-Naphthalene)	NA	29			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	2.8	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	2.2	1	5	ng/dry g	J
Anthracene	NA	27.2	1	5	ng/dry g	
Benz[a]anthracene	NA	39.1	1	5	ng/dry g	
Benzo[a]pyrene	NA	40.7	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	33.4	1	5	ng/dry g	
Benzo[e]pyrene	NA	20.6	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	18.8	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	24.3	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	64.8	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	8.9	1	5	ng/dry g	
Dibenzothiophene	NA	ND	1	5	ng/dry g	
Fluoranthene	NA	27.4	1	5	ng/dry g	
Fluorene	NA	2.2	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	31.2	1	5	ng/dry g	
Naphthalene	NA	1.1	1	5	ng/dry g	J
Perylene	NA	9.1	1	5	ng/dry g	
Phenanthrene	NA	17.6	1	5	ng/dry g	
Pyrene	NA	25.9	1	5	ng/dry g	



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CA ELAP #2769

Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Sample ID: 22036-R1

B13-8145 Grab

Matrix: Sediment

Sampled: 07-Aug-13 10:34

Received: 08-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 17:07

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22037-R1

B13-8163 Grab

Matrix: Sediment

Sampled: 08-Aug-13 9:57

Received: 08-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 18:11

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	0.78	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Resmethrin	NA	ND	0.25	0.5	ng/dry g	
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Sample ID: 22038-R1

B13-8160 Grab

Matrix: Sediment

Sampled: 08-Aug-13 9:05

Received: 08-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 19:15

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	1.59	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22039-R1

B13-8159 Grab

Matrix: Sediment

Sampled: 08-Aug-13 11:50

Received: 08-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 20:19

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22040-R1

B13-8157 Grab

Matrix: Sediment

Sampled: 08-Aug-13 7:24

Received: 08-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 21:22

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22041-R1

B13-8156 Grab

Matrix: Sediment

Sampled: 07-Aug-13 16:58

Received: 08-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 22:27

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22042-R1

B13-8152 Grab

Matrix: Sediment

Sampled: 07-Aug-13 13:56

Received: 08-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 25-Oct-13 23:31

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22043-R1

B13-8151 Grab

Matrix: Sediment

Sampled: 07-Aug-13 15:25

Received: 08-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 26-Oct-13 0:35

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

Pyrethroids**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22044-R1**B13-8146 Grab****Matrix: Sediment****Sampled: 07-Aug-13 11:37****Received: 08-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 26-Oct-13 1:39

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

QUALITY CONTROL REPORT

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CA ELAP #2769

Aroclor PCBs**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22035-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 0:00		
Aroclor 1016	NA	ND	1	2	ng/dry g					
Aroclor 1221	NA	ND	1	2	ng/dry g					
Aroclor 1232	NA	ND	1	2	ng/dry g					
Aroclor 1242	NA	ND	1	2	ng/dry g					
Aroclor 1248	NA	ND	1	2	ng/dry g					
Aroclor 1254	NA	ND	1	2	ng/dry g					
Aroclor 1260	NA	ND	1	2	ng/dry g					
Aroclor 1262	NA	ND	1	2	ng/dry g					
Aroclor 1268	NA	ND	1	2	ng/dry g					



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CA ELAP #2769

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22035-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 2:30		
(PCB030)	NA	82			% Recovery	100		82 50 - 150% PASS		
(PCB112)	NA	77			% Recovery	100		77 50 - 150% PASS		
(PCB198)	NA	70			% Recovery	100		70 50 - 150% PASS		
(TCMX)	NA	79			% Recovery	100		79 50 - 150% PASS		
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g					
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g					
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g					
Aldrin	NA	ND	0.05	0.1	ng/dry g					
BHC-alpha	NA	ND	0.05	0.1	ng/dry g					
BHC-beta	NA	ND	0.05	0.1	ng/dry g					
BHC-delta	NA	ND	0.05	0.1	ng/dry g					
BHC-gamma	NA	ND	0.05	0.1	ng/dry g					
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g					
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g					
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g					
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g					
Dicofol	NA	ND	0.05	0.1	ng/dry g					
Dieldrin	NA	ND	0.05	0.1	ng/dry g					
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g					
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g					
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g					
Endrin	NA	ND	0.05	0.1	ng/dry g					
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g					
Endrin ketone	NA	ND	0.05	0.1	ng/dry g					
Heptachlor	NA	ND	0.05	0.1	ng/dry g					



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Chlorinated Pesticides**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g					
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g					
Methoxychlor	NA	ND	0.05	0.1	ng/dry g					
Mirex	NA	ND	0.05	0.1	ng/dry g					
Oxychlorane	NA	ND	0.05	0.1	ng/dry g					
Perthane	NA	ND	0.05	0.1	ng/dry g					
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g					
Method: EPA 8270C-NCI Batch ID: O-5024 Prepared: 16-Oct-13 Analyzed: 24-Oct-13 15:59										
Toxaphene	NA	ND	0.1	0.2	ng/dry g					

Sample ID: 22035-BS1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 4:13

(PCB030)	NA	96			% Recovery	100	0	96	70 - 130%	PASS
(PCB112)	NA	72			% Recovery	100	0	72	70 - 130%	PASS
(PCB198)	NA	81			% Recovery	100	0	81	70 - 130%	PASS
(TCMX)	NA	92			% Recovery	100	0	92	70 - 130%	PASS
2,4'-DDD	NA	1048.21	0.05	0.1	ng/dry g	1000	0	105	70 - 130%	PASS
2,4'-DDE	NA	1078.83	0.05	0.1	ng/dry g	1000	0	108	70 - 130%	PASS
2,4'-DDT	NA	1114.34	0.05	0.1	ng/dry g	1000	0	111	70 - 130%	PASS
4,4'-DDD	NA	1031.02	0.05	0.1	ng/dry g	1000	0	103	70 - 130%	PASS
4,4'-DDE	NA	1033.69	0.05	0.1	ng/dry g	1000	0	103	70 - 130%	PASS
4,4'-DDMU	NA	1166.17	0.05	0.1	ng/dry g	1000	0	117	70 - 130%	PASS
4,4'-DDT	NA	1164.04	0.05	0.1	ng/dry g	1000	0	116	70 - 130%	PASS
Aldrin	NA	966.58	0.05	0.1	ng/dry g	1000	0	97	70 - 130%	PASS
BHC-alpha	NA	914.36	0.05	0.1	ng/dry g	1000	0	91	70 - 130%	PASS
BHC-beta	NA	1011.69	0.05	0.1	ng/dry g	1000	0	101	70 - 130%	PASS
BHC-delta	NA	959.35	0.05	0.1	ng/dry g	1000	0	96	70 - 130%	PASS
BHC-gamma	NA	1036.03	0.05	0.1	ng/dry g	1000	0	104	70 - 130%	PASS
Chlordane-alpha	NA	997.49	0.05	0.1	ng/dry g	1000	0	100	70 - 130%	PASS
Chlordane-gamma	NA	1023.31	0.05	0.1	ng/dry g	1000	0	102	70 - 130%	PASS
cis-Nonachlor	NA	951	0.05	0.1	ng/dry g	1000	0	95	70 - 130%	PASS
DCPA (Dacthal)	NA	1025.69	0.05	0.1	ng/dry g	1000	0	103	70 - 130%	PASS



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Dicofol	NA	1255.93	0.05	0.1	ng/dry g	1000	0	126 70 - 130% PASS		
Dieldrin	NA	1092.57	0.05	0.1	ng/dry g	1000	0	109 70 - 130% PASS		
Endosulfan sulfate	NA	880.09	0.05	0.1	ng/dry g	1000	0	88 70 - 130% PASS		
Endosulfan-I	NA	787.54	0.05	0.1	ng/dry g	1000	0	79 70 - 130% PASS		
Endosulfan-II	NA	737.32	0.05	0.1	ng/dry g	1000	0	74 70 - 130% PASS		
Endrin	NA	1011.9	0.05	0.1	ng/dry g	1000	0	101 70 - 130% PASS		
Endrin aldehyde	NA	784.38	0.05	0.1	ng/dry g	1000	0	78 70 - 130% PASS		
Endrin ketone	NA	915.65	0.05	0.1	ng/dry g	1000	0	92 70 - 130% PASS		
Heptachlor	NA	1082.83	0.05	0.1	ng/dry g	1000	0	108 70 - 130% PASS		
Heptachlor epoxide	NA	997.66	0.05	0.1	ng/dry g	1000	0	100 70 - 130% PASS		
Hexachlorobenzene	NA	926.22	0.05	0.1	ng/dry g	1000	0	93 70 - 130% PASS		
Methoxychlor	NA	1195.58	0.05	0.1	ng/dry g	1000	0	120 70 - 130% PASS		
Mirex	NA	949.93	0.05	0.1	ng/dry g	1000	0	95 70 - 130% PASS		
Oxychlordane	NA	886.54	0.05	0.1	ng/dry g	1000	0	89 70 - 130% PASS		
Perthane	NA	1099.87	0.05	0.1	ng/dry g	1000	0	110 70 - 130% PASS		
trans-Nonachlor	NA	987.91	0.05	0.1	ng/dry g	1000	0	99 70 - 130% PASS		
		Method: EPA 8270C-NCI		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 24-Oct-13 17:02		
Toxaphene	NA	9296.6	0.1	0.2	ng/dry g	10000	0	93 70 - 130% PASS		

Sample ID: 22035-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 5:55

(PCB030)	NA	90			% Recovery	100	0	90 70 - 130% PASS	6	25	PASS
(PCB112)	NA	75			% Recovery	100	0	75 70 - 130% PASS	4	25	PASS
(PCB198)	NA	83			% Recovery	100	0	83 70 - 130% PASS	2	25	PASS
(TCMX)	NA	80			% Recovery	100	0	80 70 - 130% PASS	14	25	PASS
2,4'-DDD	NA	1016.64	0.05	0.1	ng/dry g	1000	0	102 70 - 130% PASS	3	25	PASS
2,4'-DDE	NA	1004.07	0.05	0.1	ng/dry g	1000	0	100 70 - 130% PASS	8	25	PASS
2,4'-DDT	NA	1085.16	0.05	0.1	ng/dry g	1000	0	109 70 - 130% PASS	2	25	PASS
4,4'-DDD	NA	1031.19	0.05	0.1	ng/dry g	1000	0	103 70 - 130% PASS	0	25	PASS
4,4'-DDE	NA	1050.6	0.05	0.1	ng/dry g	1000	0	105 70 - 130% PASS	2	25	PASS
4,4'-DDMU	NA	1158.53	0.05	0.1	ng/dry g	1000	0	116 70 - 130% PASS	1	25	PASS
4,4'-DDT	NA	1187.71	0.05	0.1	ng/dry g	1000	0	119 70 - 130% PASS	3	25	PASS



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Aldrin	NA	901.82	0.05	0.1	ng/dry g	1000	0	90	70 - 130% PASS	7	25	PASS
BHC-alpha	NA	854.29	0.05	0.1	ng/dry g	1000	0	85	70 - 130% PASS	7	25	PASS
BHC-beta	NA	992.16	0.05	0.1	ng/dry g	1000	0	99	70 - 130% PASS	2	25	PASS
BHC-delta	NA	1005.47	0.05	0.1	ng/dry g	1000	0	101	70 - 130% PASS	5	25	PASS
BHC-gamma	NA	924.91	0.05	0.1	ng/dry g	1000	0	92	70 - 130% PASS	12	25	PASS
Chlordane-alpha	NA	941.04	0.05	0.1	ng/dry g	1000	0	94	70 - 130% PASS	6	25	PASS
Chlordane-gamma	NA	945.53	0.05	0.1	ng/dry g	1000	0	95	70 - 130% PASS	7	25	PASS
cis-Nonachlor	NA	929.35	0.05	0.1	ng/dry g	1000	0	93	70 - 130% PASS	2	25	PASS
DCPA (Dacthal)	NA	996.98	0.05	0.1	ng/dry g	1000	0	100	70 - 130% PASS	3	25	PASS
Dicofol	NA	1268.85	0.05	0.1	ng/dry g	1000	0	127	70 - 130% PASS	1	25	PASS
Dieldrin	NA	1009.46	0.05	0.1	ng/dry g	1000	0	101	70 - 130% PASS	8	25	PASS
Endosulfan sulfate	NA	928.71	0.05	0.1	ng/dry g	1000	0	93	70 - 130% PASS	6	25	PASS
Endosulfan-I	NA	738.31	0.05	0.1	ng/dry g	1000	0	74	70 - 130% PASS	7	25	PASS
Endosulfan-II	NA	738.67	0.05	0.1	ng/dry g	1000	0	74	70 - 130% PASS	0	25	PASS
Endrin	NA	1010.07	0.05	0.1	ng/dry g	1000	0	101	70 - 130% PASS	0	25	PASS
Endrin aldehyde	NA	796.98	0.05	0.1	ng/dry g	1000	0	80	70 - 130% PASS	3	25	PASS
Endrin ketone	NA	927.89	0.05	0.1	ng/dry g	1000	0	93	70 - 130% PASS	1	25	PASS
Heptachlor	NA	973.8	0.05	0.1	ng/dry g	1000	0	97	70 - 130% PASS	11	25	PASS
Heptachlor epoxide	NA	953.52	0.05	0.1	ng/dry g	1000	0	95	70 - 130% PASS	5	25	PASS
Hexachlorobenzene	NA	884.73	0.05	0.1	ng/dry g	1000	0	88	70 - 130% PASS	6	25	PASS
Methoxychlor	NA	1211.94	0.05	0.1	ng/dry g	1000	0	121	70 - 130% PASS	1	25	PASS
Mirex	NA	947.18	0.05	0.1	ng/dry g	1000	0	95	70 - 130% PASS	0	25	PASS
Oxychlordane	NA	869.78	0.05	0.1	ng/dry g	1000	0	87	70 - 130% PASS	2	25	PASS
Perthane	NA	1090.01	0.05	0.1	ng/dry g	1000	0	109	70 - 130% PASS	1	25	PASS
trans-Nonachlor	NA	924.13	0.05	0.1	ng/dry g	1000	0	92	70 - 130% PASS	7	25	PASS

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 18:06

Toxaphene	NA	9665.5	0.1	0.2	ng/dry g	10000	0	97	70 - 130% PASS	4	25	PASS
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Sample ID: 22045-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 13:15

(PCB030)	NA	91			% Recovery	100		91	60 - 140% PASS			
(PCB112)	NA	107			% Recovery	100		107	60 - 140% PASS			

PHYSIS Project ID: 1307002-004

Client: AMEC

Project: RHMP Bight '13

qcb - 5 of 30



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
(PCB198)	NA	60			% Recovery	100		60 60 - 140% PASS		
(TCMX)	NA	88			% Recovery	100		88 60 - 140% PASS		
2,4'-DDD	NA	39.75	0.05	0.1	ng/dry g	38		105 60 - 140% PASS		
2,4'-DDE	NA	22.28	0.05	0.1	ng/dry g	19		117 60 - 140% PASS		
4,4'-DDD	NA	118.53	0.05	0.1	ng/dry g	108		110 60 - 140% PASS		
4,4'-DDE	NA	88.1	0.05	0.1	ng/dry g	86		102 60 - 140% PASS		
4,4'-DDT	NA	129.1	0.05	0.1	ng/dry g	119		108 60 - 140% PASS		
Chlordane-alpha	NA	19.65	0.05	0.1	ng/dry g	16.5		119 60 - 140% PASS		
Chlordane-gamma	NA	10.29	0.05	0.1	ng/dry g	8		129 60 - 140% PASS		
cis-Nonachlor	NA	4.68	0.05	0.1	ng/dry g	3.7		126 60 - 140% PASS		
Hexachlorobenzene	NA	5.44	0.05	0.1	ng/dry g	6		91 60 - 140% PASS		
trans-Nonachlor	NA	10.04	0.05	0.1	ng/dry g	8.2		122 60 - 140% PASS		



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Conventional

QUALITY CONTROL REPORT

SAMPLE ID		BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE		
Acid Volatile Sulfides				Method: Plumb, 1981 and TERL					Fraction: NA						
22035-B1	QAQC Procedural Blank	C-14036	ND	0.05	0.1	mg/dry kg									
		Prepared: 27-Sep-13				Analyzed: 27-Sep-13 0:00									
22035-BS1	QAQC Procedural Blank	C-14036	18.1	0.05	0.1	mg/dry kg	18.29	0	99	80 - 120%	PASS				
		Prepared: 27-Sep-13				Analyzed: 27-Sep-13 0:00									
22035-BS2	QAQC Procedural Blank	C-14036	18.85	0.05	0.1	mg/dry kg	18.29	0	103	80 - 120%	PASS	4	25	PASS	
		Prepared: 27-Sep-13				Analyzed: 27-Sep-13 0:00									
22036-MS1	B13-8145	C-14036	54.24	0.05	0.1	mg/dry kg	14.2	35.32	133	50 - 130%	FAIL				
		Prepared: 27-Sep-13				Analyzed: 27-Sep-13 0:00									
22036-MS2	B13-8145	C-14036	68.56	0.05	0.1	mg/dry kg	18.34	35.32	181	50 - 130%	FAIL	31	25	FAIL	SH
		Prepared: 27-Sep-13				Analyzed: 27-Sep-13 0:00									
22036-R2	B13-8145	C-14036	38.62	0.05	0.1	mg/dry kg						19	25	PASS	
		Prepared: 27-Sep-13				Analyzed: 27-Sep-13 0:00									
Ammonia as N				Method: SM 4500-NH3 D					Fraction: NA						
22035-B1	QAQC Procedural Blank	C-14038	ND	0.02	0.03	mg/dry kg									
		Prepared: 25-Sep-13				Analyzed: 26-Sep-13 0:00									
22035-BS1	QAQC Procedural Blank	C-14038	5.31	0.02	0.03	mg/dry kg	4.91	0	108	80 - 120%	PASS				
		Prepared: 25-Sep-13				Analyzed: 26-Sep-13 0:00									
22035-BS2	QAQC Procedural Blank	C-14038	5.31	0.02	0.03	mg/dry kg	4.91	0	108	80 - 120%	PASS	0	25	PASS	
		Prepared: 25-Sep-13				Analyzed: 26-Sep-13 0:00									
22036-MS1	B13-8145	C-14038	45.27	0.02	0.03	mg/dry kg	21.43	5.13	187	70 - 130%	FAIL				
		Prepared: 25-Sep-13				Analyzed: 26-Sep-13 0:00									
22036-MS2	B13-8145	C-14038	34.84	0.02	0.03	mg/dry kg	20.74	5.13	143	70 - 130%	FAIL	27	25	FAIL	M
		Prepared: 25-Sep-13				Analyzed: 26-Sep-13 0:00									
22036-R2	B13-8145	C-14038	4.86	0.02	0.03	mg/dry kg						11	25	PASS	
		Prepared: 25-Sep-13				Analyzed: 26-Sep-13 0:00									
Percent Solids				Method: SM 2540B					Fraction: NA						
22035-B1	QAQC Procedural Blank	C-14034	ND	0.1	0.1	% Dry Weight									
		Prepared: 25-Sep-13				Analyzed: 25-Sep-13 0:00									
22036-R2	B13-8145	C-14034	57.8	0.1	0.1	% Dry Weight						0	25	PASS	
		Prepared: 25-Sep-13				Analyzed: 25-Sep-13 0:00									



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Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION LIMITS	QA CODE
Total Phosphorus			Method: EPA 6020			Fraction: NA				
22035-B1	QAQC Procedural Blank	E-5146 ND Prepared: 25-Sep-13	0.016	0.05	µg/dry g	Analyzed: 02-Oct-13 14:57				
22035-BS1	QAQC Procedural Blank	E-5146 48.3 Prepared: 25-Sep-13	0.016	0.05	µg/dry g	50	0	97	80 - 120% PASS	
22035-BS2	QAQC Procedural Blank	E-5146 48.162 Prepared: 25-Sep-13	0.016	0.05	µg/dry g	50	0	96	80 - 120% PASS	1 25 PASS
22036-MS1	B13-8145	E-5146 3307.644 Prepared: 25-Sep-13	0.016	0.05	µg/dry g	3280	717.153	79	70 - 130% PASS	
22036-MS2	B13-8145	E-5146 3333.982 Prepared: 25-Sep-13	0.016	0.05	µg/dry g	3280	717.153	80	70 - 130% PASS	1 25 PASS
22036-R2	B13-8145	E-5146 702.13 Prepared: 25-Sep-13	0.016	0.05	µg/dry g	Analyzed: 02-Oct-13 17:02			4 25 PASS	



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22035-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 6020

Batch ID: E-5146

Prepared: 25-Sep-13

Analyzed: 02-Oct-13 21:46

Aluminum (Al)	NA	ND	1	5	µg/dry g					
Antimony (Sb)	NA	ND	0.025	0.05	µg/dry g					
Arsenic (As)	NA	ND	0.025	0.05	µg/dry g					
Barium (Ba)	NA	ND	0.025	0.05	µg/dry g					
Beryllium (Be)	NA	ND	0.025	0.05	µg/dry g					
Cadmium (Cd)	NA	ND	0.0025	0.005	µg/dry g					
Chromium (Cr)	NA	ND	0.0025	0.005	µg/dry g					
Copper (Cu)	NA	ND	0.0025	0.005	µg/dry g					
Iron (Fe)	NA	ND	1	5	µg/dry g					
Lead (Pb)	NA	ND	0.0025	0.005	µg/dry g					
Nickel (Ni)	NA	ND	0.01	0.02	µg/dry g					
Selenium (Se)	NA	ND	0.025	0.05	µg/dry g					
Silver (Ag)	NA	ND	0.01	0.02	µg/dry g					
Zinc (Zn)	NA	ND	0.025	0.05	µg/dry g					

Method: EPA 245.7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	ND	0.00001	0.00002	µg/dry g					
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Sample ID: 22035-B51

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 6020

Batch ID: E-5146

Prepared: 25-Sep-13

Analyzed: 03-Oct-13 0:45

Aluminum (Al)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS
Antimony (Sb)	NA	1.951	0.025	0.05	µg/dry g	2	0	98	80 - 120%	PASS
Arsenic (As)	NA	2.004	0.025	0.05	µg/dry g	2	0	100	80 - 120%	PASS
Barium (Ba)	NA	1.969	0.025	0.05	µg/dry g	2	0	98	80 - 120%	PASS
Beryllium (Be)	NA	1.952	0.025	0.05	µg/dry g	2	0	98	80 - 120%	PASS
Cadmium (Cd)	NA	2.0736	0.0025	0.005	µg/dry g	2	0	104	80 - 120%	PASS
Chromium (Cr)	NA	2.0057	0.0025	0.005	µg/dry g	2	0	100	80 - 120%	PASS
Copper (Cu)	NA	2.1273	0.0025	0.005	µg/dry g	2	0	106	80 - 120%	PASS
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS
Lead (Pb)	NA	2.0501	0.0025	0.005	µg/dry g	2	0	103	80 - 120%	PASS



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Nickel (Ni)	NA	1.97	0.01	0.02	µg/dry g	2	0	99	80 - 120%	PASS		
Selenium (Se)	NA	2.142	0.025	0.05	µg/dry g	2	0	107	80 - 120%	PASS		
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	0.2	0	100	80 - 120%	PASS		
Zinc (Zn)	NA	2.083	0.025	0.05	µg/dry g	2	0	104	80 - 120%	PASS		

Method: EPA 245.7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.958	0.00001	0.00002	µg/dry g	1	0	96	80 - 120%	PASS		
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Sample ID: 22035-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 6020

Batch ID: E-5146

Prepared: 25-Sep-13

Analyzed: 03-Oct-13 0:50

Aluminum (Al)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS	0	25	PASS
Antimony (Sb)	NA	1.941	0.025	0.05	µg/dry g	2	0	97	80 - 120%	PASS	1	25	PASS
Arsenic (As)	NA	1.932	0.025	0.05	µg/dry g	2	0	97	80 - 120%	PASS	3	25	PASS
Barium (Ba)	NA	1.951	0.025	0.05	µg/dry g	2	0	98	80 - 120%	PASS	0	25	PASS
Beryllium (Be)	NA	1.946	0.025	0.05	µg/dry g	2	0	97	80 - 120%	PASS	1	25	PASS
Cadmium (Cd)	NA	2.0236	0.0025	0.005	µg/dry g	2	0	101	80 - 120%	PASS	0	25	PASS
Chromium (Cr)	NA	1.967	0.0025	0.005	µg/dry g	2	0	98	80 - 120%	PASS	2	25	PASS
Copper (Cu)	NA	2.0757	0.0025	0.005	µg/dry g	2	0	104	80 - 120%	PASS	4	25	PASS
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS	0	25	PASS
Lead (Pb)	NA	2.0547	0.0025	0.005	µg/dry g	2	0	103	80 - 120%	PASS	0	25	PASS
Nickel (Ni)	NA	1.92	0.01	0.02	µg/dry g	2	0	96	80 - 120%	PASS	2	25	PASS
Selenium (Se)	NA	2.171	0.025	0.05	µg/dry g	2	0	109	80 - 120%	PASS	2	25	PASS
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	0.2	0	100	80 - 120%	PASS	0	25	PASS
Zinc (Zn)	NA	2.036	0.025	0.05	µg/dry g	2	0	102	80 - 120%	PASS	2	25	PASS

Method: EPA 245.7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.964	0.00001	0.00002	µg/dry g	1	0	96	80 - 120%	PASS	0	25	PASS
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Sample ID: 22036-MS1**B13-8145 Grab****Matrix: Sediment****Sampled: 07-Aug-13 10:34****Received: 08-Aug-13**

Method: EPA 6020

Batch ID: E-5146

Prepared: 25-Sep-13

Analyzed: 03-Oct-13 0:54

Aluminum (Al)	NA	16865.4	1	5	µg/dry g	1312	14835.3	155	75 - 125%	FAIL			SH
Antimony (Sb)	NA	59.942	0.025	0.05	µg/dry g	65.6	0.199	91	75 - 125%	PASS			
Arsenic (As)	NA	64.772	0.025	0.05	µg/dry g	61.68	5.92	95	75 - 125%	PASS			
Barium (Ba)	NA	124.508	0.025	0.05	µg/dry g	65.6	64.081	92	75 - 125%	PASS			



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Beryllium (Be)	NA	67.351	0.025	0.05	µg/dry g	65.6	0.294	102	75 - 125% PASS	
Cadmium (Cd)	NA	64.4682	0.0025	0.005	µg/dry g	65.6	0.1372	98	75 - 125% PASS	
Chromium (Cr)	NA	93.0296	0.0025	0.005	µg/dry g	65.6	25.6781	103	75 - 125% PASS	
Copper (Cu)	NA	164.028	0.0025	0.005	µg/dry g	65.6	103.4092	92	75 - 125% PASS	
Iron (Fe)	NA	19637.7	1	5	µg/dry g	1312	18148.8	113	75 - 125% PASS	
Lead (Pb)	NA	75.5516	0.0025	0.005	µg/dry g	65.6	13.3212	95	75 - 125% PASS	
Nickel (Ni)	NA	71.17	0.01	0.02	µg/dry g	65.6	7.65	97	75 - 125% PASS	
Selenium (Se)	NA	76.311	0.025	0.05	µg/dry g	65.6	0.27	116	75 - 125% PASS	
Silver (Ag)	NA	6.04	0.01	0.02	µg/dry g	6.17	0.1	96	75 - 125% PASS	
Zinc (Zn)	NA	142.624	0.025	0.05	µg/dry g	65.6	90.843	79	75 - 125% PASS	

Method: EPA 245-7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.43624	0.00001	0.00002	µg/dry g	0.328	0.113	99	75 - 125% PASS	
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Sample ID: 22036-MS2**B13-8145 Grab****Matrix: Sediment****Sampled: 07-Aug-13 10:34****Received: 08-Aug-13**

Method: EPA 6020

Batch ID: E-5146

Prepared: 25-Sep-13

Analyzed: 03-Oct-13 0:59

Aluminum (Al)	NA	16988.4	1	5	µg/dry g	1312	14835.3	164	75 - 125% FAIL	6	25	PASS	SH
Antimony (Sb)	NA	60.212	0.025	0.05	µg/dry g	65.6	0.199	91	75 - 125% PASS	0	25	PASS	
Arsenic (As)	NA	64.526	0.025	0.05	µg/dry g	61.68	5.92	95	75 - 125% PASS	0	25	PASS	
Barium (Ba)	NA	124.745	0.025	0.05	µg/dry g	65.6	64.081	92	75 - 125% PASS	0	25	PASS	
Beryllium (Be)	NA	67.058	0.025	0.05	µg/dry g	65.6	0.294	102	75 - 125% PASS	0	25	PASS	
Cadmium (Cd)	NA	64.3094	0.0025	0.005	µg/dry g	65.6	0.1372	98	75 - 125% PASS	0	25	PASS	
Chromium (Cr)	NA	94.063	0.0025	0.005	µg/dry g	65.6	25.6781	104	75 - 125% PASS	1	25	PASS	
Copper (Cu)	NA	164.7436	0.0025	0.005	µg/dry g	65.6	103.4092	93	75 - 125% PASS	1	25	PASS	
Iron (Fe)	NA	19731.8	1	5	µg/dry g	1312	18148.8	121	75 - 125% PASS	7	25	PASS	
Lead (Pb)	NA	75.3071	0.0025	0.005	µg/dry g	65.6	13.3212	94	75 - 125% PASS	1	25	PASS	
Nickel (Ni)	NA	71.23	0.01	0.02	µg/dry g	65.6	7.65	97	75 - 125% PASS	0	25	PASS	
Selenium (Se)	NA	77.077	0.025	0.05	µg/dry g	65.6	0.27	117	75 - 125% PASS	1	25	PASS	
Silver (Ag)	NA	6.03	0.01	0.02	µg/dry g	6.17	0.1	96	75 - 125% PASS	0	25	PASS	
Zinc (Zn)	NA	141.193	0.025	0.05	µg/dry g	65.6	90.843	77	75 - 125% PASS	3	25	PASS	

Method: EPA 245-7

Batch ID: E-6029

Prepared: 04-Oct-13

Analyzed: 04-Oct-13 0:00

Mercury (Hg)	NA	0.4428	0.00001	0.00002	µg/dry g	0.328	0.113	101	75 - 125% PASS	2	25	PASS	
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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22036-R2		B13-8145 Grab		Matrix: Sediment		Sampled: 07-Aug-13 10:34		Received: 08-Aug-13		
		Method: EPA 6020		Batch ID: E-5146		Prepared: 25-Sep-13		Analyzed: 02-Oct-13 23:44		
Aluminum (Al)	NA	14007.7	1	5	µg/dry g			11	25	PASS
Antimony (Sb)	NA	0.198	0.025	0.05	µg/dry g			1	25	PASS
Arsenic (As)	NA	6.009	0.025	0.05	µg/dry g			3	25	PASS
Barium (Ba)	NA	61.125	0.025	0.05	µg/dry g			9	25	PASS
Beryllium (Be)	NA	0.285	0.025	0.05	µg/dry g			6	25	PASS
Cadmium (Cd)	NA	0.1262	0.0025	0.005	µg/dry g			16	25	PASS
Chromium (Cr)	NA	25.1386	0.0025	0.005	µg/dry g			4	25	PASS
Copper (Cu)	NA	101.5892	0.0025	0.005	µg/dry g			4	25	PASS
Iron (Fe)	NA	17689.9	1	5	µg/dry g			5	25	PASS
Lead (Pb)	NA	13.209	0.0025	0.005	µg/dry g			2	25	PASS
Nickel (Ni)	NA	7.58	0.01	0.02	µg/dry g			2	25	PASS
Selenium (Se)	NA	0.25	0.025	0.05	µg/dry g			15	25	PASS
Silver (Ag)	NA	0.11	0.01	0.02	µg/dry g			10	25	PASS
Zinc (Zn)	NA	90.009	0.025	0.05	µg/dry g			2	25	PASS
		Method: EPA 245-7		Batch ID: E-6029		Prepared: 04-Oct-13		Analyzed: 04-Oct-13 0:00		
Mercury (Hg)	NA	0.1132	0.00001	0.00002	µg/dry g			0	25	PASS

Sample ID: 22046-CRM1		QAQC CRM - RTC 016-050		Matrix: Sediment		Sampled:		Received:		
		Method: EPA 6020		Batch ID: E-5146		Prepared: 25-Sep-13		Analyzed: 03-Oct-13 0:31		
Aluminum (Al)	NA	24851.6	1	5	µg/dry g	8920	279	80 - 120%	FAIL	*
Arsenic (As)	NA	8.508	0.025	0.05	µg/dry g	7.76	110	80 - 120%	PASS	
Beryllium (Be)	NA	0.801	0.025	0.05	µg/dry g	0.49	163	80 - 120%	FAIL	*
Cadmium (Cd)	NA	0.2694	0.0025	0.005	µg/dry g	0.47	57	80 - 120%	FAIL	R
Chromium (Cr)	NA	36.9036	0.0025	0.005	µg/dry g	14.5	255	80 - 120%	FAIL	*
Copper (Cu)	NA	17.0716	0.0025	0.005	µg/dry g	15.5	110	80 - 120%	PASS	
Iron (Fe)	NA	19456.8	1	5	µg/dry g	16800	116	80 - 120%	PASS	
Lead (Pb)	NA	15.4521	0.0025	0.005	µg/dry g	14.01	110	80 - 120%	PASS	
Nickel (Ni)	NA	19.23	0.01	0.02	µg/dry g	16.7	115	80 - 120%	PASS	
Zinc (Zn)	NA	71.725	0.025	0.05	µg/dry g	69.7	103	80 - 120%	PASS	



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
<div> <div>Method: EPA 245.7</div> <div>Batch ID: E-6029</div> <div>Prepared: 04-Oct-13</div> <div>Analyzed: 04-Oct-13 0:00</div> </div>										
Mercury (Hg)	NA	0.1681	0.00001	0.00002	µg/dry g	0.158		106 80 - 120% PASS		
<div> <div>Sample ID: 22047-CRM1</div> <div>QAQC CRM - ERA 540</div> <div>Method: EPA 6020</div> <div>Matrix: Sediment</div> <div>Batch ID: E-5146</div> <div>Sampled: 25-Sep-13</div> <div>Received: 03-Oct-13 0:35</div> </div>										
Aluminum (Al)	NA	14725.2	1	5	µg/dry g	9060		163 80 - 120% FAIL		*
Antimony (Sb)	NA	170.937	0.025	0.05	µg/dry g	106		161 80 - 120% FAIL		*
Arsenic (As)	NA	175.521	0.025	0.05	µg/dry g	182		96 80 - 120% PASS		
Beryllium (Be)	NA	95.526	0.025	0.05	µg/dry g	98.3		97 80 - 120% PASS		
Cadmium (Cd)	NA	61.2344	0.0025	0.005	µg/dry g	60.4		101 80 - 120% PASS		
Chromium (Cr)	NA	133.4816	0.0025	0.005	µg/dry g	125		107 80 - 120% PASS		
Copper (Cu)	NA	82.1858	0.0025	0.005	µg/dry g	80.1		103 80 - 120% PASS		
Iron (Fe)	NA	16324.5	1	5	µg/dry g	12900		127 80 - 120% FAIL		*
Lead (Pb)	NA	126.4987	0.0025	0.005	µg/dry g	136		93 80 - 120% PASS		
Nickel (Ni)	NA	127.51	0.01	0.02	µg/dry g	128		100 80 - 120% PASS		
Selenium (Se)	NA	95.358	0.025	0.05	µg/dry g	85.9		111 80 - 120% PASS		
Silver (Ag)	NA	58.78	0.01	0.02	µg/dry g	61.3		96 80 - 120% PASS		
Zinc (Zn)	NA	200.511	0.025	0.05	µg/dry g	204		98 80 - 120% PASS		
<div> <div>Method: EPA 245.7</div> <div>Batch ID: E-6029</div> <div>Prepared: 04-Oct-13</div> <div>Analyzed: 04-Oct-13 0:00</div> </div>										
Mercury (Hg)	NA	9.4949	0.00001	0.00002	µg/dry g	9.25		103 80 - 120% PASS		



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Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Sample ID: 22035-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 200.8		Batch ID: E-5153		Prepared: 08-Oct-13		Analyzed: 10-Oct-13 13:38		
Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g					
Copper (Cu)	NA	ND	0.0062	0.0124	µmol/dry g					
Lead (Pb)	NA	ND	0.0002	0.0004	µmol/dry g					
Nickel (Ni)	NA	ND	0.0033	0.0066	µmol/dry g					
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g					
Zinc (Zn)	NA	ND	0.0015	0.003	µmol/dry g					
Sample ID: 22035-BS1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 200.8		Batch ID: E-5153		Prepared: 08-Oct-13		Analyzed: 10-Oct-13 16:11		
Cadmium (Cd)	NA	0.0184	0.0018	0.0036	µmol/dry g	0.0178	0	103	75 - 130% PASS	
Copper (Cu)	NA	0.0319	0.0062	0.0124	µmol/dry g	0.0315	0	101	70 - 130% PASS	
Lead (Pb)	NA	0.01	0.0002	0.0004	µmol/dry g	0.0097	0	103	65 - 135% PASS	
Nickel (Ni)	NA	0.0345	0.0033	0.0066	µmol/dry g	0.0341	0	101	70 - 130% PASS	
Silver (Ag)	NA	0.0018	0.0047	0.0094	µmol/dry g	0.0019	0	95	50 - 155% PASS	
Zinc (Zn)	NA	0.0316	0.0015	0.003	µmol/dry g	0.0306	0	103	50 - 150% PASS	
Sample ID: 22035-BS2		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 200.8		Batch ID: E-5153		Prepared: 08-Oct-13		Analyzed: 10-Oct-13 16:16		
Cadmium (Cd)	NA	0.0185	0.0018	0.0036	µmol/dry g	0.0178	0	104	75 - 130% PASS	2 25 PASS
Copper (Cu)	NA	0.032	0.0062	0.0124	µmol/dry g	0.0315	0	102	70 - 130% PASS	1 25 PASS
Lead (Pb)	NA	0.01	0.0002	0.0004	µmol/dry g	0.0097	0	103	65 - 135% PASS	0 25 PASS
Nickel (Ni)	NA	0.0343	0.0033	0.0066	µmol/dry g	0.0341	0	101	70 - 130% PASS	0 25 PASS
Silver (Ag)	NA	0.0018	0.0047	0.0094	µmol/dry g	0.0019	0	95	50 - 155% PASS	5 25 PASS
Zinc (Zn)	NA	0.0318	0.0015	0.003	µmol/dry g	0.0306	0	104	50 - 150% PASS	1 25 PASS
Sample ID: 22036-MS1		B13-8145 Grab		Matrix: Sediment		Sampled: 07-Aug-13 10:34		Received: 08-Aug-13		
		Method: EPA 200.8		Batch ID: E-5153		Prepared: 08-Oct-13		Analyzed: 10-Oct-13 16:20		
Cadmium (Cd)	NA	0.8536	0.0018	0.0036	µmol/dry g	0.7942	0	107	75 - 130% PASS	
Copper (Cu)	NA	1.925	0.0062	0.0124	µmol/dry g	1.4051	0.4716	103	70 - 130% PASS	
Lead (Pb)	NA	0.4718	0.0002	0.0004	µmol/dry g	0.4309	0.043	100	65 - 135% PASS	



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Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Nickel (Ni)	NA	1.5596	0.0033	0.0066	µmol/dry g	1.5212	0.0095	102 70 - 130% PASS		
Silver (Ag)	NA	0.0805	0.0047	0.0094	µmol/dry g	0.0828	0	97 50 - 155% PASS		
Zinc (Zn)	NA	2.2857	0.0015	0.003	µmol/dry g	1.3656	0.7271	114 50 - 150% PASS		

Sample ID: 22036-MS2**B13-8145 Grab****Matrix: Sediment****Sampled: 07-Aug-13 10:34****Received: 08-Aug-13**

Method: EPA 200.8

Batch ID: E-5153

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 16:25

Cadmium (Cd)	NA	0.8515	0.0018	0.0036	µmol/dry g	0.7942	0	107 75 - 130% PASS	0 25 PASS	
Copper (Cu)	NA	1.9215	0.0062	0.0124	µmol/dry g	1.4051	0.4716	103 70 - 130% PASS	0 25 PASS	
Lead (Pb)	NA	0.4692	0.0002	0.0004	µmol/dry g	0.4309	0.043	99 65 - 135% PASS	1 25 PASS	
Nickel (Ni)	NA	1.5534	0.0033	0.0066	µmol/dry g	1.5212	0.0095	101 70 - 130% PASS	1 25 PASS	
Silver (Ag)	NA	0.0799	0.0047	0.0094	µmol/dry g	0.0828	0	96 50 - 155% PASS	1 25 PASS	
Zinc (Zn)	NA	2.3088	0.0015	0.003	µmol/dry g	1.3656	0.7271	116 50 - 150% PASS	2 25 PASS	

Sample ID: 22036-R2**B13-8145 Grab****Matrix: Sediment****Sampled: 07-Aug-13 10:34****Received: 08-Aug-13**

Method: EPA 200.8

Batch ID: E-5153

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 15:23

Cadmium (Cd)	NA	ND	0.0018	0.0036	µmol/dry g				0 25 PASS	
Copper (Cu)	NA	0.4286	0.0062	0.0124	µmol/dry g				18 25 PASS	
Lead (Pb)	NA	0.0419	0.0002	0.0004	µmol/dry g				5 25 PASS	
Nickel (Ni)	NA	0.0093	0.0033	0.0066	µmol/dry g				5 25 PASS	
Silver (Ag)	NA	ND	0.0047	0.0094	µmol/dry g				0 25 PASS	
Zinc (Zn)	NA	0.6962	0.0015	0.003	µmol/dry g				8 25 PASS	



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Fipronil & Degradates

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
		LIMITS								LIMITS
Sample ID: 22035-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C-NCI		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 24-Oct-13 15:59		
Fipronil	NA	ND	0.25	0.5	ng/dry g					
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g					
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g					
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g					
Sample ID: 22035-BS1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C-NCI		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 24-Oct-13 17:02		
Fipronil	NA	752.31	0.25	0.5	ng/dry g	1000	0	75	70 - 130%	PASS
Fipronil Desulfinyl	NA	725.9	0.25	0.5	ng/dry g	1000	0	73	70 - 130%	PASS
Fipronil Sulfide	NA	779.1	0.25	0.5	ng/dry g	1000	0	78	70 - 130%	PASS
Fipronil Sulfone	NA	852.24	0.25	0.5	ng/dry g	1000	0	85	70 - 130%	PASS
Sample ID: 22035-BS2		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C-NCI		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 24-Oct-13 18:06		
Fipronil	NA	772.62	0.25	0.5	ng/dry g	1000	0	77	70 - 130%	PASS
Fipronil Desulfinyl	NA	736.97	0.25	0.5	ng/dry g	1000	0	74	70 - 130%	PASS
Fipronil Sulfide	NA	683.72	0.25	0.5	ng/dry g	1000	0	68	70 - 130%	FAIL
Fipronil Sulfone	NA	844.43	0.25	0.5	ng/dry g	1000	0	84	70 - 130%	PASS



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22035-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 2:30		
PCB003	NA	ND	0.05	0.1	ng/dry g					
PCB005	NA	ND	0.05	0.1	ng/dry g					
PCB008	NA	ND	0.05	0.1	ng/dry g					
PCB015	NA	ND	0.05	0.1	ng/dry g					
PCB018	NA	ND	0.05	0.1	ng/dry g					
PCB027	NA	ND	0.05	0.1	ng/dry g					
PCB028	NA	ND	0.05	0.1	ng/dry g					
PCB029	NA	ND	0.05	0.1	ng/dry g					
PCB031	NA	ND	0.05	0.1	ng/dry g					
PCB033	NA	ND	0.05	0.1	ng/dry g					
PCB037	NA	ND	0.05	0.1	ng/dry g					
PCB044	NA	ND	0.05	0.1	ng/dry g					
PCB049	NA	ND	0.05	0.1	ng/dry g					
PCB052	NA	ND	0.05	0.1	ng/dry g					
PCB056(060)	NA	ND	0.1	0.2	ng/dry g					
PCB066	NA	ND	0.05	0.1	ng/dry g					
PCB070	NA	ND	0.05	0.1	ng/dry g					
PCB074	NA	ND	0.05	0.1	ng/dry g					
PCB077	NA	ND	0.05	0.1	ng/dry g					
PCB081	NA	ND	0.05	0.1	ng/dry g					
PCB087	NA	ND	0.05	0.1	ng/dry g					
PCB095	NA	ND	0.05	0.1	ng/dry g					
PCB097	NA	ND	0.05	0.1	ng/dry g					
PCB099	NA	ND	0.05	0.1	ng/dry g					
PCB101	NA	ND	0.05	0.1	ng/dry g					
PCB105	NA	ND	0.05	0.1	ng/dry g					
PCB110	NA	ND	0.05	0.1	ng/dry g					
PCB114	NA	ND	0.05	0.1	ng/dry g					
PCB118	NA	ND	0.05	0.1	ng/dry g					



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB119	NA	ND	0.05	0.1	ng/dry g					
PCB123	NA	ND	0.05	0.1	ng/dry g					
PCB126	NA	ND	0.05	0.1	ng/dry g					
PCB128	NA	ND	0.05	0.1	ng/dry g					
PCB137	NA	ND	0.05	0.1	ng/dry g					
PCB138	NA	ND	0.05	0.1	ng/dry g					
PCB141	NA	ND	0.05	0.1	ng/dry g					
PCB149	NA	ND	0.05	0.1	ng/dry g					
PCB151	NA	ND	0.05	0.1	ng/dry g					
PCB153	NA	ND	0.05	0.1	ng/dry g					
PCB156	NA	ND	0.05	0.1	ng/dry g					
PCB157	NA	ND	0.05	0.1	ng/dry g					
PCB158	NA	ND	0.05	0.1	ng/dry g					
PCB167	NA	ND	0.05	0.1	ng/dry g					
PCB168+132	NA	ND	0.1	0.2	ng/dry g					
PCB169	NA	ND	0.05	0.1	ng/dry g					
PCB170	NA	ND	0.05	0.1	ng/dry g					
PCB174	NA	ND	0.05	0.1	ng/dry g					
PCB177	NA	ND	0.05	0.1	ng/dry g					
PCB180	NA	ND	0.05	0.1	ng/dry g					
PCB183	NA	ND	0.05	0.1	ng/dry g					
PCB187	NA	ND	0.05	0.1	ng/dry g					
PCB189	NA	ND	0.05	0.1	ng/dry g					
PCB194	NA	ND	0.05	0.1	ng/dry g					
PCB195	NA	ND	0.05	0.1	ng/dry g					
PCB199(200)	NA	ND	0.1	0.2	ng/dry g					
PCB201	NA	ND	0.05	0.1	ng/dry g					
PCB203	NA	ND	0.05	0.1	ng/dry g					
PCB206	NA	ND	0.05	0.1	ng/dry g					
PCB209	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 22035-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

PHYSIS Project ID: 1307002-004

Client: AMEC

Project: RHMP Bight '13

qcb - 16 of 30



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Method: EPA 8270C		Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 4:13				
PCB003	NA	207.88	0.05	0.1	ng/dry g	200	0	104 70 - 130% PASS		
PCB005	NA	181.12	0.05	0.1	ng/dry g	200	0	91 70 - 130% PASS		
PCB008	NA	210.35	0.05	0.1	ng/dry g	200	0	105 70 - 130% PASS		
PCB015	NA	222.91	0.05	0.1	ng/dry g	200	0	111 70 - 130% PASS		
PCB018	NA	194.51	0.05	0.1	ng/dry g	200	0	97 70 - 130% PASS		
PCB027	NA	197.77	0.05	0.1	ng/dry g	200	0	99 70 - 130% PASS		
PCB028	NA	223.99	0.05	0.1	ng/dry g	200	0	112 70 - 130% PASS		
PCB029	NA	217.42	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS		
PCB031	NA	244.35	0.05	0.1	ng/dry g	200	0	122 70 - 130% PASS		
PCB033	NA	239.69	0.05	0.1	ng/dry g	200	0	120 70 - 130% PASS		
PCB037	NA	232.99	0.05	0.1	ng/dry g	200	0	116 70 - 130% PASS		
PCB044	NA	215.69	0.05	0.1	ng/dry g	200	0	108 70 - 130% PASS		
PCB049	NA	211.01	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS		
PCB052	NA	214.12	0.05	0.1	ng/dry g	200	0	107 70 - 130% PASS		
PCB056(060)	NA	236.1	0.1	0.2	ng/dry g	200	0	118 70 - 130% PASS		
PCB066	NA	209.97	0.05	0.1	ng/dry g	200	0	105 70 - 130% PASS		
PCB070	NA	230.28	0.05	0.1	ng/dry g	200	0	115 70 - 130% PASS		
PCB074	NA	241.2	0.05	0.1	ng/dry g	200	0	121 70 - 130% PASS		
PCB077	NA	218.95	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS		
PCB081	NA	210.78	0.05	0.1	ng/dry g	200	0	105 70 - 130% PASS		
PCB087	NA	191.91	0.05	0.1	ng/dry g	200	0	96 70 - 130% PASS		
PCB095	NA	181.37	0.05	0.1	ng/dry g	200	0	91 70 - 130% PASS		
PCB097	NA	206.05	0.05	0.1	ng/dry g	200	0	103 70 - 130% PASS		
PCB099	NA	215.55	0.05	0.1	ng/dry g	200	0	108 70 - 130% PASS		
PCB101	NA	212.2	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS		
PCB105	NA	196.6	0.05	0.1	ng/dry g	200	0	98 70 - 130% PASS		
PCB110	NA	208.32	0.05	0.1	ng/dry g	200	0	104 70 - 130% PASS		
PCB114	NA	221.47	0.05	0.1	ng/dry g	200	0	111 70 - 130% PASS		
PCB118	NA	205.7	0.05	0.1	ng/dry g	200	0	103 70 - 130% PASS		
PCB119	NA	217.68	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS		



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB123	NA	213.35	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	
PCB126	NA	237.68	0.05	0.1	ng/dry g	200	0	119	70 - 130% PASS	
PCB128	NA	188.63	0.05	0.1	ng/dry g	200	0	94	70 - 130% PASS	
PCB137	NA	217.73	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	
PCB138	NA	213.29	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	
PCB141	NA	180.57	0.05	0.1	ng/dry g	200	0	90	70 - 130% PASS	
PCB149	NA	185.75	0.05	0.1	ng/dry g	200	0	93	70 - 130% PASS	
PCB151	NA	191.38	0.05	0.1	ng/dry g	200	0	96	70 - 130% PASS	
PCB153	NA	223.52	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	
PCB156	NA	227.55	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	
PCB157	NA	203.21	0.05	0.1	ng/dry g	200	0	102	70 - 130% PASS	
PCB158	NA	195.04	0.05	0.1	ng/dry g	200	0	98	70 - 130% PASS	
PCB167	NA	210.77	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	
PCB168+132	NA	377.6	0.1	0.2	ng/dry g	400	0	94	70 - 130% PASS	
PCB169	NA	246.62	0.05	0.1	ng/dry g	200	0	123	70 - 130% PASS	
PCB170	NA	212.45	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	
PCB174	NA	198.12	0.05	0.1	ng/dry g	200	0	99	70 - 130% PASS	
PCB177	NA	203.72	0.05	0.1	ng/dry g	200	0	102	70 - 130% PASS	
PCB180	NA	225.18	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	
PCB183	NA	199.71	0.05	0.1	ng/dry g	200	0	100	70 - 130% PASS	
PCB187	NA	205.13	0.05	0.1	ng/dry g	200	0	103	70 - 130% PASS	
PCB189	NA	231.04	0.05	0.1	ng/dry g	200	0	116	70 - 130% PASS	
PCB194	NA	206.26	0.05	0.1	ng/dry g	200	0	103	70 - 130% PASS	
PCB195	NA	197.36	0.05	0.1	ng/dry g	200	0	99	70 - 130% PASS	
PCB199(200)	NA	171.4	0.1	0.2	ng/dry g	200	0	86	70 - 130% PASS	
PCB201	NA	206.33	0.05	0.1	ng/dry g	200	0	103	70 - 130% PASS	
PCB203	NA	188.47	0.05	0.1	ng/dry g	200	0	94	70 - 130% PASS	
PCB206	NA	184.15	0.05	0.1	ng/dry g	200	0	92	70 - 130% PASS	
PCB209	NA	164.42	0.05	0.1	ng/dry g	200	0	82	70 - 130% PASS	

Sample ID: 22035-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 5:55

PHYSIS Project ID: 1307002-004

Client: AMEC

Project: RHMP Bight '13

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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
PCB003	NA	198.27	0.05	0.1	ng/dry g	200	0	99	70 - 130% PASS	5	25	PASS
PCB005	NA	161.62	0.05	0.1	ng/dry g	200	0	81	70 - 130% PASS	12	25	PASS
PCB008	NA	209.16	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	0	25	PASS
PCB015	NA	219.92	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	1	25	PASS
PCB018	NA	190.63	0.05	0.1	ng/dry g	200	0	95	70 - 130% PASS	2	25	PASS
PCB027	NA	182.18	0.05	0.1	ng/dry g	200	0	91	70 - 130% PASS	8	25	PASS
PCB028	NA	209.39	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	6	25	PASS
PCB029	NA	215.35	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	1	25	PASS
PCB031	NA	219.82	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	10	25	PASS
PCB033	NA	218.27	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	10	25	PASS
PCB037	NA	241.26	0.05	0.1	ng/dry g	200	0	121	70 - 130% PASS	4	25	PASS
PCB044	NA	209.56	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	3	25	PASS
PCB049	NA	214.53	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	1	25	PASS
PCB052	NA	210.18	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	2	25	PASS
PCB056(060)	NA	239.4	0.1	0.2	ng/dry g	200	0	120	70 - 130% PASS	2	25	PASS
PCB066	NA	226.94	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	7	25	PASS
PCB070	NA	227.19	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	1	25	PASS
PCB074	NA	248.18	0.05	0.1	ng/dry g	200	0	124	70 - 130% PASS	2	25	PASS
PCB077	NA	232.46	0.05	0.1	ng/dry g	200	0	116	70 - 130% PASS	6	25	PASS
PCB081	NA	234.73	0.05	0.1	ng/dry g	200	0	117	70 - 130% PASS	11	25	PASS
PCB087	NA	206.31	0.05	0.1	ng/dry g	200	0	103	70 - 130% PASS	7	25	PASS
PCB095	NA	184.84	0.05	0.1	ng/dry g	200	0	92	70 - 130% PASS	1	25	PASS
PCB097	NA	227.17	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	10	25	PASS
PCB099	NA	218.37	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	1	25	PASS
PCB101	NA	222.55	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	5	25	PASS
PCB105	NA	206.1	0.05	0.1	ng/dry g	200	0	103	70 - 130% PASS	5	25	PASS
PCB110	NA	214.7	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	3	25	PASS
PCB114	NA	244.28	0.05	0.1	ng/dry g	200	0	122	70 - 130% PASS	9	25	PASS
PCB118	NA	218.21	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	6	25	PASS
PCB119	NA	225.26	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	4	25	PASS
PCB123	NA	237.26	0.05	0.1	ng/dry g	200	0	119	70 - 130% PASS	11	25	PASS



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB126	NA	253.1	0.05	0.1	ng/dry g	200	0	127 70 - 130% PASS	7 25 PASS	
PCB128	NA	202.1	0.05	0.1	ng/dry g	200	0	101 70 - 130% PASS	7 25 PASS	
PCB137	NA	224.08	0.05	0.1	ng/dry g	200	0	112 70 - 130% PASS	3 25 PASS	
PCB138	NA	218.26	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS	2 25 PASS	
PCB141	NA	190.22	0.05	0.1	ng/dry g	200	0	95 70 - 130% PASS	5 25 PASS	
PCB149	NA	198.91	0.05	0.1	ng/dry g	200	0	99 70 - 130% PASS	6 25 PASS	
PCB151	NA	211.23	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS	10 25 PASS	
PCB153	NA	228.46	0.05	0.1	ng/dry g	200	0	114 70 - 130% PASS	2 25 PASS	
PCB156	NA	242.55	0.05	0.1	ng/dry g	200	0	121 70 - 130% PASS	6 25 PASS	
PCB157	NA	219.55	0.05	0.1	ng/dry g	200	0	110 70 - 130% PASS	8 25 PASS	
PCB158	NA	207.7	0.05	0.1	ng/dry g	200	0	104 70 - 130% PASS	6 25 PASS	
PCB167	NA	216.86	0.05	0.1	ng/dry g	200	0	108 70 - 130% PASS	3 25 PASS	
PCB168+132	NA	394.9	0.1	0.2	ng/dry g	400	0	99 70 - 130% PASS	5 25 PASS	
PCB169	NA	261.79	0.05	0.1	ng/dry g	200	0	131 70 - 130% FAIL	6 25 PASS	R
PCB170	NA	217.82	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS	3 25 PASS	
PCB174	NA	209.16	0.05	0.1	ng/dry g	200	0	105 70 - 130% PASS	6 25 PASS	
PCB177	NA	204.6	0.05	0.1	ng/dry g	200	0	102 70 - 130% PASS	0 25 PASS	
PCB180	NA	233.62	0.05	0.1	ng/dry g	200	0	117 70 - 130% PASS	3 25 PASS	
PCB183	NA	207.74	0.05	0.1	ng/dry g	200	0	104 70 - 130% PASS	4 25 PASS	
PCB187	NA	211.52	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS	3 25 PASS	
PCB189	NA	234.41	0.05	0.1	ng/dry g	200	0	117 70 - 130% PASS	1 25 PASS	
PCB194	NA	212.54	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS	3 25 PASS	
PCB195	NA	204.1	0.05	0.1	ng/dry g	200	0	102 70 - 130% PASS	3 25 PASS	
PCB199(200)	NA	188.3	0.1	0.2	ng/dry g	200	0	94 70 - 130% PASS	9 25 PASS	
PCB201	NA	218.85	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS	6 25 PASS	
PCB203	NA	194.78	0.05	0.1	ng/dry g	200	0	97 70 - 130% PASS	3 25 PASS	
PCB206	NA	196.05	0.05	0.1	ng/dry g	200	0	98 70 - 130% PASS	6 25 PASS	
PCB209	NA	172.01	0.05	0.1	ng/dry g	200	0	86 70 - 130% PASS	5 25 PASS	

Sample ID: 22045-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 03-Nov-13 13:15

PCB008	NA	17.19	0.05	0.1	ng/dry g	22.3	77	60 - 140% PASS		
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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB018	NA	42.26	0.05	0.1	ng/dry g	51		83 60 - 140% PASS		
PCB028	NA	65.76	0.05	0.1	ng/dry g	80.8		81 60 - 140% PASS		
PCB031	NA	61.59	0.05	0.1	ng/dry g	78.7		78 60 - 140% PASS		
PCB044	NA	53.2	0.05	0.1	ng/dry g	60.2		88 60 - 140% PASS		
PCB049	NA	49.12	0.05	0.1	ng/dry g	53		93 60 - 140% PASS		
PCB052	NA	64.38	0.05	0.1	ng/dry g	79.4		81 60 - 140% PASS		
PCB066	NA	59.74	0.05	0.1	ng/dry g	71.9		83 60 - 140% PASS		
PCB087	NA	29.6	0.05	0.1	ng/dry g	29.9		99 60 - 140% PASS		
PCB095	NA	51.56	0.05	0.1	ng/dry g	65		79 60 - 140% PASS		
PCB099	NA	31.51	0.05	0.1	ng/dry g	37.5		84 60 - 140% PASS		
PCB101	NA	51.09	0.05	0.1	ng/dry g	73.4		70 60 - 140% PASS		
PCB105	NA	23.11	0.05	0.1	ng/dry g	24.5		94 60 - 140% PASS		
PCB110	NA	44.47	0.05	0.1	ng/dry g	63.5		70 60 - 140% PASS		
PCB118	NA	40.32	0.05	0.1	ng/dry g	58		70 60 - 140% PASS		
PCB128	NA	7.09	0.05	0.1	ng/dry g	8.5		83 60 - 140% PASS		
PCB138	NA	44.2	0.05	0.1	ng/dry g	62.1		71 60 - 140% PASS		
PCB149	NA	34.76	0.05	0.1	ng/dry g	49.7		70 60 - 140% PASS		
PCB151	NA	20.57	0.05	0.1	ng/dry g	16.9		122 60 - 140% PASS		
PCB153	NA	56.13	0.05	0.1	ng/dry g	74		76 60 - 140% PASS		
PCB156	NA	8.57	0.05	0.1	ng/dry g	6.5		132 60 - 140% PASS		
PCB170	NA	22.71	0.05	0.1	ng/dry g	22.6		100 60 - 140% PASS		
PCB180	NA	39.75	0.05	0.1	ng/dry g	44.3		90 60 - 140% PASS		
PCB183	NA	9.87	0.05	0.1	ng/dry g	12.2		81 60 - 140% PASS		
PCB187	NA	21.03	0.05	0.1	ng/dry g	24.1		87 60 - 140% PASS		
PCB194	NA	11.9	0.05	0.1	ng/dry g	11.2		106 60 - 140% PASS		
PCB195	NA	9.62	0.05	0.1	ng/dry g	3.8		253 60 - 140% FAIL		R
PCB206	NA	7.01	0.05	0.1	ng/dry g	9.2		76 60 - 140% PASS		
PCB209	NA	5.18	0.05	0.1	ng/dry g	6.8		76 60 - 140% PASS		



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22035-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 29-Oct-13 18:00

(DFPBDE)	NA	86			% Recovery	100		86	50 - 150%	PASS
(FTBDE)	NA	94			% Recovery	100		94	50 - 150%	PASS
PBDE017	NA	ND	0.05	0.1	ng/dry g					
PBDE028	NA	ND	0.05	0.1	ng/dry g					
PBDE047	NA	ND	0.05	0.1	ng/dry g					
PBDE049	NA	ND	0.05	0.1	ng/dry g					
PBDE066	NA	ND	0.05	0.1	ng/dry g					
PBDE071	NA	ND	0.05	0.1	ng/dry g					
PBDE085	NA	ND	0.05	0.1	ng/dry g					
PBDE099	NA	ND	0.05	0.1	ng/dry g					
PBDE100	NA	ND	0.05	0.1	ng/dry g					
PBDE138	NA	ND	0.05	0.1	ng/dry g					
PBDE153	NA	ND	0.05	0.1	ng/dry g					
PBDE154	NA	ND	0.05	0.1	ng/dry g					
PBDE183	NA	ND	0.05	0.1	ng/dry g					
PBDE190	NA	ND	0.05	0.1	ng/dry g					
PBDE209	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 22035-B51

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 29-Oct-13 18:39

(DFPBDE)	NA	110			% Recovery	100	0	110	70 - 130%	PASS
(FTBDE)	NA	115			% Recovery	100	0	115	70 - 130%	PASS
PBDE017	NA	122.86	0.05	0.1	ng/dry g	100	0	123	70 - 130%	PASS
PBDE028	NA	111.63	0.05	0.1	ng/dry g	100	0	112	70 - 130%	PASS
PBDE047	NA	97.17	0.05	0.1	ng/dry g	100	0	97	70 - 130%	PASS
PBDE049	NA	88.21	0.05	0.1	ng/dry g	100	0	88	70 - 130%	PASS
PBDE066	NA	103.48	0.05	0.1	ng/dry g	100	0	103	70 - 130%	PASS
PBDE071	NA	86.4	0.05	0.1	ng/dry g	100	0	86	70 - 130%	PASS
PBDE085	NA	110.4	0.05	0.1	ng/dry g	100	0	110	70 - 130%	PASS



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PBDE099	NA	103.09	0.05	0.1	ng/dry g	100	0	103 70 - 130%	PASS	
PBDE100	NA	105.03	0.05	0.1	ng/dry g	100	0	105 70 - 130%	PASS	
PBDE138	NA	99.94	0.05	0.1	ng/dry g	100	0	100 70 - 130%	PASS	
PBDE153	NA	111.24	0.05	0.1	ng/dry g	100	0	111 70 - 130%	PASS	
PBDE154	NA	104.37	0.05	0.1	ng/dry g	100	0	104 70 - 130%	PASS	
PBDE183	NA	100.01	0.05	0.1	ng/dry g	100	0	100 70 - 130%	PASS	
PBDE190	NA	89.94	0.05	0.1	ng/dry g	100	0	90 70 - 130%	PASS	
PBDE209	NA	603.45	0.05	0.1	ng/dry g	500	0	121 70 - 130%	PASS	

Sample ID: 22035-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 29-Oct-13 19:18

(DFPBDE)	NA	110			% Recovery	100	0	110 70 - 130%	PASS	0	25	PASS	
(FTBDE)	NA	117			% Recovery	100	0	117 70 - 130%	PASS	2	25	PASS	
PBDE017	NA	125.4	0.05	0.1	ng/dry g	100	0	125 70 - 130%	PASS	2	25	PASS	
PBDE028	NA	109.54	0.05	0.1	ng/dry g	100	0	110 70 - 130%	PASS	2	25	PASS	
PBDE047	NA	99.74	0.05	0.1	ng/dry g	100	0	100 70 - 130%	PASS	3	25	PASS	
PBDE049	NA	96.42	0.05	0.1	ng/dry g	100	0	96 70 - 130%	PASS	9	25	PASS	
PBDE066	NA	106.65	0.05	0.1	ng/dry g	100	0	107 70 - 130%	PASS	4	25	PASS	
PBDE071	NA	86.07	0.05	0.1	ng/dry g	100	0	86 70 - 130%	PASS	0	25	PASS	
PBDE085	NA	111.53	0.05	0.1	ng/dry g	100	0	112 70 - 130%	PASS	2	25	PASS	
PBDE099	NA	105.19	0.05	0.1	ng/dry g	100	0	105 70 - 130%	PASS	2	25	PASS	
PBDE100	NA	107.56	0.05	0.1	ng/dry g	100	0	108 70 - 130%	PASS	3	25	PASS	
PBDE138	NA	105.61	0.05	0.1	ng/dry g	100	0	106 70 - 130%	PASS	6	25	PASS	
PBDE153	NA	113.58	0.05	0.1	ng/dry g	100	0	114 70 - 130%	PASS	3	25	PASS	
PBDE154	NA	109.3	0.05	0.1	ng/dry g	100	0	109 70 - 130%	PASS	5	25	PASS	
PBDE183	NA	112.38	0.05	0.1	ng/dry g	100	0	112 70 - 130%	PASS	11	25	PASS	
PBDE190	NA	98.19	0.05	0.1	ng/dry g	100	0	98 70 - 130%	PASS	9	25	PASS	
PBDE209	NA	655.02	0.05	0.1	ng/dry g	500	0	131 70 - 130%	FAIL	8	25	PASS	R

Sample ID: 22045-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 29-Oct-13 21:46

PBDE047	NA	1.52	0.05	0.1	ng/dry g	1.72		88 60 - 140%	PASS				
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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PBDE099	NA	2.17	0.05	0.1	ng/dry g	2		109 60 - 140% PASS		
PBDE100	NA	0.32	0.05	0.1	ng/dry g	0.4		80 60 - 140% PASS		
PBDE153	NA	7.42	0.05	0.1	ng/dry g	6.44		115 60 - 140% PASS		
PBDE154	NA	1.57	0.05	0.1	ng/dry g	1.06		148 60 - 140% FAIL		*
PBDE183	NA	31.26	0.05	0.1	ng/dry g	31.8		98 60 - 140% PASS		
PBDE209	NA	251.6	0.05	0.1	ng/dry g	93.5		269 60 - 140% FAIL		*



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22035-B1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 2:30	
(d10-Acenaphthene)	NA	74			% Recovery	100	74	50 - 150% PASS		
(d10-Phenanthrene)	NA	83			% Recovery	100	83	50 - 150% PASS		
(d12-Chrysene)	NA	84			% Recovery	100	84	50 - 150% PASS		
(d8-Naphthalene)	NA	62			% Recovery	100	62	25 - 125% PASS		
1-Methylnaphthalene	NA	ND	1	5	ng/dry g					
1-Methylphenanthrene	NA	ND	1	5	ng/dry g					
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g					
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g					
2-Methylnaphthalene	NA	ND	1	5	ng/dry g					
Acenaphthene	NA	ND	1	5	ng/dry g					
Acenaphthylene	NA	ND	1	5	ng/dry g					
Anthracene	NA	ND	1	5	ng/dry g					
Benz[a]anthracene	NA	ND	1	5	ng/dry g					
Benzo[a]pyrene	NA	ND	1	5	ng/dry g					
Benzo[b]fluoranthene	NA	ND	1	5	ng/dry g					
Benzo[e]pyrene	NA	ND	1	5	ng/dry g					
Benzo[g,h,i]perylene	NA	ND	1	5	ng/dry g					
Benzo[k]fluoranthene	NA	ND	1	5	ng/dry g					
Biphenyl	NA	ND	1	5	ng/dry g					
Chrysene	NA	ND	1	5	ng/dry g					
Dibenz[a,h]anthracene	NA	ND	1	5	ng/dry g					
Dibenzothiophene	NA	ND	1	5	ng/dry g					
Fluoranthene	NA	ND	1	5	ng/dry g					
Fluorene	NA	ND	1	5	ng/dry g					
Indeno[1,2,3-c,d]pyrene	NA	ND	1	5	ng/dry g					
Naphthalene	NA	ND	1	5	ng/dry g					
Perylene	NA	ND	1	5	ng/dry g					
Phenanthrene	NA	ND	1	5	ng/dry g					
Pyrene	NA	ND	1	5	ng/dry g					



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22035-BS1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 4:13	
(d10-Acenaphthene)	NA	87			% Recovery	100	0	87 70 - 130%	PASS	
(d10-Phenanthrene)	NA	95			% Recovery	100	0	95 70 - 130%	PASS	
(d12-Chrysene)	NA	112			% Recovery	100	0	112 70 - 130%	PASS	
(d8-Naphthalene)	NA	76			% Recovery	100	0	76 70 - 130%	PASS	
1-Methylnaphthalene	NA	799	1	5	ng/dry g	1000	0	80 70 - 130%	PASS	
1-Methylphenanthrene	NA	1087.9	1	5	ng/dry g	1000	0	109 70 - 130%	PASS	
2,3,5-Trimethylnaphthalene	NA	891.3	1	5	ng/dry g	1000	0	89 70 - 130%	PASS	
2,6-Dimethylnaphthalene	NA	848.2	1	5	ng/dry g	1000	0	85 70 - 130%	PASS	
2-Methylnaphthalene	NA	797.4	1	5	ng/dry g	1000	0	80 70 - 130%	PASS	
Acenaphthene	NA	846.7	1	5	ng/dry g	1000	0	85 70 - 130%	PASS	
Acenaphthylene	NA	783.9	1	5	ng/dry g	1000	0	78 70 - 130%	PASS	
Anthracene	NA	1008.2	1	5	ng/dry g	1000	0	101 70 - 130%	PASS	
Benz[a]anthracene	NA	1167.9	1	5	ng/dry g	1000	0	117 70 - 130%	PASS	
Benzo[a]pyrene	NA	948.5	1	5	ng/dry g	1000	0	95 70 - 130%	PASS	
Benzo[b]fluoranthene	NA	1088.9	1	5	ng/dry g	1000	0	109 70 - 130%	PASS	
Benzo[e]pyrene	NA	1002.5	1	5	ng/dry g	1000	0	100 70 - 130%	PASS	
Benzo[g,h,i]perylene	NA	1002	1	5	ng/dry g	1000	0	100 70 - 130%	PASS	
Benzo[k]fluoranthene	NA	1080.4	1	5	ng/dry g	1000	0	108 70 - 130%	PASS	
Biphenyl	NA	829.4	1	5	ng/dry g	1000	0	83 70 - 130%	PASS	
Chrysene	NA	1126.5	1	5	ng/dry g	1000	0	113 70 - 130%	PASS	
Dibenz[a,h]anthracene	NA	1069.8	1	5	ng/dry g	1000	0	107 70 - 130%	PASS	
Dibenzothiophene	NA	989.2	1	5	ng/dry g	1000	0	99 70 - 130%	PASS	
Fluoranthene	NA	1090.5	1	5	ng/dry g	1000	0	109 70 - 130%	PASS	
Fluorene	NA	903.2	1	5	ng/dry g	1000	0	90 70 - 130%	PASS	
Indeno[1,2,3-c,d]pyrene	NA	1048	1	5	ng/dry g	1000	0	105 70 - 130%	PASS	
Naphthalene	NA	738	1	5	ng/dry g	1000	0	74 70 - 130%	PASS	
Perylene	NA	962.4	1	5	ng/dry g	1000	0	96 70 - 130%	PASS	
Phenanthrene	NA	965	1	5	ng/dry g	1000	0	96 70 - 130%	PASS	
Pyrene	NA	1148.1	1	5	ng/dry g	1000	0	115 70 - 130%	PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Sample ID: 22035-BS2		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 5:55	
(d10-Acenaphthene)	NA	87			% Recovery	100	0	87	70 - 130% PASS	0 25 PASS
(d10-Phenanthrene)	NA	96			% Recovery	100	0	96	70 - 130% PASS	1 25 PASS
(d12-Chrysene)	NA	101			% Recovery	100	0	101	70 - 130% PASS	10 25 PASS
(d8-Naphthalene)	NA	76			% Recovery	100	0	76	70 - 130% PASS	0 25 PASS
1-Methylnaphthalene	NA	777	1	5	ng/dry g	1000	0	78	70 - 130% PASS	3 25 PASS
1-Methylphenanthrene	NA	1055.2	1	5	ng/dry g	1000	0	106	70 - 130% PASS	3 25 PASS
2,3,5-Trimethylnaphthalene	NA	892.9	1	5	ng/dry g	1000	0	89	70 - 130% PASS	0 25 PASS
2,6-Dimethylnaphthalene	NA	836.6	1	5	ng/dry g	1000	0	84	70 - 130% PASS	1 25 PASS
2-Methylnaphthalene	NA	773.9	1	5	ng/dry g	1000	0	77	70 - 130% PASS	4 25 PASS
Acenaphthene	NA	840.8	1	5	ng/dry g	1000	0	84	70 - 130% PASS	1 25 PASS
Acenaphthylene	NA	744.5	1	5	ng/dry g	1000	0	74	70 - 130% PASS	5 25 PASS
Anthracene	NA	938.2	1	5	ng/dry g	1000	0	94	70 - 130% PASS	7 25 PASS
Benz[a]anthracene	NA	1029.7	1	5	ng/dry g	1000	0	103	70 - 130% PASS	13 25 PASS
Benzo[a]pyrene	NA	759.2	1	5	ng/dry g	1000	0	76	70 - 130% PASS	22 25 PASS
Benzo[b]fluoranthene	NA	924.7	1	5	ng/dry g	1000	0	92	70 - 130% PASS	17 25 PASS
Benzo[e]pyrene	NA	845.6	1	5	ng/dry g	1000	0	85	70 - 130% PASS	16 25 PASS
Benzo[g,h,i]perylene	NA	987.7	1	5	ng/dry g	1000	0	99	70 - 130% PASS	1 25 PASS
Benzo[k]fluoranthene	NA	892.7	1	5	ng/dry g	1000	0	89	70 - 130% PASS	19 25 PASS
Biphenyl	NA	811.9	1	5	ng/dry g	1000	0	81	70 - 130% PASS	2 25 PASS
Chrysene	NA	997.7	1	5	ng/dry g	1000	0	100	70 - 130% PASS	12 25 PASS
Dibenz[a,h]anthracene	NA	1100.4	1	5	ng/dry g	1000	0	110	70 - 130% PASS	3 25 PASS
Dibenzothiophene	NA	968.8	1	5	ng/dry g	1000	0	97	70 - 130% PASS	2 25 PASS
Fluoranthene	NA	1027.5	1	5	ng/dry g	1000	0	103	70 - 130% PASS	6 25 PASS
Fluorene	NA	906.1	1	5	ng/dry g	1000	0	91	70 - 130% PASS	1 25 PASS
Indeno[1,2,3-c,d]pyrene	NA	1012.9	1	5	ng/dry g	1000	0	101	70 - 130% PASS	4 25 PASS
Naphthalene	NA	726.5	1	5	ng/dry g	1000	0	73	70 - 130% PASS	1 25 PASS
Perylene	NA	796.7	1	5	ng/dry g	1000	0	80	70 - 130% PASS	18 25 PASS
Phenanthrene	NA	931.5	1	5	ng/dry g	1000	0	93	70 - 130% PASS	3 25 PASS
Pyrene	NA	1062.2	1	5	ng/dry g	1000	0	106	70 - 130% PASS	8 25 PASS



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22045-CRM1		QAQC CRM - SRM 1944			Matrix: Sediment		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5024		Prepared: 16-Oct-13		Analyzed: 03-Nov-13 13:15	
(d10-Acenaphthene)	NA	66			% Recovery	100	66	60 - 140%	PASS	
(d10-Phenanthrene)	NA	86			% Recovery	100	86	60 - 140%	PASS	
(d12-Chrysene)	NA	78			% Recovery	100	78	60 - 140%	PASS	
(d8-Naphthalene)	NA	60			% Recovery	100	60	60 - 140%	PASS	
1-Methylnaphthalene	NA	392.7	1	5	ng/dry g	470	84	60 - 140%	PASS	
1-Methylphenanthrene	NA	1274.8	1	5	ng/dry g	1700	75	60 - 140%	PASS	
2,6-Dimethylnaphthalene	NA	562.9	1	5	ng/dry g	790	71	60 - 140%	PASS	
2-Methylnaphthalene	NA	736.1	1	5	ng/dry g	740	99	60 - 140%	PASS	
Acenaphthene	NA	439.5	1	5	ng/dry g	390	113	60 - 140%	PASS	
Anthracene	NA	1462.5	1	5	ng/dry g	1130	129	60 - 140%	PASS	
Benz[a]anthracene	NA	3908.6	1	5	ng/dry g	4720	83	60 - 140%	PASS	
Benzo[a]pyrene	NA	3008.4	1	5	ng/dry g	4300	70	60 - 140%	PASS	
Benzo[b]fluoranthene	NA	2748.2	1	5	ng/dry g	3870	71	60 - 140%	PASS	
Benzo[e]pyrene	NA	2437.1	1	5	ng/dry g	3280	74	60 - 140%	PASS	
Benzo[g,h,i]perylene	NA	2545	1	5	ng/dry g	2840	90	60 - 140%	PASS	
Benzo[k]fluoranthene	NA	1875.4	1	5	ng/dry g	2300	82	60 - 140%	PASS	
Biphenyl	NA	314.2	1	5	ng/dry g	250	126	60 - 140%	PASS	
Chrysene	NA	4126	1	5	ng/dry g	4860	85	60 - 140%	PASS	
Dibenz[a,h]anthracene	NA	571	1	5	ng/dry g	424	135	60 - 140%	PASS	
Dibenzothiophene	NA	439.1	1	5	ng/dry g	500	88	60 - 140%	PASS	
Fluoranthene	NA	7422.6	1	5	ng/dry g	8920	83	60 - 140%	PASS	
Fluorene	NA	652.2	1	5	ng/dry g	480	136	60 - 140%	PASS	
Indeno[1,2,3-c,d]pyrene	NA	3573.9	1	5	ng/dry g	2780	129	60 - 140%	PASS	
Naphthalene	NA	1223.9	1	5	ng/dry g	1280	96	60 - 140%	PASS	
Perylene	NA	873.8	1	5	ng/dry g	1170	75	60 - 140%	PASS	
Phenanthrene	NA	3992.6	1	5	ng/dry g	5270	76	60 - 140%	PASS	
Pyrene	NA	7096.7	1	5	ng/dry g	9700	73	60 - 140%	PASS	



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Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22035-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 15:59

Allethrin	NA	ND	0.25	0.5	ng/dry g					
Bifenthrin	NA	ND	0.25	0.5	ng/dry g					
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g					
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g					
Cypermethrin	NA	ND	0.25	0.5	ng/dry g					
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g					
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g					
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g					
Fenvalerate	NA	ND	0.25	0.5	ng/dry g					
Fluvalinate	NA	ND	0.25	0.5	ng/dry g					
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g					
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g					
Prallethrin	NA	ND	0.25	0.5	ng/dry g					
Resmethrin	NA	ND	0.25	0.5	ng/dry g					

Sample ID: 22035-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 17:02

Allethrin	NA	1185.11	0.25	0.5	ng/dry g	1000	0	119	70 - 130%	PASS
Bifenthrin	NA	993.56	0.25	0.5	ng/dry g	1000	0	99	70 - 130%	PASS
Cyfluthrin	NA	1233.96	0.25	0.5	ng/dry g	1000	0	123	70 - 130%	PASS
Cyhalothrin, Total Lambda	NA	1215.65	0.25	0.5	ng/dry g	1000	0	122	70 - 130%	PASS
Cypermethrin	NA	1292.39	0.25	0.5	ng/dry g	1000	0	129	70 - 130%	PASS
Danitol (Fenpropathrin)	NA	992.51	0.25	0.5	ng/dry g	1000	0	99	70 - 130%	PASS
Deltamethrin/Tralomethrin	NA	1768.38	0.25	0.5	ng/dry g	2000	0	88	70 - 130%	PASS
Esfenvalerate	NA	1202.16	0.25	0.5	ng/dry g	1000	0	120	70 - 130%	PASS
Fenvalerate	NA	1177.46	0.25	0.5	ng/dry g	1000	0	118	70 - 130%	PASS
Fluvalinate	NA	1238.63	0.25	0.5	ng/dry g	1000	0	124	70 - 130%	PASS
Permethrin, cis-	NA	282.03	0.25	0.5	ng/dry g	276	0	102	70 - 130%	PASS
Permethrin, trans-	NA	883.99	0.25	0.5	ng/dry g	716	0	123	70 - 130%	PASS



1904 E. Wright Circle, Anaheim CA 92806

main: (714) 602-5320

fax: (714) 602-5321

www.physislabs.com

info@physislabs.com

CA ELAP #2769

Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Prallethrin	NA	708.54	0.25	0.5	ng/dry g	1000	0	71 70 - 130% PASS		
Resmethrin	NA	692.76	0.25	0.5	ng/dry g	1000	0	69 70 - 130% FAIL		R

Sample ID: 22035-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5024

Prepared: 16-Oct-13

Analyzed: 24-Oct-13 18:06

Allethrin	NA	1209.75	0.25	0.5	ng/dry g	1000	0	121 70 - 130% PASS	2 25 PASS	
Bifenthrin	NA	970.95	0.25	0.5	ng/dry g	1000	0	97 70 - 130% PASS	2 25 PASS	
Cyfluthrin	NA	1242.22	0.25	0.5	ng/dry g	1000	0	124 70 - 130% PASS	1 25 PASS	
Cyhalothrin, Total Lambda	NA	1243.27	0.25	0.5	ng/dry g	1000	0	124 70 - 130% PASS	2 25 PASS	
Cypermethrin	NA	1253.87	0.25	0.5	ng/dry g	1000	0	125 70 - 130% PASS	3 25 PASS	
Danitol (Fenpropathrin)	NA	1002.04	0.25	0.5	ng/dry g	1000	0	100 70 - 130% PASS	1 25 PASS	
Deltamethrin/Tralomethrin	NA	2098.23	0.25	0.5	ng/dry g	2000	0	105 70 - 130% PASS	18 25 PASS	
Esfenvalerate	NA	1252.76	0.25	0.5	ng/dry g	1000	0	125 70 - 130% PASS	4 25 PASS	
Fenvalerate	NA	1245.19	0.25	0.5	ng/dry g	1000	0	125 70 - 130% PASS	6 25 PASS	
Fluvalinate	NA	1284.8	0.25	0.5	ng/dry g	1000	0	128 70 - 130% PASS	3 25 PASS	
Permethrin, cis-	NA	304.99	0.25	0.5	ng/dry g	276	0	111 70 - 130% PASS	8 25 PASS	
Permethrin, trans-	NA	891.69	0.25	0.5	ng/dry g	716	0	125 70 - 130% PASS	2 25 PASS	
Prallethrin	NA	713.55	0.25	0.5	ng/dry g	1000	0	71 70 - 130% PASS	0 25 PASS	
Resmethrin	NA	704.1	0.25	0.5	ng/dry g	1000	0	70 70 - 130% PASS	1 25 PASS	

PHYSIS

CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
# B13-8145	8/7/13	1034	General Chemistry	Grab	8 oz Glass	None	1
B13-8145	8/7/13	1034	Metals	Grab	8 oz Glass	None	1
B13-8145	8/7/13	1034	PBDE	Grab	8 oz Glass	None	1
B13-8145	8/7/13	1034	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8145	8/7/13	1034	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JS

Relinquished By: [Signature]

Date/Time: 8/8/13 1357

Received By: [Signature]

Date/Time: 8/8/13 1400

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

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 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
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To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8163	<i>8/8/13</i>	<i>0957</i>	General Chemistry	Grab	8 oz Glass	None	<u>1</u>
B13-8163	<i>8/8/13</i>	<i>0957</i>	Metals	Grab	8 oz Glass	None	<u>1</u>
B13-8163	<i>8/8/13</i>	<i>0957</i>	PBDE	Grab	8 oz Glass	None	<u>1</u>
B13-8163	<i>8/8/13</i>	<i>0957</i>	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	<u>1</u>
B13-8163	<i>8/8/13</i>	<i>0957</i>	Pyrethroid Pesticides	Grab	8 oz Glass	None	<u>1</u>

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JS*Relinquished By: *JS*

Date/Time:

*8/8/13 1357*Received By: *Henkelman*

Date/Time:

8/8/13 1400

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8160	8/8/13	0905	General Chemistry	Grab	8 oz Glass	None	1
B13-8160	8/8/13	0905	Metals	Grab	8 oz Glass	None	1
B13-8160	8/8/13	0905	PBDE	Grab	8 oz Glass	None	1
B13-8160	8/8/13	0905	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8160	8/8/13	0905	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *IR*

Relinquished By: *IR*

Relinquished By: *IR*

Date/Time: 8/8/13 1307

Date/Time: _____

Received By: *Herschel*

Received By: _____

Date/Time: 8/8/13 1400

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8159	8/8/13	1150	General Chemistry	Grab	8 oz Glass	None	1
B13-8159	8/8/13	1150	Metals	Grab	8 oz Glass	None	1
B13-8159	8/8/13	1150	PBDE	Grab	8 oz Glass	None	1
B13-8159	8/8/13	1150	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8159	8/8/13	1150	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JR

Relinquished By: [Signature]

Date/Time: 8/8/13 1357

Received By: [Signature]

Date/Time: 8/8/13 1400

Relinquished By:

Date/Time:

Received By:

Date/Time:

Analysis Request and Chain of Custody

RHMP
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From:

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To:

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Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8157	8/8/13	0724	General Chemistry	Grab	8 oz Glass	None	1
B13-8157	8/8/13	0724	Metals	Grab	8 oz Glass	None	1
B13-8157	8/8/13	0724	PBDE	Grab	8 oz Glass	None	1
B13-8157	8/8/13	0724	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8157	8/8/13	0724	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JS

Relinquished By: [Signature]

Date/Time: 8/8/13 1357

Received By: [Signature]

Date/Time: 8/8/13 1400

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP
Bight '13

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To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8156	8/7/13	1658	General Chemistry	Grab	8 oz Glass	None	1
B13-8156	8/7/13	1658	Metals	Grab	8 oz Glass	None	1
B13-8156	8/7/13	1658	PBDE	Grab	8 oz Glass	None	1
B13-8156	8/7/13	1658	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8156	8/7/13	1658	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JR

Relinquished By: [Signature]

Date/Time: 8/8/13 1357

Received By: [Signature]

Date/Time: 8/8/13 1400

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of CustodyRHMP
Bight '13**From:**AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301**To:**Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8152	8/7/13	1356	General Chemistry	Grab	8 oz Glass	None	1
B13-8152	8/7/13	1356	Metals	Grab	8 oz Glass	None	1
B13-8152	8/7/13	1356	PBDE	Grab	8 oz Glass	None	1
B13-8152	8/7/13	1356	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8152	8/7/13	1356	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JR

Relinquished By: [Signature]

Date/Time:

8/8/13 1357

Received By: [Signature]

Date/Time:

8/8/13 1400

Relinquished By:

Date/Time:

Received By:

Date/Time:

8 of 10

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

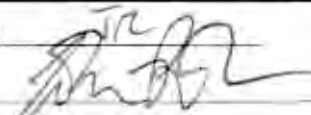
AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

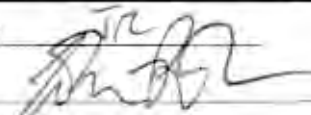
To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321


SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8151	8/7/13	1525	General Chemistry	Grab	8 oz Glass	None	1
B13-8151	8/7/13	1525	Metals	Grab	8 oz Glass	None	1
B13-8151	8/7/13	1525	PBDE	Grab	8 oz Glass	None	1
B13-8151	8/7/13	1525	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8151	8/7/13	1525	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: 

Relinquished By: 

Date/Time: 8/8/13 1357

Received By: 

Date/Time: 8/8/13 1400

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

9 of 12

Analysis Request and Chain of Custody

RHMP
 Bight '13

From:


AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
• B13-8146	8/7/13	1137	General Chemistry	Grab	8 oz Glass	None	1
B13-8146	8/7/13	1137	Metals	Grab	8 oz Glass	None	1
B13-8146	8/7/13	1137	PBDE	Grab	8 oz Glass	None	1
B13-8146	8/7/13	1137	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8146	8/7/13	1137	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.


Sampler's Initials: 

Relinquished By: 

Relinquished By: _____

Date/Time: 8/8/13 1357

Date/Time: _____

Received By: 

Received By: _____

Date/Time: 8/8/13 1400

Date/Time: _____

Port of San Diego
Final Work Plan
Regional Harbor Monitoring Program
AMEC Project No. 1015101932
August 2013

Table 4-2.
Chemical Analyses of Sediment Samples

Analyte	Analysis Method	Sediment Target Reporting Limits ^{a,b}	Units
Total Solids	SM 2540 B ^c	0.1	%
Total Organic Carbon	9060	0.01	%
Grain Size	SM2560	0.1	%
Aluminum	6020/6010B ^d	5.0	mg/kg
Antimony	6020/6010B ^d	0.05	mg/kg
Arsenic	6020/6010B ^d	0.05	mg/kg
Barium	6020/6010B ^d	0.05	mg/kg
Beryllium	6020/6010B ^d	0.05	mg/kg
Cadmium	6020/6010B ^d	0.01	mg/kg
Chromium	6020/6010B ^d	0.05	mg/kg
Copper	6020/6010B ^d	0.01	mg/kg
Iron	6020/6010B ^d	5.0	mg/kg
Lead	6020/6010B ^d	0.01	mg/kg
Mercury	6020/6010B ^d	0.02	mg/kg
Nickel	6020/6010B ^d	0.02	mg/kg
Selenium	6020/6010B ^d	0.05	mg/kg
Silver	6020/6010B ^d	0.02	mg/kg
Zinc	6020/6010B ^d	0.05	mg/kg
Total Nitrogen	TKN / SM 4500-NO ³ -E(M) / SM 4500-NO ² -B(M)	4.0	mg/kg
Total Phosphorus	SM 4500-P B/E(M)	4.0	mg/kg
Ammonia	SM 4500-NH ³	0.2	mg/kg
Acid Volatile Sulfides	Plumb 1981 and TERL	0.1	mg/kg
Simultaneous Extracted Metals	EPA 200.8	0.0004-0.0124	μmol/g
PAHs ^e	EPA 8270C ^d	5.0	μg/kg
Chlorinated Pesticides ^f	EPA 8270C ^d	0.5-50	μg/kg
Pyrethroid Pesticides	EPA 8270 C NCI	0.5-10	μg/kg
PCB Congeners ^g	EPA 8270C ^d	0.2	μg/kg
PBDEs ^h	EPA 8270 C NCI	0.1	μg/kg
Alkylphenol ^{i,j}	GC/MS SIM	0.02-0.6	mg/kg
Perfluorinated Compounds ^{k,l}	EPA 537M	5.0	μg/kg

Notes:

^a Sediment minimum detection limits are on a dry-weight basis.

^b Reporting limits provided by Physis Environmental Laboratories.

^c Standard Methods for the Examination of Water and Wastewater, 19th Ed. American Public Health Association, 1995.

^d USEPA 1986-1996, SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 3rd Ed.

^e Includes Acenaphthene, Acenaphthylene, Anthracene, Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[e]pyrene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Biphenyl, Chrysene, Dibenzo[a,h]anthracene, Di benzo[ghi]perylene, Fluoranthene, Fluorene, Indeno(1,2,3-c,d)pyrene, Naphthalene, Perylene, Phenanthrene, Pyrene, 2,6-Dimethylnaphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene, 1-Methylphenanthrene, 2,3,5-Trimethylnaphthalene, and 1,6,7-Trimethylnaphthalene.

^f Includes cis-chlordane, trans-chlordane, o,p'-DDT, p,p'-DDT, o,p'-DDD, p,p'-DDD, o,p'-DDE, p,p'-DDE, p,p'-DDMU, aldrin, BHC-alpha, BHC-beta, BHC-gamma, cis-nonachlor, trans-nonachlor, oxychlordane, DCPA (Dacthal), dicofol, dieldrin, toxaphene, endosulfan sulfate, endosulfan-I, endosulfan-II, endrin, endrin aldehyde, endrin ketone, heptachlor, heptachlor epoxide, methoxychlor, mirex, and perthane.

^g Includes congeners: PCB-3, 5, 8, 15, 19, 27-29, 31, 33, 37, 44, 49, 52, 56, 60, 66, 70, 74, 77, 81, 87, 95, 97, 99, 101, 105, 110, 114, 118-119, 123, 126, 128, 137-138, 141, 149, 151, 153, 156-158, 167-170, 174, 177, 180, 183, 187, 189, 194-195, 200-201, 203, 206, and 209.

^h Includes BDE-17, 28, 47, 49, 66, 85, 99, 100, 138, 153, 154, 183, and 209.

ⁱ Collected only at stations B13-B163, B13-8040, B13-8077; transferred to SCCWRP for analysis.

^j Includes nonylphenol, nonylphenol diethoxylate, nonylphenol monoethoxylate, 4-tert-octylphenol, and bisphenol A.

^k Includes perfluorooctanoic acid and perfluorooctane sulfonate.

μg/kg - micrograms per kilogram (parts per billion) SM - Standard Methods
mg/kg - milligrams per kilogram (parts per million) SOP - standard operating procedure
N/A - not applicable

SAMPLE RECEIPT SUMMARY

CLIENT: AMEC Date Received: 8/8/13 Received By: RGH Inspected By: RGH

COURIER

☒ PHYSIS ☐ CLIENT ☐ FEDEX ☐ UPS
start end ☐ OTHER:

COOLER

☒ COOLER ☐ BOX total #
☐ OTHER:

TEMPERATURE

-4.1 °C ☒ WET ICE ☐ BLUE ICE
☐ DRY ICE ☐ NONE

SAMPLE INTEGRITY UPON RECEIPT

1. COC(s) included and completely filled out..... YES
2. All sample containers arrived intact..... YES
3. All samples listed on COC(s) are present..... YES
4. Information on containers consistent with information on COC(s)..... YES
5. Correct containers and volume for all analyses indicated..... YES
6. All samples received within method holding time..... YES
7. Correct preservation used for all analyses indicated..... YES

NOTES

PHYSIS

LEVEL 3

DELIVERABLES

ENERGY ENVIRONMENTAL CONSULTING INC.

Innovative Solutions for Nature

PHYSIS

Conventionals

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Summary of Initial Calibration Data and

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

ICV/CCV

Innovative Solutions for Nature

1307002-004 AMEC RHMP General Chemistry Calibration Data							
Analysis	Method	Batch ID	Co-efficient	Equation	Slope	ICV/True Value	CCV/True Value
Acid Volatile Sulfides	Plumb, 1981	C-14036	0.9998	0.196x-0.001702	NA	NA	NA
Percent Solids	SM2540 B	C-14034	NA	NA	NA	NA	NA
Ammonia	SM 4500-NH3 D	C-14038	NA	NA	-52.71	.225/.25	.219/.25

Elements - ICP-MS

TERRA FLORIDA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature
(EPA 6020 - High Metals)

PHYSIS

Instrument Blank

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name 0MIX_2130931L.D
File Path D:\DATA\2130930H.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 11:46
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.000	ug/g	---	30.00	5.170E-05	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	---	8.89	1.533E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	580,413.01	1.15	100.0	Analog	0.30	3

PHYSIS

Initial Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Batch Folder: D:\DATA\2130930H.b\

 Analysis File: 2130930H.batch.xml

 DA Date-Time: 6/2/2014 2:22:14 PM

 Calibration Title:

 Calibration Method: External Calibration

 VIS Interpolation Fit:

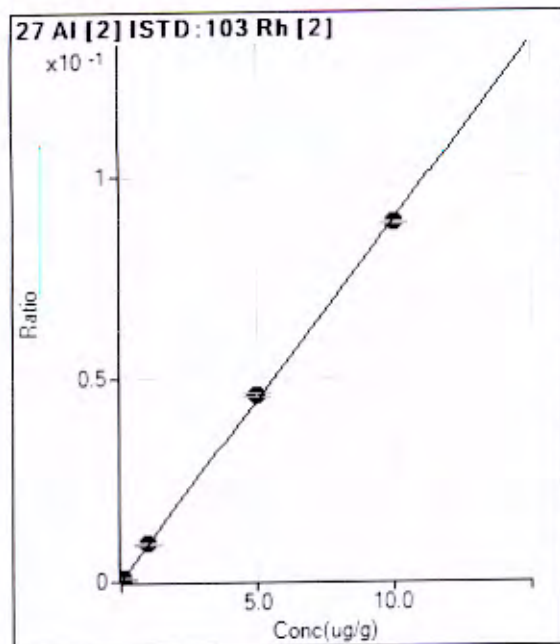
 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX_2130931LD	0 ppb mix	10/2/2013 11:46:36 AM
2	1MIX_2130931LD	1 ppb mix	10/2/2013 11:51:17 AM
3	5MIX_2130931LD	5 ppb mix	10/2/2013 11:55:59 AM
4	10MIX_2130931LD	10 ppb mix	10/2/2013 12:00:41 PM
5	50MIX_2130931LD	50 ppb mix	10/2/2013 1:17:16 PM
6	100MIX_2130931LD	100 ppb mix	10/2/2013 1:22:04 PM
7	500MIX_2130931LD	500 ppb mix	10/2/2013 1:26:45 PM
8	1000MIX_2130931LD	1000 ppb mix	10/2/2013 1:31:12 PM
9			
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20			

Calibration for CCV3.D



$$y = 0.0089 * x + 5.1701E-005$$

$$R = 0.9998$$

$$DL = 0.005779$$

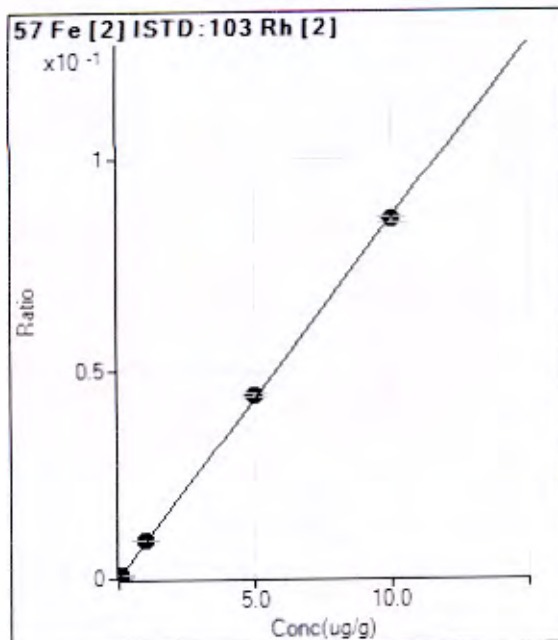
$$BEC = 0.005802$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	30.00	0.0001	P	33.2
2	<input type="checkbox"/>	0.010	0.011	86.67	0.0001	P	20.3
3	<input type="checkbox"/>	0.050	0.064	356.69	0.0006	P	22.3
4	<input type="checkbox"/>	0.100	0.096	523.36	0.0009	P	6.5
5	<input type="checkbox"/>	0.500		2.22		P	
6	<input type="checkbox"/>	1.000	1.029	5351.00	0.0092	P	3.7
7	<input type="checkbox"/>	5.000	5.155	24065.45	0.0460	P	1.6
8	<input type="checkbox"/>	10.00	9.920	44305.68	0.0885	P	0.7
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.0086 * x + 1.5329E-005$$

$$R = 0.9999$$

$$DL = 0.001181$$

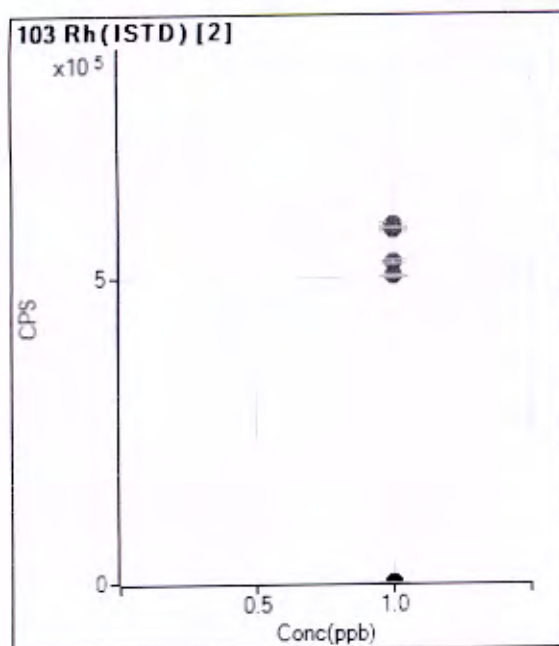
$$BEC = 0.001782$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	8.89	0.0000	P	22.1
2	<input type="checkbox"/>	0.010	0.011	65.56	0.0001	P	38.3
3	<input type="checkbox"/>	0.050	0.050	255.57	0.0004	P	28.2
4	<input type="checkbox"/>	0.100	0.114	573.37	0.0010	P	4.7
5	<input type="checkbox"/>	0.500		13.33		P	
6	<input type="checkbox"/>	1.000	1.053	5268.77	0.0091	P	2.5
7	<input type="checkbox"/>	5.000	5.116	23039.00	0.0440	P	2.4
8	<input type="checkbox"/>	10.00	9.937	42824.27	0.0855	P	1.4
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for CCV3.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		580413.01		A	1.2
2	<input type="checkbox"/>	1.000		584685.11		A	1.2
3	<input type="checkbox"/>	1.000		576642.37		A	0.6
4	<input type="checkbox"/>	1.000		576107.97		A	0.9
5	<input type="checkbox"/>	1.000		3.33		P	100.1
6	<input type="checkbox"/>	1.000		580423.67		A	0.1
7	<input type="checkbox"/>	1.000		523312.75		A	1.0
8	<input type="checkbox"/>	1.000		500915.89		A	0.6
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					
19	<input type="checkbox"/>	1.000					
20	<input type="checkbox"/>	1.000					

PHYSIS

Continuing Calibration Data

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ICPMS 7700x DATA REPORT

File Name CCV1.D
File Path D:\DATA\2130930H.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 23:20
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.102	ug/g	4.47	4,626.35	9.143E-03	Pulse	0.30	3
Fe	57	103	2	0.100	ug/g	4.23	4,351.82	8.596E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	506,171.16	1.16	87.2	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV2.D
File Path D:\DATA\2130930H.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/3/2013 1:13
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.100	ug/g	1.66	4,259.56	8.976E-03	Pulse	0.30	3
Fe	57	103	2	0.096	ug/g	2.33	3,941.71	8.306E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	474,534.49	0.34	81.8	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV3.D
File Path D:\DATA\2130930H.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/3/2013 3:11
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.135	ug/g	3.96	932.29	1.213E-02	Pulse	0.30	3
Fe	57	103	2	0.123	ug/g	12.20	812.28	1.057E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	76,733.60	17.71	13.2	Pulse	0.30	3

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Instrument Run Log

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	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse1			1.000							
2	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse2			1.000							
3	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse10			1.000							
4	C:\CPM\H1\METHOD S\Physis.m	Sample	3101	Rinse11			1.000							
5	C:\CPM\H1\METHOD S\Physis.m	Sample	3101	21956	QAQC Procedural Blank B1	21956,NA,R1,9/25/2013,E-5145	10.00							
6	C:\CPM\H1\METHOD S\Physis.m	Sample	3102	22035	QAQC Procedural Blank B1	22035,NA,B1,9/25/2013,E-5145	10.00							
7	C:\CPM\H1\METHOD S\Physis.m	Sample	3103	22077	QAQC Procedural Blank B1	22077,NA,B1,9/30/2013,E-5147	10.00							
8	C:\CPM\H1\METHOD S\Physis.m	Sample	3104	21957	B13-5235 Oceanside	21957,NA,R1,9/25/2013,E-5145	968.0							
9	C:\CPM\H1\METHOD S\Physis.m	Sample	3105	21957/2	B13-5235 Oceanside Cup	21957,NA,R2,9/25/2013,E-5145	871.0							
10	C:\CPM\H1\METHOD S\Physis.m	Sample	3106	21958	B13-5236 Oceanside	21958,NA,R1,9/25/2013,E-5145	536.0							
11	C:\CPM\H1\METHOD S\Physis.m	Sample	3107	21959	B13-5235 Oceanside	21959,NA,R1,9/25/2013,E-5145	591.0							
12	C:\CPM\H1\METHOD S\Physis.m	Sample	3108	21960	B13-5267 Dana Point	21960,NA,R1,9/25/2013,E-5145	545.0							
13	C:\CPM\H1\METHOD S\Physis.m	Sample	3109	21961	B13-5265 Dana Point	21961,NA,R1,9/25/2013,E-5145	439.0							
14	C:\CPM\H1\METHOD S\Physis.m	Sample	3110	21962	B13-5253 Dana Point	21962,NA,R1,9/25/2013,E-5145	385.0							
15	C:\CPM\H1\METHOD S\Physis.m	Sample	3111	21963	B13-5250 Dana Point	21963,NA,R1,9/25/2013,E-5145	537.0							
16	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R12			1.000							
17	C:\CPM\H1\METHOD S\Physis.m	Sample	3112	21965cm	QAQC CRM - RTC 015-0501	21965,NA,CRM1,9/25/2013,E-5145	947.0							
18	C:\CPM\H1\METHOD S\Physis.m	Sample	3201	21965cm	QAQC CRM - ERA 5401	21968,NA,CRM1,9/25/2013,E-5145	1.010E+03							
19	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R13			1.000							
20	C:\CPM\H1\METHOD S\Physis.m	Sample	3202	21966bs1	QAQC Procedural Blank B51	21966,NA,R51,9/25/2013,E-5145	1.000							
21	C:\CPM\H1\METHOD S\Physis.m	Sample	3203	21966bs2	QAQC Procedural Blank B52	21966,NA,B52,9/25/2013,E-5145	1.000							
22	C:\CPM\H1\METHOD S\Physis.m	Sample	3204	21967ms	B13-5233 Oceanside MS	21967,NA,MS1,9/25/2013,E-5145	1.000							
23	C:\CPM\H1\METHOD S\Physis.m	Sample	3205	21967msd	B13-5233 Oceanside MSD	21967,NA,MS2,9/25/2013,E-5145	1.000							
24	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R14			1.000							
25	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R15			1.000							
26	C:\CPM\H1\METHOD S\Physis.m	Sample	1108	CCV1			1.000E-01							
27	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R16			1.000							
28	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R17			1.000							
29	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R18			1.000							
30	C:\CPM\H1\METHOD S\Physis.m	Sample	3206	22036	B13-5145 Grab	22036,NA,R1,9/25/2013,E-5145	558.0							
31	C:\CPM\H1\METHOD S\Physis.m	Sample	3207	22036/2	B13-5145 Grab Dup	22036,NA,R2,9/25/2013,E-5145	517.0							
32	C:\CPM\H1\METHOD S\Physis.m	Sample	3208	22037	B13-5153 Grab	22037,NA,R1,9/25/2013,E-5145	588.0							
33	C:\CPM\H1\METHOD S\Physis.m	Sample	3209	22038	B13-5150 Grab	22038,NA,R1,9/25/2013,E-5145	724.0							
34	C:\CPM\H1\METHOD S\Physis.m	Sample	3210	22039	B13-5159 Grab	22039,NA,R1,9/25/2013,E-5145	591.0							
35	C:\CPM\H1\METHOD S\Physis.m	Sample	3211	22040	B13-5157 Grab	22040,NA,R1,9/25/2013,E-5145	566.0							
36	C:\CPM\H1\METHOD S\Physis.m	Sample	3212	22041	B13-5155 Grab	22041,NA,R1,9/25/2013,E-5145	709.0							
37	C:\CPM\H1\METHOD S\Physis.m	Sample	3201	22042	B13-5152 Grab	22042,NA,R1,9/25/2013,E-5145	265.0							
38	C:\CPM\H1\METHOD S\Physis.m	Sample	3202	22043	B13-5151 Grab	22043,NA,R1,9/25/2013,E-5145	704.0							
39	C:\CPM\H1\METHOD S\Physis.m	Sample	3203	22044	B13-5145 Grab	22044,NA,R1,9/25/2013,E-5145	653.0							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
40	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R19			1.000							
41	C:\CPMH\1\METHOD S\Physis.m	Sample	3304	22046cm	QAQC CRM - RTO 016-0501	22046.NA.CRM1.9/25/2013.E-5146	1.027E+03							
42	C:\CPMH\1\METHOD S\Physis.m	Sample	3305	22047cm	QAQC CRM - ERA 5401	22047.NA.CRM1.9/25/2013.E-5146	919.0							
43	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R20			1.000							
44	C:\CPMH\1\METHOD S\Physis.m	Sample	3202	22035bs1	QAQC Procedural Blank BS1	22035.NA.BS1.9/25/2013.E-5146	1.000							
45	C:\CPMH\1\METHOD S\Physis.m	Sample	3203	22035bs2	QAQC Procedural Blank BS2	22035.NA.BS2.9/25/2013.E-5146	1.000							
46	C:\CPMH\1\METHOD S\Physis.m	Sample	3308	22036ms	B13-8145 Grab MS	22036.NA.MS1.9/25/2013.E-5146	1.000							
47	C:\CPMH\1\METHOD S\Physis.m	Sample	3309	22036msd	B13-8145 Grab MSD	22036.NA.MS2.9/25/2013.E-5146	1.000							
48	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R21			1.000							
49	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R22			1.000							
50	C:\CPMH\1\METHOD S\Physis.m	Sample	1106	CCV2			1.000E+01							
51	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R23			1.000							
52	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R24			1.000							
53	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R25			1.000							
54	C:\CPMH\1\METHOD S\Physis.m	Sample	3310	22078	B13-8065 Grab	22078.NA.R1.9/30/2013.E-5147	511.0							
55	C:\CPMH\1\METHOD S\Physis.m	Sample	3311	22078/2	B13-8065 Grab Dup	22078.NA.R2.9/30/2013.E-5147	570.0							
56	C:\CPMH\1\METHOD S\Physis.m	Sample	3312	22079	B13-8040 Grab	22079.NA.R1.9/30/2013.E-5147	523.0							
57	C:\CPMH\1\METHOD S\Physis.m	Sample	3401	22080	B13-8029 Grab	22080.NA.R1.9/30/2013.E-5147	502.0							
58	C:\CPMH\1\METHOD S\Physis.m	Sample	3402	22081	B13-8058 Grab	22081.NA.R1.9/30/2013.E-5147	652.0							
59	C:\CPMH\1\METHOD S\Physis.m	Sample	3403	22082	B13-8064 Grab	22082.NA.R1.9/30/2013.E-5147	504.0							
60	C:\CPMH\1\METHOD S\Physis.m	Sample	3404	22083	B13-8056 Grab	22083.NA.R1.9/30/2013.E-5147	738.0							
61	C:\CPMH\1\METHOD S\Physis.m	Sample	3405	22084	B13-8020 Grab	22084.NA.R1.9/30/2013.E-5147	1.108E+03							
62	C:\CPMH\1\METHOD S\Physis.m	Sample	3406	22085	B13-8050 Grab	22085.NA.R1.9/30/2013.E-5147	630.0							
63	C:\CPMH\1\METHOD S\Physis.m	Sample	3407	22086	B13-8069 Grab	22086.NA.R1.9/30/2013.E-5147	608.0							
64	C:\CPMH\1\METHOD S\Physis.m	Sample	3408	22087	B13-8017 Grab	22087.NA.R1.9/30/2013.E-5147	672.0							
65	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R26			1.000							
66	C:\CPMH\1\METHOD S\Physis.m	Sample	3409	22089cm	QAQC CRM - RTO 016-0501	22089.NA.CRM1.9/30/2013.E-5147	1.025E+03							
67	C:\CPMH\1\METHOD S\Physis.m	Sample	3410	22090cm	QAQC CRM - ERA 5401	22090.NA.CRM1.9/30/2013.E-5147	1.035E+03							
68	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R27			1.000							
69	C:\CPMH\1\METHOD S\Physis.m	Sample	3202	22077bs1	QAQC Procedural Blank BS1	22077.NA.BS1.9/30/2013.E-5147	1.000							
70	C:\CPMH\1\METHOD S\Physis.m	Sample	3203	22077bs2	QAQC Procedural Blank BS2	22077.NA.BS2.9/30/2013.E-5147	1.000							
71	C:\CPMH\1\METHOD S\Physis.m	Sample	3501	22078ms	B13-8065 Grab MS	22078.NA.MS1.9/30/2013.E-5147	1.000							
72	C:\CPMH\1\METHOD S\Physis.m	Sample	3502	22078msd	B13-8065 Grab MSD	22078.NA.MS2.9/30/2013.E-5147	1.000							
73	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R28			1.000							
74	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R29			1.000							
75	C:\CPMH\1\METHOD S\Physis.m	Sample	1106	CCV3			1.000E+01							
76	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R30			1.000							
77	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R31			1.000							
78	C:\CPMH\1\METHOD S\Physis.m	Sample	1	R32			1.000							
79		Keyword		StandBy										

Elements –

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Phosphorous)**

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Instrument Blank

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ICPMS 7700x DATA REPORT

File Name 0MIX.D
File Path D:\DATA\2130931L.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 11:46
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.000	ug/g	---	64.45	4.823E-05	Pulse	0.30	3
P	31	103	2		ug/g	---	65.56	1.132E-04	Pulse	0.30	3
Cr	52	103	2	0.000	ug/g	---	84.45	1.453E-04	Pulse	0.30	3
Ni	60	103	2	0.000	ug/g	---	14.44	2.499E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	---	166.68	2.873E-04	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	---	40.00	6.885E-05	Pulse	0.30	3
As	75	103	2	0.000	ug/g	---	3.33	5.783E-06	Pulse	0.30	3
Se	78	103	1	0.000	ug/g	---	10.00	7.551E-05	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	---	33.34	5.720E-05	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	---	14.44	2.487E-05	Pulse	0.30	3
Sb	121	169	2	0.000	ug/g	---	15.56	2.013E-05	Pulse	0.30	3
Ba	137	169	2	0.000	ug/g	---	4.44	5.734E-06	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	---	86.67	1.124E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	132,392.97	0.53	100.0	Pulse	0.30	3
2	Rh	103	580,413.01	1.15	100.0	Analog	0.30	3
3	Rh	103	1,336,160.38	0.69	100.0	Analog	0.30	3
2	Tm	169	770,246.09	2.04	100.0	Analog	0.30	3

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Initial Calibration Data

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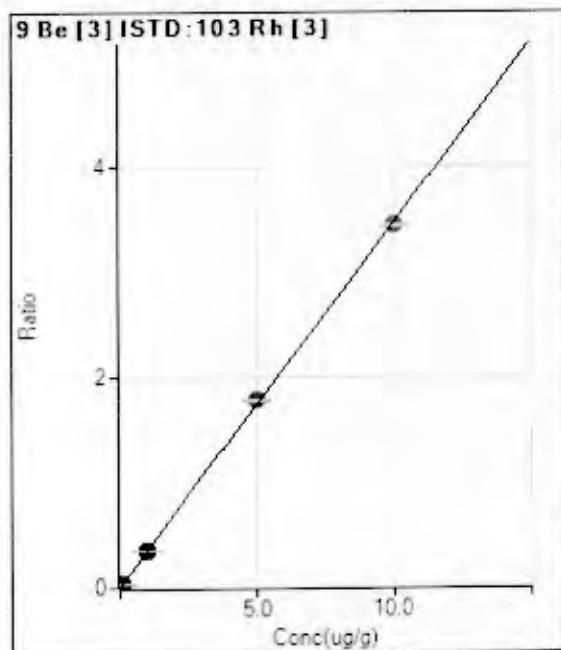
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Calibration for GCV3.D

Batch Folder: D:\DATA\2130931L.b*
 Analysis File: 2130931L.batch.xml
 DA Date-Time: 4/8/2014 1:35:39 PM
 Calibration Title:
 Calibration Method: External Calibration
 VIS Interpolation Fit:
 Tune Step: #1 h2.u
 #2 he.u
 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX.D	0 ppb mix	10/2/2013 11:46:36 AM
2	1MIX.D	1 ppb mix	10/2/2013 11:51:17 AM
3	5MIX.D	5 ppb mix	10/2/2013 11:55:59 AM
4	10MIX.D	10 ppb mix	10/2/2013 12:00:41 PM
5			
6	100MIX.D	100 ppb mix	10/2/2013 1:22:04 PM
7	500MIX.D	500 ppb mix	10/2/2013 1:26:45 PM
8	1000MIX.D	1000 ppb mix	10/2/2013 1:31:12 PM
9	1P.D	1 ppm P	10/2/2013 1:45:30 PM
10	2P.D	2 ppm P	10/2/2013 1:50:12 PM
11	5P.D	5 ppm P	10/2/2013 1:54:55 PM
12	10P.D	10 ppm P	10/2/2013 1:59:37 PM
13			
14			
15			
16			
17			
18			

Calibration for CCV3.D



$$y = 0.3467 * x + 4.8232E-005$$

$$R = 0.9999$$

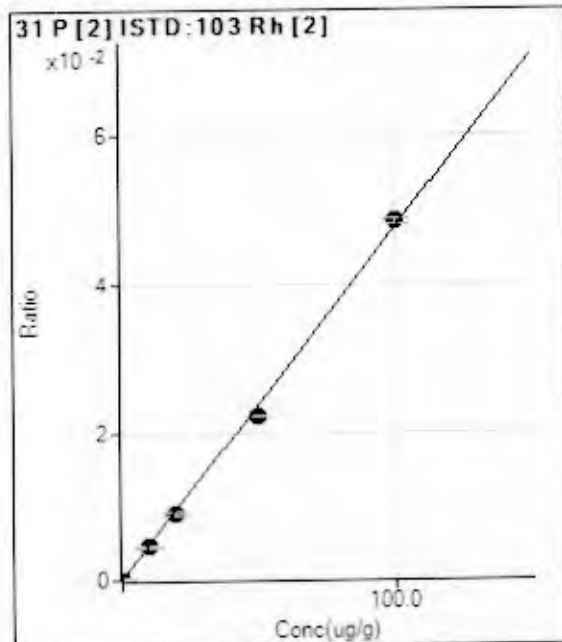
$$DL = 5.377E-05$$

$$BEC = 0.0001391$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	64.45	0.0000	P	12.9
2	<input type="checkbox"/>	0.010	0.011	4980.88	0.0037	P	1.7
3	<input type="checkbox"/>	0.050	0.052	23701.46	0.0181	P	0.6
4	<input type="checkbox"/>	0.100	0.105	47594.15	0.0363	P	0.5
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.022	427074.83	0.3542	P	0.7
7	<input type="checkbox"/>	5.000	5.093	2006348.10	1.7657	A	0.5
8	<input type="checkbox"/>	10.00	9.951	3850909.81	3.4497	A	0.4
9	<input type="checkbox"/>			188.90	0.0002	P	21.5
10	<input type="checkbox"/>			161.12	0.0001	P	3.8
11	<input type="checkbox"/>			147.78	0.0001	P	1.7
12	<input type="checkbox"/>			147.79	0.0001	P	18.8
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 4.7339E-004 * x + 1.1324E-004$$

$$R = 0.9991$$

$$DL = 0.2436$$

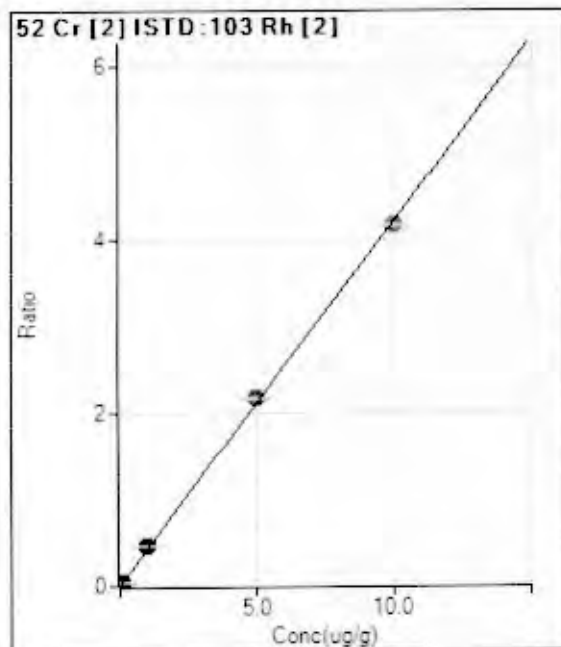
$$BEC = 0.2392$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	65.56	0.0001	P	34.0
2	<input type="checkbox"/>			65.56	0.0001	P	39.4
3	<input type="checkbox"/>			82.23	0.0001	P	12.9
4	<input type="checkbox"/>			72.23	0.0001	P	16.5
5	<input type="checkbox"/>						
6	<input type="checkbox"/>			106.67	0.0002	P	17.3
7	<input type="checkbox"/>			101.12	0.0002	P	30.2
8	<input type="checkbox"/>			65.56	0.0001	P	20.8
9	<input type="checkbox"/>	10.00	9.263	2201.3	0.0045	P	3.9
10	<input type="checkbox"/>	20.00	18.818	4474.0	0.0090	P	4.4
11	<input type="checkbox"/>	50.00	46.736	10964.	0.0222	P	0.2
12	<input type="checkbox"/>	100.0	101.942	24442.	0.0484	P	1.5
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.4213 * x + 1.4530E-004$$

$$R = 0.9998$$

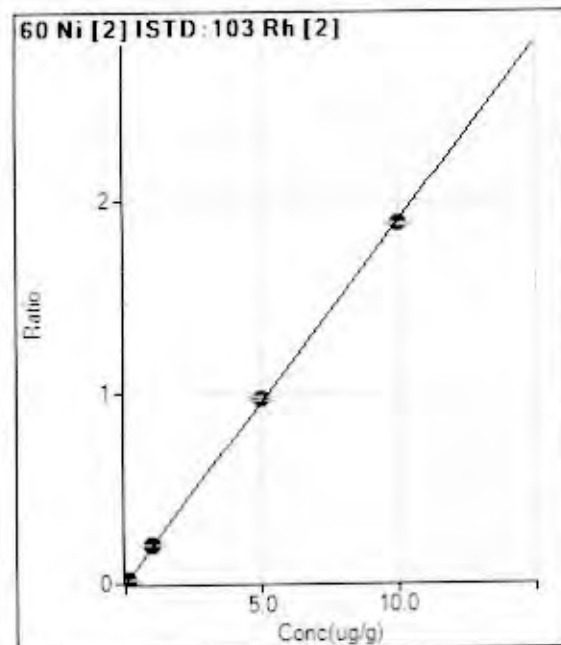
$$DL = 0.0001825$$

$$BEC = 0.0003449$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	84.45	0.0001	P	17.6
2	<input type="checkbox"/>	0.010	0.011	2779.21	0.0048	P	5.4
3	<input type="checkbox"/>	0.050	0.054	13296.53	0.0231	P	1.3
4	<input type="checkbox"/>	0.100	0.109	26529.20	0.0461	P	0.7
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.091	266790.30	0.4597	P	0.9
7	<input type="checkbox"/>	5.000	5.146	1134541.63	2.1681	A	1.1
8	<input type="checkbox"/>	10.00	9.918	2093048.49	4.1785	A	0.5
9	<input type="checkbox"/>			81.11	0.0002	P	26.9
10	<input type="checkbox"/>			128.89	0.0003	P	11.2
11	<input type="checkbox"/>			168.90	0.0003	P	11.3
12	<input type="checkbox"/>			180.01	0.0004	P	5.1
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.1891 * x + 2.4992E-005$$

$$R = 0.9999$$

$$DL = 0.0002346$$

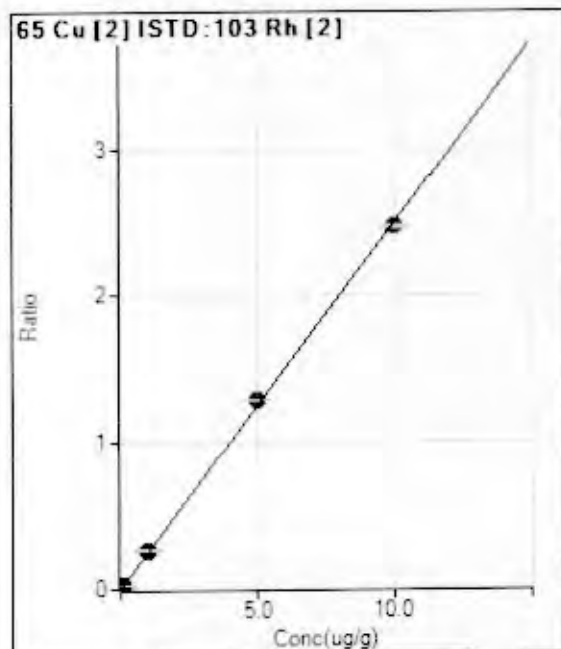
$$BEC = 0.0001322$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	14.44	0.0000	P	59.2
2	<input type="checkbox"/>	0.010	0.011	1196.76	0.0020	P	4.8
3	<input type="checkbox"/>	0.050	0.054	5926.75	0.0103	P	3.0
4	<input type="checkbox"/>	0.100	0.107	11702.05	0.0203	P	1.6
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.050	115260.08	0.1986	P	0.8
7	<input type="checkbox"/>	5.000	5.111	505723.41	0.9665	A	1.2
8	<input type="checkbox"/>	10.00	9.939	941433.43	1.8794	A	0.3
9	<input type="checkbox"/>			13.33	0.0000	P	25.9
10	<input type="checkbox"/>			21.11	0.0000	P	59.9
11	<input type="checkbox"/>			26.67	0.0001	P	33.1
12	<input type="checkbox"/>			27.78	0.0001	P	13.7
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.2492 * x + 2.8732E-004$$

$$R = 0.9998$$

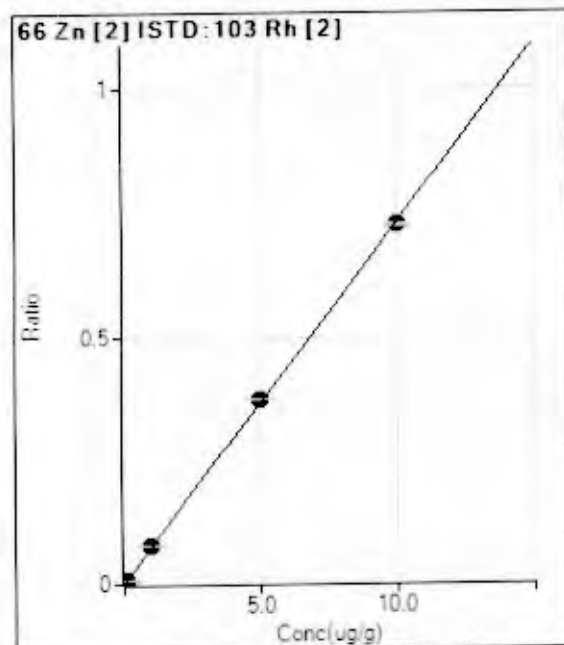
$$DL = 0.0006769$$

$$BEC = 0.001153$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	166.68	0.0003	P	19.6
2	<input type="checkbox"/>	0.010	0.011	1779.06	0.0030	P	1.7
3	<input type="checkbox"/>	0.050	0.055	8087.71	0.0140	P	0.8
4	<input type="checkbox"/>	0.100	0.110	15962.13	0.0277	P	2.8
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.076	155782.32	0.2684	P	0.9
7	<input type="checkbox"/>	5.000	5.141	670545.32	1.2814	A	0.5
8	<input type="checkbox"/>	10.00	9.922	1238742.8	2.4730	A	0.6
9	<input type="checkbox"/>			166.67	0.0003	P	14.4
10	<input type="checkbox"/>			138.90	0.0003	P	13.1
11	<input type="checkbox"/>			98.89	0.0002	P	18.1
12	<input type="checkbox"/>			100.01	0.0002	P	11.5
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0730 * x + 6.8849E-005$$

$$R = 0.9999$$

$$DL = 0.0004467$$

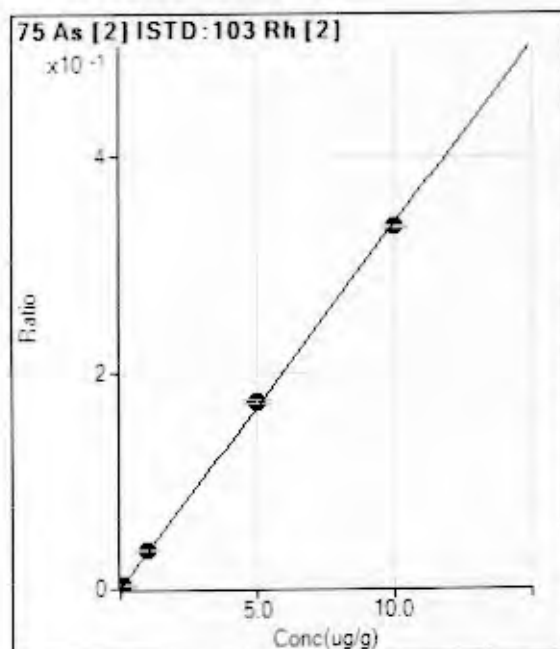
$$BEC = 0.0009425$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	40.00	0.0001	P	15.8
2	<input type="checkbox"/>	0.010	0.010	486.69	0.0008	P	8.4
3	<input type="checkbox"/>	0.050	0.053	2272.46	0.0039	P	6.3
4	<input type="checkbox"/>	0.100	0.101	4280.69	0.0074	P	3.7
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.042	44227.08	0.0762	P	0.6
7	<input type="checkbox"/>	5.000	5.112	195447.17	0.3735	P	0.7
8	<input type="checkbox"/>	10.00	9.940	363727.46	0.7261	P	0.4
9	<input type="checkbox"/>			57.78	0.0001	P	32.9
10	<input type="checkbox"/>			45.56	0.0001	P	27.0
11	<input type="checkbox"/>			58.89	0.0001	P	28.5
12	<input type="checkbox"/>			117.78	0.0002	P	20.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.0336 * x + 5.7835E-006$$

$$R = 0.9998$$

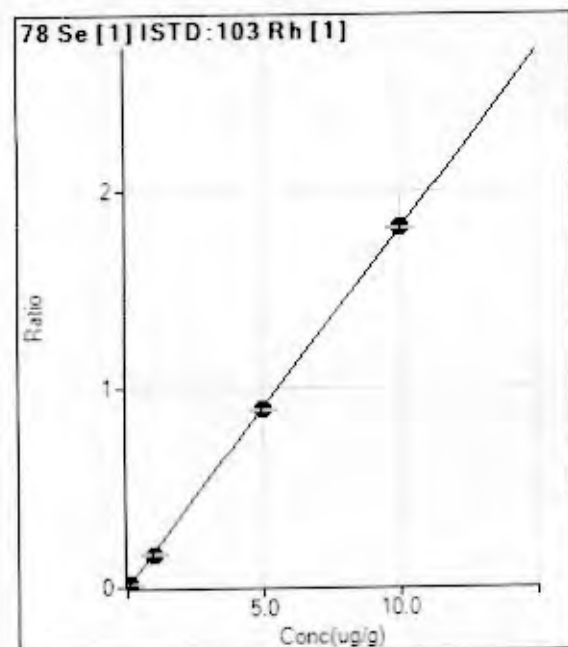
$$DL = 0.0005195$$

$$BEC = 0.000172$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	3.33	0.0000	P	100.7
2	<input type="checkbox"/>	0.010	0.010	196.67	0.0003	P	6.7
3	<input type="checkbox"/>	0.050	0.053	1023.41	0.0018	P	1.2
4	<input type="checkbox"/>	0.100	0.106	2063.54	0.0036	P	5.9
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.050	20494.83	0.0353	P	2.6
7	<input type="checkbox"/>	5.000	5.152	90664.06	0.1733	P	1.6
8	<input type="checkbox"/>	10.00	9.919	167101.1	0.3336	P	0.8
9	<input type="checkbox"/>			22.22	0.0000	P	46.9
10	<input type="checkbox"/>			7.78	0.0000	P	39.5
11	<input type="checkbox"/>			8.89	0.0000	P	43.9
12	<input type="checkbox"/>			8.89	0.0000	P	43.6
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.1811 * x + 7.5513E-005$$

$$R = 1.0000$$

$$DL = 0.0007197$$

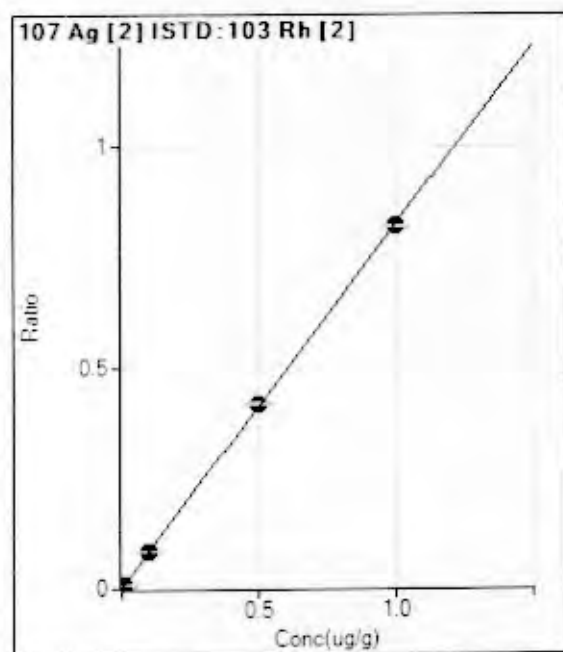
$$BEC = 0.0004169$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	10.00	0.0001	P	57.5
2	<input type="checkbox"/>	0.010	0.011	274.46	0.0020	P	22.5
3	<input type="checkbox"/>	0.050	0.052	1267.88	0.0095	P	5.9
4	<input type="checkbox"/>	0.100	0.100	2398.03	0.0182	P	1.2
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	0.929	26070.17	0.1683	P	2.7
7	<input type="checkbox"/>	5.000	4.937	118667.92	0.8942	P	1.0
8	<input type="checkbox"/>	10.00	10.039	222615.06	1.8182	P	0.8
9	<input type="checkbox"/>			18.89	0.0002	P	88.6
10	<input type="checkbox"/>			5.56	0.0000	P	35.5
11	<input type="checkbox"/>			4.44	0.0000	P	43.5
12	<input type="checkbox"/>			7.78	0.0001	P	89.4
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.8226 * x + 5.7202E-005$$

$$R = 1.0000$$

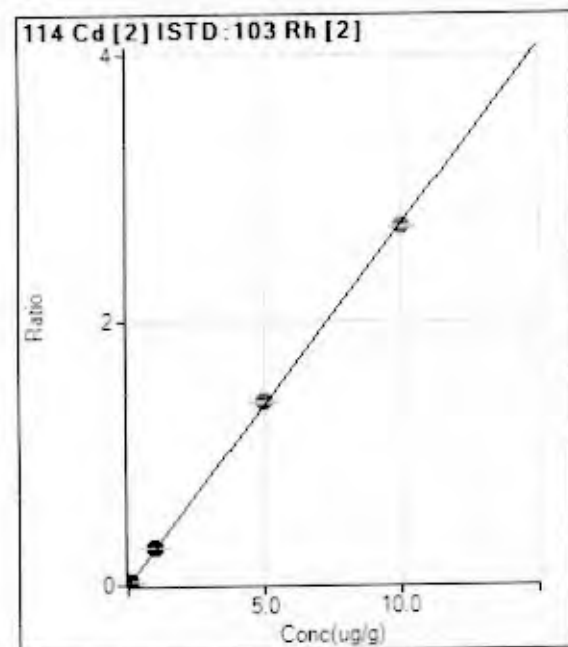
$$DL = 0.0001239$$

$$BEC = 6.954E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	33.34	0.0001	P	59.4
2	<input type="checkbox"/>	0.001	0.001	283.35	0.0005	P	7.3
3	<input type="checkbox"/>	0.005	0.004	2023.54	0.0035	P	4.1
4	<input type="checkbox"/>	0.010	0.009	4499.67	0.0078	P	2.6
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	0.100	0.102	48634.29	0.0838	P	1.1
7	<input type="checkbox"/>	0.500	0.507	218415.67	0.4174	P	0.9
8	<input type="checkbox"/>	1.000	0.996	410477.45	0.8195	P	0.2
9	<input type="checkbox"/>			135.56	0.0003	P	38.9
10	<input type="checkbox"/>			75.56	0.0002	P	18.0
11	<input type="checkbox"/>			66.67	0.0001	P	43.3
12	<input type="checkbox"/>			45.56	0.0001	P	44.1
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2721 * x + 2.4872E-005$$

$$R = 0.9999$$

$$DL = 3.48E-05$$

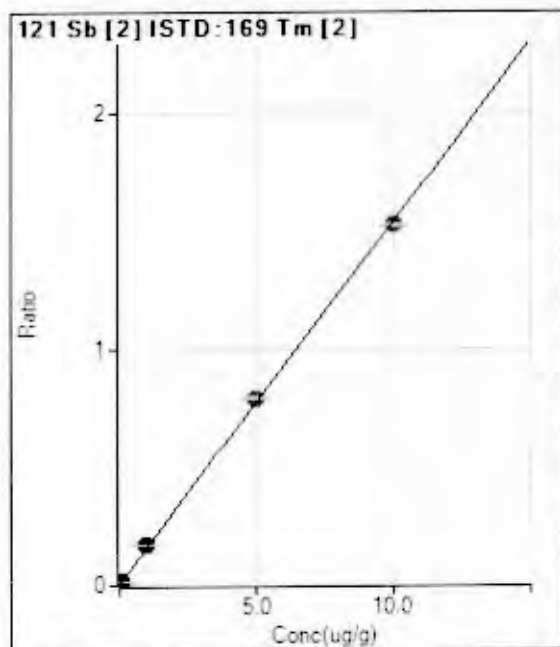
$$BEC = 9.139E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	14.44	0.0000	P	12.7
2	<input type="checkbox"/>	0.010	0.010	1676.82	0.0029	P	9.6
3	<input type="checkbox"/>	0.050	0.050	7938.82	0.0138	P	1.8
4	<input type="checkbox"/>	0.100	0.103	16120.39	0.0280	P	0.6
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.069	168933.13	0.2911	P	1.4
7	<input type="checkbox"/>	5.000	5.095	725579.56	1.3866	A	1.4
8	<input type="checkbox"/>	10.00	9.945	1355795.8	2.7067	A	0.4
9	<input type="checkbox"/>			44.45	0.0001	P	31.1
10	<input type="checkbox"/>			20.00	0.0000	P	66.5
11	<input type="checkbox"/>			36.67	0.0001	P	59.4
12	<input type="checkbox"/>			28.89	0.0001	P	88.5
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.1540 * x + 2.0130E-005$$

$$R = 0.9999$$

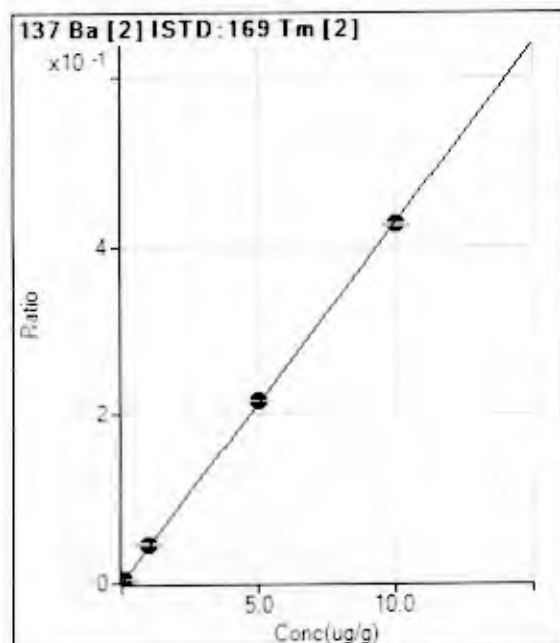
$$DL = 0.0002907$$

$$BEC = 0.0001307$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	15.56	0.0000	P	74.1
2	<input type="checkbox"/>	0.010	0.011	1381.22	0.0018	P	1.9
3	<input type="checkbox"/>	0.050	0.055	6562.65	0.0085	P	2.8
4	<input type="checkbox"/>	0.100	0.108	12894.30	0.0167	P	2.1
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.105	136809.11	0.1702	P	0.8
7	<input type="checkbox"/>	5.000	5.121	586961.96	0.7886	A	0.9
8	<input type="checkbox"/>	10.00	9.929	1091276.0	1.5289	A	0.3
9	<input type="checkbox"/>			116.67	0.0002	P	25.5
10	<input type="checkbox"/>			112.23	0.0002	P	15.3
11	<input type="checkbox"/>			140.01	0.0002	P	19.5
12	<input type="checkbox"/>			186.67	0.0005	P	9.5
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0428 * x + 5.7339E-006$$

$$R = 0.9999$$

$$DL = 0.0004629$$

$$BEC = 0.0001339$$

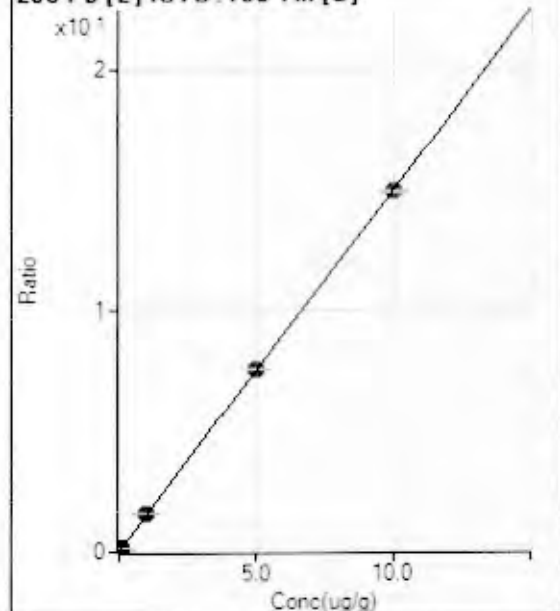
Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	4.44	0.0000	P	115.3
2	<input type="checkbox"/>	0.010	0.012	393.36	0.0005	P	7.1
3	<input type="checkbox"/>	0.050	0.049	1623.48	0.0021	P	2.5
4	<input type="checkbox"/>	0.100	0.104	3457.16	0.0045	P	4.2
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.076	37051.09	0.0461	P	1.2
7	<input type="checkbox"/>	5.000	5.082	162011.73	0.2177	P	0.2
8	<input type="checkbox"/>	10.00	9.951	304241.09	0.4262	P	0.7
9	<input type="checkbox"/>			0.00	0.0000	P	
10	<input type="checkbox"/>			1.11	0.0000	P	173.2
11	<input type="checkbox"/>			3.33	0.0000	P	100.3
12	<input type="checkbox"/>			6.67	0.0000	P	86.8
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

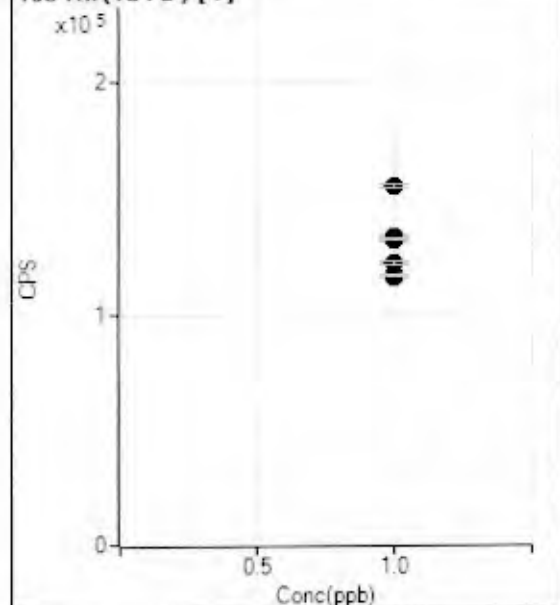
Calibration for CCV3.D

208 Pb [2] ISTD:169 Tm [2]



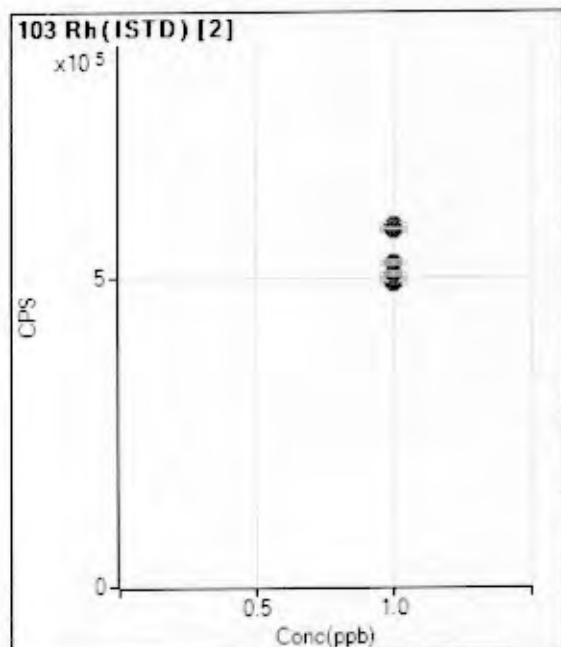
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	86.67	0.0001	P	16.5
2	<input type="checkbox"/>	0.010	0.011	13313.86	0.0171	P	1.7
3	<input type="checkbox"/>	0.050	0.056	64258.65	0.0835	P	0.4
4	<input type="checkbox"/>	0.100	0.111	128641.76	0.1663	P	1.0
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.051	1266109.45	1.5755	A	0.6
7	<input type="checkbox"/>	5.000	5.033	5615055.54	7.5441	A	0.2
8	<input type="checkbox"/>	10.00	9.978	10676663.9	14.957	A	0.3
9	<input type="checkbox"/>			190.01	0.0003	P	3.2
10	<input type="checkbox"/>			226.67	0.0003	P	30.5
11	<input type="checkbox"/>			234.46	0.0003	P	8.7
12	<input type="checkbox"/>			335.57	0.0009	P	15.3
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

103 Rh (ISTD) [1]

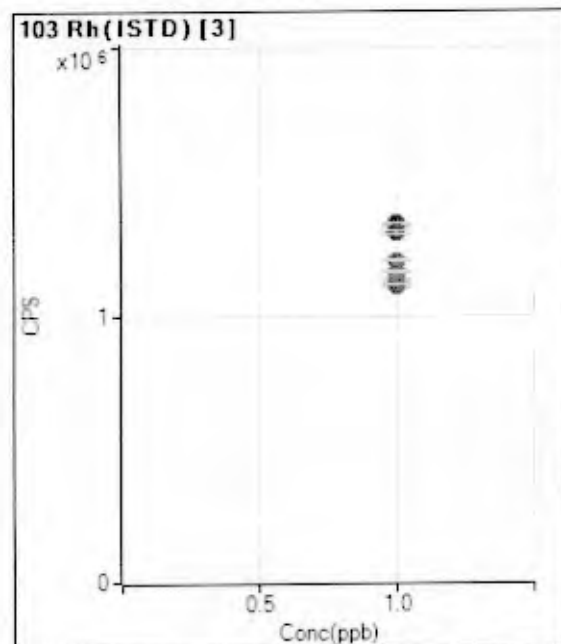


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		132392.97		P	0.5
2	<input type="checkbox"/>	1.000		134138.77		P	1.0
3	<input type="checkbox"/>	1.000		133174.94		P	0.6
4	<input type="checkbox"/>	1.000		131877.10		P	0.4
5	<input type="checkbox"/>	1.000					
6	<input type="checkbox"/>	1.000		154948.52		P	1.1
7	<input type="checkbox"/>	1.000		132708.38		P	0.7
8	<input type="checkbox"/>	1.000		122436.39		P	0.6
9	<input type="checkbox"/>	1.000		117517.87		P	0.3
10	<input type="checkbox"/>	1.000		116211.29		P	1.1
11	<input type="checkbox"/>	1.000		117028.35		P	0.1
12	<input type="checkbox"/>	1.000		122259.27		P	1.3
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for CCV3.D

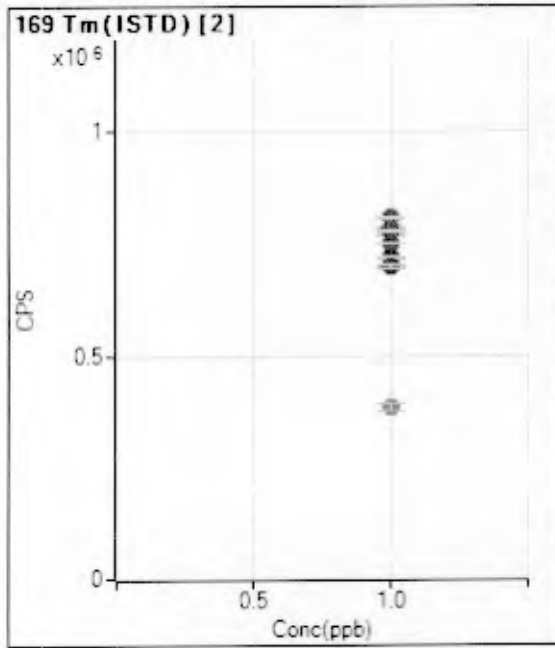


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		580413.01		A	1.2
2	<input type="checkbox"/>	1.000		584685.11		A	1.2
3	<input type="checkbox"/>	1.000		576642.37		A	0.6
4	<input type="checkbox"/>	1.000		576107.97		A	0.9
5	<input type="checkbox"/>	1.000					
6	<input type="checkbox"/>	1.000		580423.67		A	0.1
7	<input type="checkbox"/>	1.000		523312.75		A	1.0
8	<input type="checkbox"/>	1.000		500915.89		A	0.6
9	<input type="checkbox"/>	1.000		489304.58		A	1.1
10	<input type="checkbox"/>	1.000		495832.61		A	0.9
11	<input type="checkbox"/>	1.000		493083.77		A	0.6
12	<input type="checkbox"/>	1.000		505302.30		A	1.1
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		1336160.38		A	0.7
2	<input type="checkbox"/>	1.000		1343220.38		A	0.7
3	<input type="checkbox"/>	1.000		1311531.67		A	1.0
4	<input type="checkbox"/>	1.000		1311474.43		A	0.9
5	<input type="checkbox"/>	1.000					
6	<input type="checkbox"/>	1.000		1205598.39		A	0.3
7	<input type="checkbox"/>	1.000		1136319.00		A	0.6
8	<input type="checkbox"/>	1.000		1116293.10		A	0.2
9	<input type="checkbox"/>	1.000		1108260.40		A	0.8
10	<input type="checkbox"/>	1.000		1121819.03		A	0.6
11	<input type="checkbox"/>	1.000		1117858.69		A	0.6
12	<input type="checkbox"/>	1.000		1163758.64		A	0.7
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for CCV3.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		770246.09		A	2.0
2	<input type="checkbox"/>	1.000		778761.34		A	1.2
3	<input type="checkbox"/>	1.000		769306.21		A	0.4
4	<input type="checkbox"/>	1.000		773605.60		A	0.6
5	<input type="checkbox"/>	1.000					
6	<input type="checkbox"/>	1.000		803629.81		A	0.8
7	<input type="checkbox"/>	1.000		744292.42		A	0.2
8	<input type="checkbox"/>	1.000		713786.94		A	0.2
9	<input type="checkbox"/>	1.000		693383.99		A	0.8
10	<input type="checkbox"/>	1.000		695913.43		A	0.1
11	<input type="checkbox"/>	1.000		694885.99		A	1.1
12	<input type="checkbox"/>	1.000		387990.49		M	4.1
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

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Continuing Calibration Data

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ICPMS 7700x DATA REPORT

File Name ICV.D
File Path D:\DATA\2130931L.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 14:09
Sample Name 100 ppb (10 ppb Ag)
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.103	ug/g	0.27	413,274.00	3.588E-01	Pulse	0.30	3
P	31	103	2	0.015	ug/g	60.04	94.45	1.850E-04	Pulse	0.30	3
Cr	52	103	2	0.106	ug/g	1.11	228,516.19	4.470E-01	Pulse	0.30	3
Ni	60	103	2	0.106	ug/g	1.32	102,375.97	2.003E-01	Pulse	0.30	3
Cu	65	103	2	0.107	ug/g	1.59	136,483.98	2.670E-01	Pulse	0.30	3
Zn	66	103	2	0.101	ug/g	0.73	37,696.43	7.374E-02	Pulse	0.30	3
As	75	103	2	0.099	ug/g	3.49	17,087.77	3.343E-02	Pulse	0.30	3
Se	78	103	1	0.106	ug/g	0.90	23,170.45	1.922E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.96	41,952.29	8.207E-02	Pulse	0.30	3
Cd	114	103	2	0.103	ug/g	1.12	143,683.25	2.811E-01	Pulse	0.30	3
Sb	121	169	2	0.103	ug/g	0.32	113,980.92	1.594E-01	Pulse	0.30	3
Ba	137	169	2	0.101	ug/g	2.01	30,813.82	4.309E-02	Pulse	0.30	3
Pb	208	169	2	0.105	ug/g	0.19	1,120,462.81	1.567E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	120,565.81	0.19	91.1	Pulse	0.30	3
2	Rh	103	511,214.23	0.84	88.1	Analog	0.30	3
3	Rh	103	1,151,937.16	0.42	86.2	Analog	0.30	3
2	Tm	169	715,140.95	0.21	92.8	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCVP.D
File Path D:\DATA\2130931Lb
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 14:13
Sample Name 5 PPM Phosphorus
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.000	ug/g	56.00	141.12	1.240E-04	Pulse	0.30	3
P	31	103	2	4.711	ug/g	1.20	11,131.63	2.242E-02	Pulse	0.30	3
Cr	52	103	2	0.000	ug/g	79.38	106.67	2.148E-04	Pulse	0.30	3
Ni	60	103	2	0.000	ug/g	43.96	41.11	8.279E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	-192.86	125.56	2.529E-04	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	62.29	87.78	1.767E-04	Pulse	0.30	3
As	75	103	2	0.000	ug/g	83.47	16.67	3.353E-05	Pulse	0.30	3
Se	78	103	1	0.000	ug/g	95.29	30.00	2.573E-04	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	7.71	368.91	7.428E-04	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	98.74	43.34	8.734E-05	Pulse	0.30	3
Sb	121	169	2	0.000	ug/g	7.85	214.46	3.065E-04	Pulse	0.30	3
Ba	137	169	2	0.000	ug/g	141.69	8.89	1.269E-05	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	21.75	404.46	5.785E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	116,345.96	1.20	87.9	Pulse	0.30	3
2	Rh	103	496,583.98	0.20	85.6	Analog	0.30	3
3	Rh	103	1,137,720.55	0.71	85.1	Analog	0.30	3
2	Tm	169	699,538.77	0.61	90.8	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV1.D
File Path D:\DATA\2130931L.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 16:38
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.097	ug/g	0.84	456,720.88	3.365E-01	Pulse	0.30	3
P	31	103	2	0.003	ug/g	434.94	73.34	1.286E-04	Pulse	0.30	3
Cr	52	103	2	0.106	ug/g	0.72	254,494.90	4.465E-01	Pulse	0.30	3
Ni	60	103	2	0.107	ug/g	0.47	115,062.96	2.019E-01	Pulse	0.30	3
Cu	65	103	2	0.109	ug/g	1.16	154,291.16	2.707E-01	Pulse	0.30	3
Zn	66	103	2	0.098	ug/g	0.21	40,738.89	7.147E-02	Pulse	0.30	3
As	75	103	2	0.100	ug/g	1.05	19,191.08	3.367E-02	Pulse	0.30	3
Se	78	103	1	0.109	ug/g	0.93	25,865.38	1.982E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	1.21	47,868.72	8.399E-02	Pulse	0.30	3
Cd	114	103	2	0.100	ug/g	0.50	155,848.87	2.734E-01	Pulse	0.30	3
Sb	121	169	2	0.105	ug/g	1.27	122,799.78	1.615E-01	Pulse	0.30	3
Ba	137	169	2	0.103	ug/g	2.10	33,563.34	4.415E-02	Pulse	0.30	3
Pb	208	169	2	0.106	ug/g	1.37	1,203,744.01	1.583E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	130,497.59	0.57	98.6	Pulse	0.30	3
2	Rh	103	569,998.85	1.03	98.2	Analog	0.30	3
3	Rh	103	1,357,338.63	0.91	101.6	Analog	0.30	3
2	Tm	169	760,357.64	0.86	98.7	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV2.D
File Path D:\DATA\2130931L.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 18:57
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.096	ug/g	0.59	428,483.27	3.337E-01	Pulse	0.30	3
P	31	103	2	0.003	ug/g	-175.37	54.45	1.007E-04	Pulse	0.30	3
Cr	52	103	2	0.103	ug/g	0.87	234,686.51	4.337E-01	Pulse	0.30	3
Ni	60	103	2	0.103	ug/g	0.07	105,732.73	1.954E-01	Pulse	0.30	3
Cu	65	103	2	0.105	ug/g	1.51	142,119.65	2.626E-01	Pulse	0.30	3
Zn	66	103	2	0.096	ug/g	1.27	38,078.50	7.037E-02	Pulse	0.30	3
As	75	103	2	0.096	ug/g	1.01	17,400.34	3.215E-02	Pulse	0.30	3
Se	78	103	1	0.107	ug/g	0.56	24,160.76	1.933E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	1.25	45,015.41	8.318E-02	Pulse	0.30	3
Cd	114	103	2	0.101	ug/g	0.20	148,877.95	2.751E-01	Pulse	0.30	3
Sb	121	169	2	0.100	ug/g	0.10	115,807.38	1.542E-01	Pulse	0.30	3
Ba	137	169	2	0.100	ug/g	1.45	32,327.65	4.305E-02	Pulse	0.30	3
Pb	208	169	2	0.107	ug/g	0.30	1,202,793.81	1.602E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	125,017.77	0.22	94.4	Pulse	0.30	3
2	Rh	103	541,161.32	0.60	93.2	Analog	0.30	3
3	Rh	103	1,283,937.46	0.45	96.1	Analog	0.30	3
2	Tm	169	750,970.14	0.26	97.5	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV3.D
File Path D:\DATA\2130931L.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 21:02
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.090	ug/g	0.71	386,000.52	3.110E-01	Pulse	0.30	3
P	31	103	2	-0.005	ug/g	-29.41	45.56	8.762E-05	Pulse	0.30	3
Cr	52	103	2	0.100	ug/g	1.20	220,093.23	4.233E-01	Pulse	0.30	3
Ni	60	103	2	0.100	ug/g	1.36	98,516.74	1.895E-01	Pulse	0.30	3
Cu	65	103	2	0.103	ug/g	0.50	133,929.24	2.576E-01	Pulse	0.30	3
Zn	66	103	2	0.096	ug/g	1.19	36,395.95	6.999E-02	Pulse	0.30	3
As	75	103	2	0.095	ug/g	0.02	16,629.53	3.198E-02	Pulse	0.30	3
Se	78	103	1	0.106	ug/g	2.47	23,120.44	1.921E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.61	43,734.34	8.411E-02	Pulse	0.30	3
Cd	114	103	2	0.102	ug/g	0.70	144,587.43	2.781E-01	Pulse	0.30	3
Sb	121	169	2	0.099	ug/g	0.87	112,802.33	1.531E-01	Pulse	0.30	3
Ba	137	169	2	0.103	ug/g	0.85	32,392.11	4.396E-02	Pulse	0.30	3
Pb	208	169	2	0.107	ug/g	0.35	1,179,861.41	1.601E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	120,377.59	0.38	90.9	Pulse	0.30	3
2	Rh	103	520,004.56	0.50	89.6	Analog	0.30	3
3	Rh	103	1,241,228.10	0.37	92.9	Analog	0.30	3
2	Tm	169	736,906.05	0.41	95.7	Analog	0.30	3

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Instrument Run Log

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id	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
	Keyword		CALBEG	Start of CALIB									
METHODS	Sample	1	Rinse1			1,000							
METHODS	Sample	1	Rinse2			1,000							
METHODS	Sample	1101	Rinse			1,000							
METHODS	CalStd	1101	0MIX	0 ppb mix	0 ng 0 ng Ag	Level 1							
METHODS	CalStd	1102	1MIX	1 ppb mix	10 ng 1 ng Ag	Level 2							
METHODS	CalStd	1103	5MIX	5 ppb mix	50 ng 5 ng Ag	Level 3							
METHODS	CalStd	1104	10MIX	10 ppb mix	100 ng 10 ng Ag	Level 4							
METHODS	CalStd	1105	50MIX	50 ppb mix	500 ng 50 ng Ag	Level 5							
METHODS	CalStd	1106	100MIX	100 ppb mix	1000 ng 100 ng Ag	Level 6							
METHODS	CalStd	1107	500MIX	500 ppb mix	5000 ng 500 ng Ag	Level 7							
METHODS	CalStd	1108	1000MIX	1000 ppb mix	10000 ng 1000 ng Ag	Level 8							
METHODS	Sample	1	Rinse3			1,000							
METHODS	Sample	1	Rinse4			1,000							
METHODS	CalStd	1109	1P	1 ppm P	10 ug P	Level 9							
METHODS	CalStd	1110	2P	2 ppm P	20 ug P	Level 10							
METHODS	CalStd	1111	5P	5 ppm P	50 ug P	Level 11							
METHODS	CalStd	1112	10P	10 ppm P	100 ug P	Level 12							
METHODS	Sample	1	Rinse5			1,000							
METHODS	Sample	1201	ICV	100 ppb (10 ppb Ag)		1.000E-01							
METHODS	Sample	2111	CCVP	5 PPM Phosphorus		1.000E-01							
METHODS	Sample	1202	2ndP	ERA Phosphorus 9.71 PPM		1.000E-01							
METHODS	Sample	1	Rinse6			1,000							
METHODS	Sample	1	Rinse7			1,000							
	Keyword		CALEND	End of CALIB									
	Keyword		SMPLBEG	Start of SMPL									
METHODS	Sample	1	Rinse8			1,000							
METHODS	Sample	1	Rinse9			1,000							
METHODS	Sample	1	Rinse10			1,000							
METHODS	Sample	2101	Rinse11			1,000							
METHODS	Sample	2101	21956	QAQC Procedural Blank B1	21956 NA, B1 9/25/2013, E-5145,	10.00							
METHODS	Sample	2102	22035	QAQC Procedural Blank B1	22035 NA, B1 9/25/2013, E-5146,	10.00							
METHODS	Sample	2103	22077	QAQC Procedural Blank B1	22077 NA, B1 9/30/2013, E-5147,	10.00							
METHODS	Sample	2104	21957	B13-8233 Oceanside	21957 NA, R1 9/25/2013, E-5145,	33.28							
METHODS	Sample	2105	21957/2	B13-8233 Oceanside Dup	21957 NA, R2 9/25/2013, E-5145,	33.54							
METHODS	Sample	2106	21958	B13-8236 Oceanside	21958 NA, R1 9/25/2013, E-5145,	26.82							
METHODS	Sample	2107	21959	B13-8239 Oceanside	21959 NA, R1 9/25/2013, E-5145,	29.57							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
38	C:\CPMH\1\METHODS (Physis.m)	Sample	2108	21860	B13-8267 Dana Point	21860,NA,R1,9/25/2013,E-5145,	29.80							
39	C:\CPMH\1\METHODS (Physis.m)	Sample	2109	21861	B13-8265 Dana Point	21861,NA,R1,9/25/2013,E-5145,	21.93							
40	C:\CPMH\1\METHODS (Physis.m)	Sample	2110	21862	B13-8263 Dana Point	21862,NA,R1,9/25/2013,E-5145,	18.27							
41	C:\CPMH\1\METHODS (Physis.m)	Sample	2111	21863	B13-8269 Dana Point	21863,NA,R1,9/25/2013,E-5145,	26.88							
42	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R12			1.000							
43	C:\CPMH\1\METHODS (Physis.m)	Sample	2112	21865cm	QAQC CRM - RTC 016-0501	21865,NA,CRM1,9/25/2013,E-5145,	47.35							
44	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	21903cm	QAQC CRM - ERA 5401	21866,NA,CRM1,9/25/2013,E-5145,	50.51							
45	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R13			1.000							
46	C:\CPMH\1\METHODS (Physis.m)	Sample	2202	21956bs1	QAQC Procedural Blank BS1	21956,NA,BS1,9/25/2013,E-5145,	1.000							
47	C:\CPMH\1\METHODS (Physis.m)	Sample	2203	21956bs2	QAQC Procedural Blank BS2	21956,NA,BS2,9/25/2013,E-5145,	1.000							
48	C:\CPMH\1\METHODS (Physis.m)	Sample	2204	21957ms	B13-8233 Oceanside MS	21957,NA,MS1,9/25/2013,E-5145,	1.000							
49	C:\CPMH\1\METHODS (Physis.m)	Sample	2205	21957msd	B13-8233 Oceanside MSD	21957,NA,MS2,9/25/2013,E-5145,	1.000							
50	C:\CPMH\1\METHODS (Physis.m)	Sample	2206	21957s1P	B13-8233 Oceanside MS	21957,NA,MS1,9/25/2013,E-5145,	1.000							
51	C:\CPMH\1\METHODS (Physis.m)	Sample	2207	21957s2P	B13-8233 Oceanside MSD	21957,NA,MS2,9/25/2013,E-5145,	1.000							
52	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R14			1.000							
53	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R15			1.000							
54	C:\CPMH\1\METHODS (Physis.m)	Sample	1106	CCV1			1.000E-01							
55	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R16			1.000							
56	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R17			1.000							
57	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R18			1.000							
58	C:\CPMH\1\METHODS (Physis.m)	Sample	2208	22036	B13-8145 Grab	22036,NA,R1,9/25/2013,E-5146,	32.80							
59	C:\CPMH\1\METHODS (Physis.m)	Sample	2209	22036/2	B13-8145 Grab Dup	22036,NA,R2,9/25/2013,E-5146,	30.84							
60	C:\CPMH\1\METHODS (Physis.m)	Sample	2210	22037	B13-8163 Grab	22037,NA,R1,9/25/2013,E-5146,	29.39							
61	C:\CPMH\1\METHODS (Physis.m)	Sample	2211	22038	B13-8180 Grab	22038,NA,R1,9/25/2013,E-5146,	35.19							
62	C:\CPMH\1\METHODS (Physis.m)	Sample	2212	22039	B13-8168 Grab	22039,NA,R1,9/25/2013,E-5146,	34.56							
63	C:\CPMH\1\METHODS (Physis.m)	Sample	2301	22040	B13-8157 Grab	22040,NA,R1,9/25/2013,E-5146,	29.43							
64	C:\CPMH\1\METHODS (Physis.m)	Sample	2302	22041	B13-8158 Grab	22041,NA,R1,9/25/2013,E-5146,	35.43							
65	C:\CPMH\1\METHODS (Physis.m)	Sample	2303	22042	B13-8152 Grab	22042,NA,R1,9/25/2013,E-5146,	13.40							
66	C:\CPMH\1\METHODS (Physis.m)	Sample	2304	22043	B13-8151 Grab	22043,NA,R1,9/25/2013,E-5146,	39.72							
67	C:\CPMH\1\METHODS (Physis.m)	Sample	2305	22044	B13-8148 Grab	22044,NA,R1,9/25/2013,E-5146,	32.65							
68	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R19			1.000							
69	C:\CPMH\1\METHODS (Physis.m)	Sample	2306	22046cm	QAQC CRM - RTC 016-0501	22046,NA,CRM1,9/25/2013,E-5146,	51.34							
70	C:\CPMH\1\METHODS (Physis.m)	Sample	2307	22047cm	QAQC CRM - ERA 5401	22047,NA,CRM1,9/25/2013,E-5146,	45.98							
71	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R20			1.000							
72	C:\CPMH\1\METHODS (Physis.m)	Sample	2202	22035bs1	QAQC Procedural Blank BS1	22035,NA,BS1,9/25/2013,E-5146,	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	S/LP	Result
73	C:\ICPMH\1\METHODS (Physis.m)	Sample	2203	22036os2	QAQC Procedural Blank BS2	22035,NA,BS2,9/25/2013,E-5146,	1.000							
74	C:\ICPMH\1\METHODS (Physis.m)	Sample	2308	22036ms	B13-B145 Grab MS	22036,NA,MS1,9/25/2013,E-5146,	1.000							
75	C:\ICPMH\1\METHODS (Physis.m)	Sample	2308	22036ms	B13-B145 Grab MSD	22036,NA,MS2,9/25/2013,E-5146,	1.000							
76	C:\ICPMH\1\METHODS (Physis.m)	Sample	2310	22036s1P	B13-B145 Grab MS	22036,NA,MS1,9/25/2013,E-5146,	1.000							
77	C:\ICPMH\1\METHODS (Physis.m)	Sample	2311	22036s2P	B13-B145 Grab MSD	22036,NA,MS2,9/25/2013,E-5146,	1.000							
78	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R21			1.000							
79	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R22			1.000							
80	C:\ICPMH\1\METHODS (Physis.m)	Sample	1106	CCV2			1.000E-01							
81	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R23			1.000							
82	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R24			1.000							
83	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R25			1.000							
84	C:\ICPMH\1\METHODS (Physis.m)	Sample	2312	22078	B13-8055 Grab	22078,NA,R1,9/30/2013,E-5147,	30.56							
85	C:\ICPMH\1\METHODS (Physis.m)	Sample	2401	22078r2	B13-8055 Grab Dux	22078,NA,R2,9/30/2013,E-5147,	28.46							
86	C:\ICPMH\1\METHODS (Physis.m)	Sample	2402	22079	B13-8049 Grab	22079,NA,R1,9/30/2013,E-5147,	31.15							
87	C:\ICPMH\1\METHODS (Physis.m)	Sample	2403	22080	B13-8029 Grab	22080,NA,R1,9/30/2013,E-5147,	25.10							
88	C:\ICPMH\1\METHODS (Physis.m)	Sample	2404	22081	B13-8056 Grab	22081,NA,R1,9/30/2013,E-5147,	34.62							
89	C:\ICPMH\1\METHODS (Physis.m)	Sample	2405	22082	B13-8064 Grab	22082,NA,R1,9/30/2013,E-5147,	30.18							
90	C:\ICPMH\1\METHODS (Physis.m)	Sample	2406	22083	B13-8066 Grab	22083,NA,R1,9/30/2013,E-5147,	38.86							
91	C:\ICPMH\1\METHODS (Physis.m)	Sample	2407	22084	B13-8020 Grab	22084,NA,R1,9/30/2013,E-5147,	59.90							
92	C:\ICPMH\1\METHODS (Physis.m)	Sample	2408	22085	B13-8050 Grab	22085,NA,R1,9/30/2013,E-5147,	31.49							
93	C:\ICPMH\1\METHODS (Physis.m)	Sample	2408	22086	B13-8069 Grab	22086,NA,R1,9/30/2013,E-5147,	33.31							
94	C:\ICPMH\1\METHODS (Physis.m)	Sample	2410	22087	B13-8017 Grab	22087,NA,R1,9/30/2013,E-5147,	33.56							
95	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R26			1.000							
96	C:\ICPMH\1\METHODS (Physis.m)	Sample	2411	22089crm	QAQC CRM - RTC 016-0601	22089,NA,CRM1,9/30/2013,E-5147,	51.23							
97	C:\ICPMH\1\METHODS (Physis.m)	Sample	2412	22090crm	QAQC CRM - ERA 5401	22090,NA,CRM1,9/30/2013,E-5147,	51.78							
98	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R27			1.000							
99	C:\ICPMH\1\METHODS (Physis.m)	Sample	2203	22077bs1	QAQC Procedural Blank BS1	22077,NA,BS1,9/30/2013,E-5147,	1.000							
100	C:\ICPMH\1\METHODS (Physis.m)	Sample	2203	22077bs2	QAQC Procedural Blank BS2	22077,NA,BS2,9/30/2013,E-5147,	1.000							
101	C:\ICPMH\1\METHODS (Physis.m)	Sample	2501	22078ms	B13-8065 Grab MS	22078,NA,MS1,9/30/2013,E-5147,	1.000							
102	C:\ICPMH\1\METHODS (Physis.m)	Sample	2502	22078msd	B13-8065 Grab MSD	22078,NA,MS2,9/30/2013,E-5147,	1.000							
103	C:\ICPMH\1\METHODS (Physis.m)	Sample	2503	22078s1P	B13-8055 Grab MS	22078,NA,MS1,9/30/2013,E-5147,	1.000							
104	C:\ICPMH\1\METHODS (Physis.m)	Sample	2504	22078s2P	B13-8055 Grab MSD	22078,NA,MS2,9/30/2013,E-5147,	1.000							
105	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R28			1.000							
106	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R29			1.000							
107	C:\ICPMH\1\METHODS (Physis.m)	Sample	1106	CCV3			1.000E-01							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
108	C:\CPMH1\METHODS\Physls.m	Sample	1	R30			1.000							
109	C:\CPMH1\METHODS\Physls.m	Sample	1	R31			1.000							
110	C:\CPMH1\METHODS\Physls.m	Sample	1	R32			1.000							
111		Keyword		SMPLEND	End of SMPLE									
112		Keyword		END	End of Sequence									
113		Keyword		BLKBEG	Start of BLANK									
114		Keyword		BLKEND	End of BLANK									
115		Keyword		ERRBEG	Start of ERRTERM									
116		Keyword		ERREND	End of ERRTERM									

Elements -

ICP-MS

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

(EPA 200.8 - SEM)

PHYSIS

Instrument Blank

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name OMDX.D
File Path D:\data\2131009.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/10/2013 12:02
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.000	ug/g	---	11.11	2.296E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	---	171.12	3.553E-04	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	---	203.35	4.218E-04	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	---	15.56	3.230E-05	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	---	14.45	3.010E-05	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	---	318.90	4.817E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	482,176.00	0.99	100.0	Analog	0.30	3
3	Rh	103	1,132,858.46	0.03	100.0	Analog	0.30	3
2	Tm	169	662,755.66	1.23	100.0	Analog	0.30	3

PHYSIS

Initial Calibration Data

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Calibration for 1000MIX.D

Batch Folder: D:\DATA\2131009.B\

 Analysis File: 2131009.batch.xml

 DA Date-Time: 4/8/2014 2:08:43 PM

 Calibration Title:

 Calibration Method: External Calibration

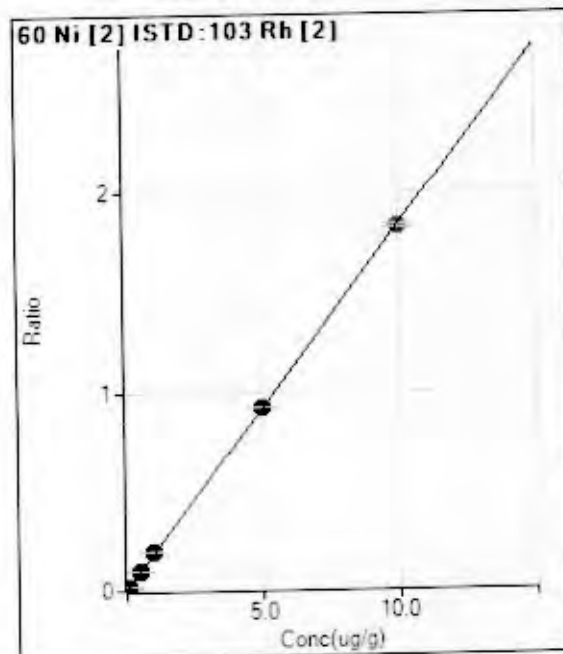
 VIS Interpolation Fit:

 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX.D	0 ppb mix	10/10/2013 12:02:54 PM
2	1MIX.D	1 ppb mix	10/10/2013 12:07:35 PM
3	5MIX.D	5 ppb mix	10/10/2013 12:12:20 PM
4	10MIX.D	10 ppb mix	10/10/2013 12:17:02 PM
5	50MIX.D	50 ppb mix	10/10/2013 12:21:43 PM
6	100MIX.D	100 ppb mix	10/10/2013 12:26:25 PM
7	500MIX.D	500 ppb mix	10/10/2013 12:31:06 PM
8	1000MIX.D	1000 ppb mix	10/10/2013 12:35:37 PM
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			



$$y = 0.1831 * x + 2.2963E-005$$

$$R = 1.0000$$

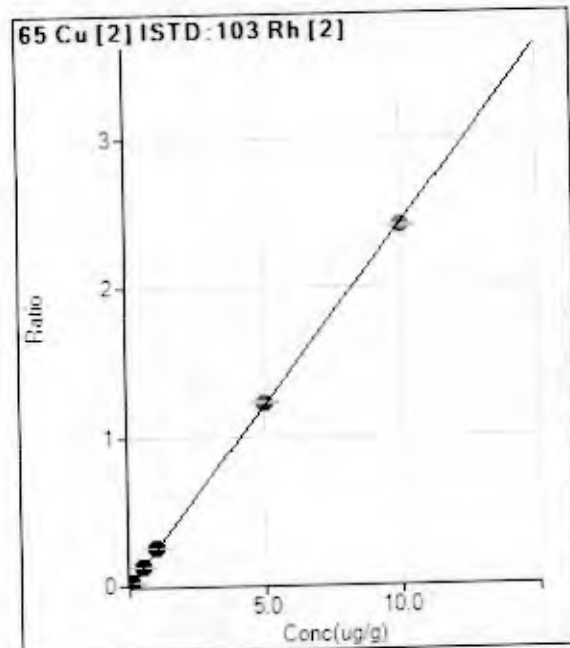
$$DL = 0.0002572$$

$$BEC = 0.0001254$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	11.11	0.0000	P	68.4
2	<input type="checkbox"/>	0.010	0.012	1040.07	0.0021	P	5.9
3	<input type="checkbox"/>	0.050	0.055	4995.36	0.0101	P	2.8
4	<input type="checkbox"/>	0.100	0.107	9699.71	0.0196	P	2.9
5	<input type="checkbox"/>	0.500	0.534	47898.29	0.0979	P	1.9
6	<input type="checkbox"/>	1.000	1.054	94206.87	0.1930	P	2.2
7	<input type="checkbox"/>	5.000	5.033	399344.10	0.9218	P	0.6
8	<input type="checkbox"/>	10.00	9.976	733813.21	1.8271	A	1.0
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
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$$y = 0.2418 * x + 3.5526E-004$$

$$R = 0.9999$$

$$DL = 0.000688$$

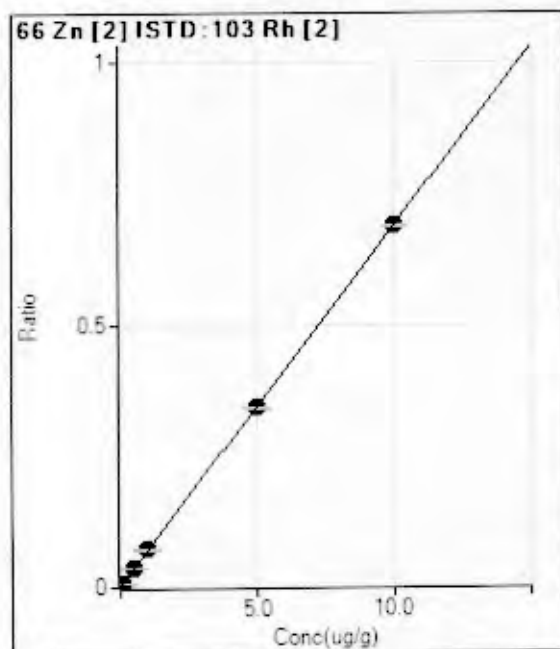
$$BEC = 0.001469$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	171.12	0.0004	P	15.6
2	<input type="checkbox"/>	0.010	0.011	1421.23	0.0029	P	2.3
3	<input type="checkbox"/>	0.050	0.053	6513.66	0.0132	P	2.6
4	<input type="checkbox"/>	0.100	0.108	13120.91	0.0265	P	1.5
5	<input type="checkbox"/>	0.500	0.542	64281.08	0.1314	P	1.4
6	<input type="checkbox"/>	1.000	1.063	125695.36	0.2575	P	1.2
7	<input type="checkbox"/>	5.000	5.072	531484.61	1.2270	A	0.9
8	<input type="checkbox"/>	10.00	9.955	967044.65	2.4079	A	0.5
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
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Calibration for 1000MIX.D



$$y = 0.0688 * x + 4.2178E-004$$

$$R = 1.0000$$

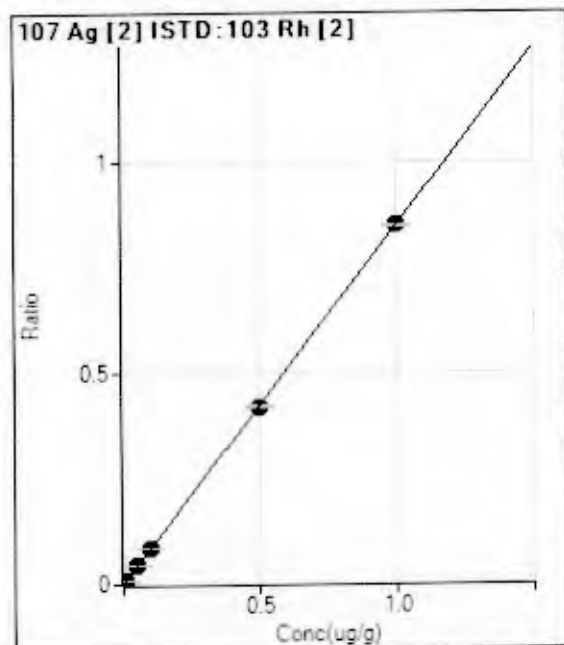
$$DL = 0.001621$$

$$BEC = 0.006132$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	203.35	0.0004	P	8.8
2	<input type="checkbox"/>	0.010	0.008	470.02	0.0010	P	3.2
3	<input type="checkbox"/>	0.050	0.049	1871.29	0.0038	P	2.2
4	<input type="checkbox"/>	0.100	0.102	3683.87	0.0074	P	2.9
5	<input type="checkbox"/>	0.500	0.518	17627.13	0.0360	P	3.2
6	<input type="checkbox"/>	1.000	1.032	34861.87	0.0714	P	2.4
7	<input type="checkbox"/>	5.000	4.965	148117.08	0.3419	P	0.3
8	<input type="checkbox"/>	10.00	10.013	276796.40	0.6892	P	0.5
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
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$$y = 0.8477 * x + 3.2301E-005$$

$$R = 1.0000$$

$$DL = 7.475E-05$$

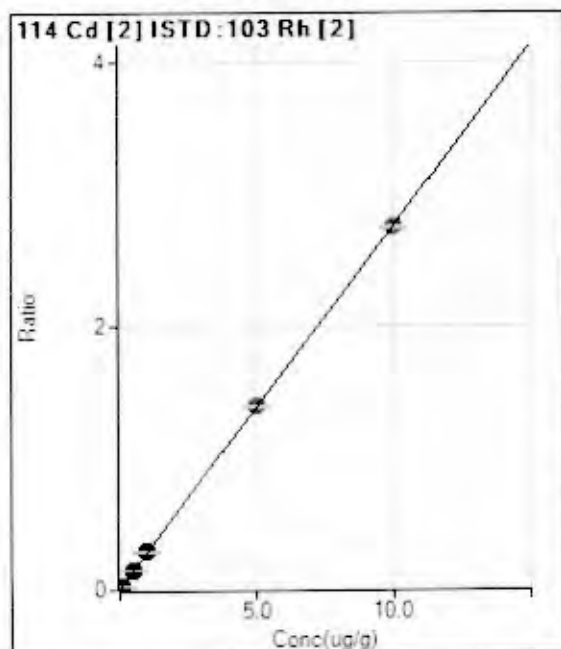
$$BEC = 3.81E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	15.56	0.0000	P	65.4
2	<input type="checkbox"/>	0.001	0.001	431.13	0.0009	P	14.5
3	<input type="checkbox"/>	0.005	0.005	2201.34	0.0045	P	2.4
4	<input type="checkbox"/>	0.010	0.010	4278.48	0.0086	P	0.8
5	<input type="checkbox"/>	0.050	0.051	21143.78	0.0432	P	0.7
6	<input type="checkbox"/>	0.100	0.101	41865.33	0.0858	P	1.3
7	<input type="checkbox"/>	0.500	0.496	182035.06	0.4202	P	0.5
8	<input type="checkbox"/>	1.000	1.002	341161.50	0.8495	P	0.3
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
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15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
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18	<input type="checkbox"/>						

Calibration for 1000MIX.D



$$y = 0.2762 * x + 3.0104E-005$$

$$R = 1.0000$$

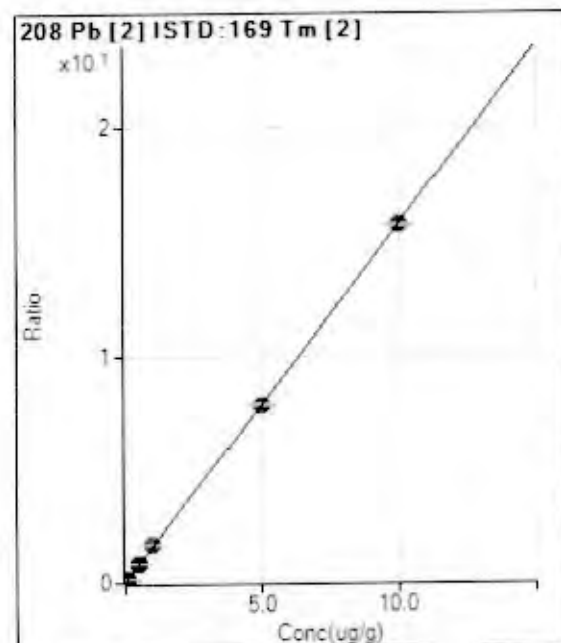
$$DL = 0.0002455$$

$$BEC = 0.000109$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	14.45	0.0000	P	75.1
2	<input type="checkbox"/>	0.010	0.011	1442.35	0.0030	P	5.3
3	<input type="checkbox"/>	0.050	0.051	6988.35	0.0142	P	4.7
4	<input type="checkbox"/>	0.100	0.102	13975.06	0.0282	P	1.9
5	<input type="checkbox"/>	0.500	0.521	70377.58	0.1439	P	0.8
6	<input type="checkbox"/>	1.000	1.033	139226.87	0.2853	P	1.2
7	<input type="checkbox"/>	5.000	5.012	599544.42	1.3842	A	1.3
8	<input type="checkbox"/>	10.00	9.990	1108135.7	2.7592	A	0.8
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 1.5727 * x + 4.8170E-004$$

$$R = 1.0000$$

$$DL = 0.0001486$$

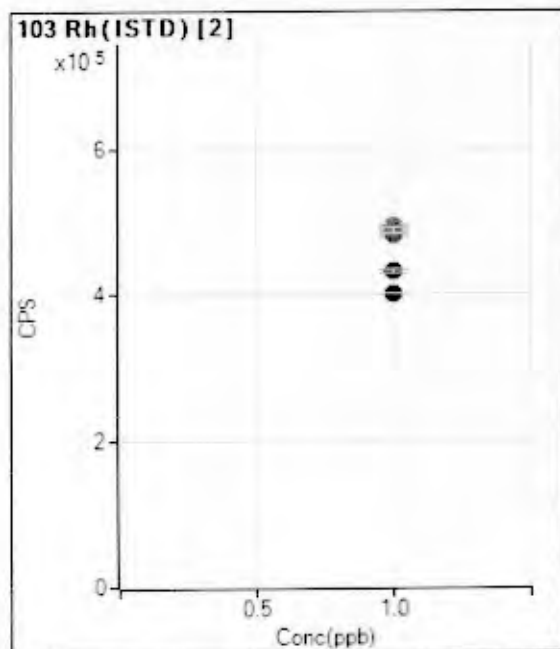
$$BEC = 0.0003063$$

Weight: None

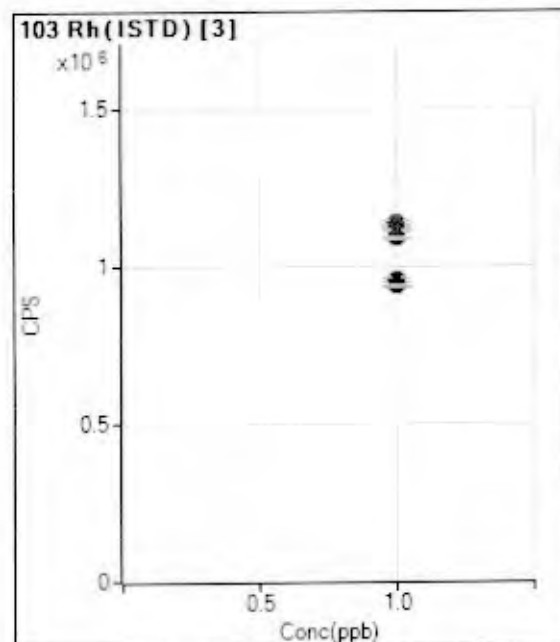
Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	318.90	0.0005	P	16.2
2	<input type="checkbox"/>	0.010	0.011	11805.55	0.0179	P	2.1
3	<input type="checkbox"/>	0.050	0.055	58968.35	0.0877	P	1.8
4	<input type="checkbox"/>	0.100	0.110	116615.94	0.1740	P	0.2
5	<input type="checkbox"/>	0.500	0.542	572958.11	0.8521	P	0.4
6	<input type="checkbox"/>	1.000	1.048	1103567.83	1.6485	A	0.8
7	<input type="checkbox"/>	5.000	4.990	4862015.16	7.8488	A	0.7
8	<input type="checkbox"/>	10.00	9.998	9278311.34	15.723	A	0.8
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
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Calibration for 1000MIX.D

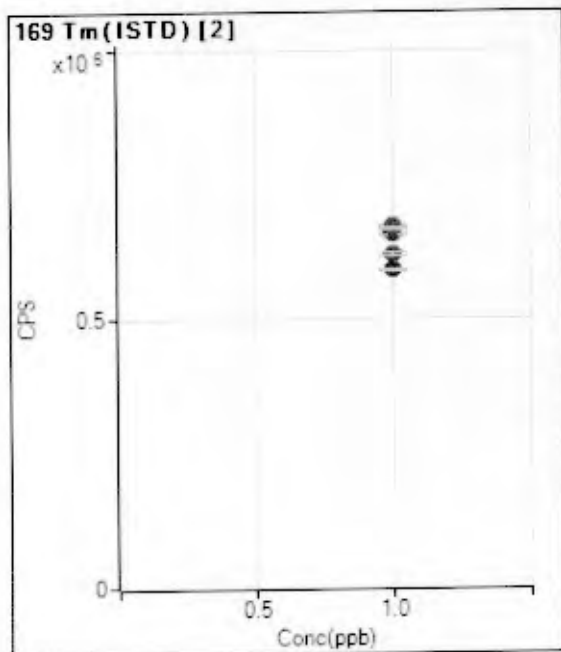


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		482176.00		A	1.0
2	<input type="checkbox"/>	1.000		486447.96		A	1.3
3	<input type="checkbox"/>	1.000		493073.63		A	0.9
4	<input type="checkbox"/>	1.000		494836.77		A	1.7
5	<input type="checkbox"/>	1.000		489256.29		A	0.8
6	<input type="checkbox"/>	1.000		488119.77		A	1.5
7	<input type="checkbox"/>	1.000		433186.42		P	1.4
8	<input type="checkbox"/>	1.000		401621.07		P	0.2
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		1132858.46		A	0.0
2	<input type="checkbox"/>	1.000		1127765.56		A	1.1
3	<input type="checkbox"/>	1.000		1136419.46		A	1.0
4	<input type="checkbox"/>	1.000		1124554.18		A	0.6
5	<input type="checkbox"/>	1.000		1111511.78		A	1.0
6	<input type="checkbox"/>	1.000		1089575.06		A	0.6
7	<input type="checkbox"/>	1.000		957957.94		A	1.5
8	<input type="checkbox"/>	1.000		937565.94		A	0.3
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for 1000MIX.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		662755.66		A	1.2
2	<input type="checkbox"/>	1.000		661094.41		A	1.2
3	<input type="checkbox"/>	1.000		672686.56		A	1.0
4	<input type="checkbox"/>	1.000		670359.07		A	0.3
5	<input type="checkbox"/>	1.000		672393.36		A	0.7
6	<input type="checkbox"/>	1.000		669474.48		A	0.6
7	<input type="checkbox"/>	1.000		619482.57		A	1.0
8	<input type="checkbox"/>	1.000		590094.46		A	0.6
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

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Continuing Calibration Data

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ICPMS 7700x DATA REPORT

File Name ICV.D
File Path D:\data\2131009.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/10/2013 12:54
Sample Name 100 ppb (10 ppb Ag)
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.101	ug/g	0.09	75,257.81	1.851E-01	Pulse	0.30	3
Cu	65	103	2	0.102	ug/g	0.16	100,231.49	2.466E-01	Pulse	0.30	3
Zn	66	103	2	0.100	ug/g	0.31	28,083.02	6.909E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	1.19	34,661.47	8.527E-02	Pulse	0.30	3
Cd	114	103	2	0.103	ug/g	0.76	116,037.20	2.855E-01	Pulse	0.30	3
Pb	208	169	2	0.105	ug/g	0.64	974,258.50	1.655E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	406,495.85	0.22	84.3	Pulse	0.30	3
3	Rh	103	909,923.16	0.70	80.3	Analog	0.30	3
2	Tm	169	588,519.34	0.54	88.8	Analog	0.30	3

PHYSIS LABORATORIES
ICPMS 7700x DATA REPORT

File Name	CCV.D
File Path	D:\data\2131009.B
Method File	Physis.m
Method Path	C:\ICPMH\1\METHODS\
Acq Time	10/10/2013 19:30
Sample Name	
Sample Type	Sample
Comment	

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.100	ug/g	0.66	69,348.63	1.835E-01	Pulse	0.30	3
Cu	65	103	2	0.102	ug/g	0.58	93,600.45	2.477E-01	Pulse	0.30	3
Zn	66	103	2	0.101	ug/g	2.45	26,383.72	6.982E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.67	32,209.02	8.524E-02	Pulse	0.30	3
Cd	114	103	2	0.104	ug/g	0.96	108,878.35	2.881E-01	Pulse	0.30	3
Pb	208	169	2	0.106	ug/g	1.28	935,456.46	1.662E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	377,846.25	0.50	78.4	Pulse	0.30	3
3	Rh	103	845,355.03	0.81	74.6	Analog	0.30	3
2	Tm	169	562,825.49	1.12	84.9	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV1.D
File Path D:\data\2131009.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/11/2013 9:54
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.105	ug/g	0.74	86,127.59	1.917E-01	Pulse	0.30	3
Cu	65	103	2	0.107	ug/g	1.01	116,233.75	2.587E-01	Pulse	0.30	3
Zn	66	103	2	0.100	ug/g	1.80	31,000.11	6.900E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	1.42	37,770.38	8.406E-02	Pulse	0.30	3
Cd	114	103	2	0.098	ug/g	0.46	121,135.22	2.696E-01	Pulse	0.30	3
Pb	208	169	2	0.107	ug/g	1.09	960,869.55	1.676E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	449,331.44	0.67	93.2	Pulse	0.30	3
3	Rh	103	1,022,651.20	1.00	90.3	Analog	0.30	3
2	Tm	169	573,410.06	1.05	86.5	Analog	0.30	3

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Instrument Run Log

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	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1	C:\CPMH\1\METHODS\Physis.m	Keyword		CALBEG	Start of CALIB									
2	C:\CPMH\1\METHODS\Physis.m	Sample	1101	Rinse			1.000							
3	C:\CPMH\1\METHODS\Physis.m	CalBk	1101	0MIX	0 ppb mix	0 ng 0 ng Ag	Level 1							
4	C:\CPMH\1\METHODS\Physis.m	CalStd	1102	1MIX	1 ppb mix	10 ng 1 ng Ag	Level 2							
5	C:\CPMH\1\METHODS\Physis.m	CalStd	1103	5MIX	5 ppb mix	50 ng 5 ng Ag	Level 3							
6	C:\CPMH\1\METHODS\Physis.m	CalStd	1104	10MIX	10 ppb mix	100 ng 10 ng Ag	Level 4							
7	C:\CPMH\1\METHODS\Physis.m	CalStd	1105	50MIX	50 ppb mix	500 ng 50 ng Ag	Level 5							
8	C:\CPMH\1\METHODS\Physis.m	CalStd	1106	100MIX	100 ppb mix	1000 ng 100 ng Ag	Level 6							
9	C:\CPMH\1\METHODS\Physis.m	CalStd	1107	500MIX	500 ppb mix	5000 ng 500 ng Ag	Level 7							
10	C:\CPMH\1\METHODS\Physis.m	CalStd	1108	1000MIX	1000 ppb mix	10000 ng 1000 ng Ag	Level 8							
11	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse1			1.000							
12	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse2			1.000							
13	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse3			1.000							
14	C:\CPMH\1\METHODS\Physis.m	Sample	1201	ICV	100 ppb (10 ppb Ag)		1.000E-01							
15	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse4			1.000							
16	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse5			1.000							
17	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse6			1.000							
18		Keyword		CALEND	End of CALIB									
19		Keyword		SAMPLEBEG	Start of SMPLE									
20	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse7			1.000							
21	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse8			1.000							
22	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse9			1.000							
23	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse10			1.000							
24	C:\CPMH\1\METHODS\Physis.m	Sample	2101	21956	QAQC Procedural Blank B1	21956.NA.B1.10/8/2013.E-5152	10.00							
25	C:\CPMH\1\METHODS\Physis.m	Sample	2101	22035	QAQC Procedural Blank B1	22035.NA.B1.10/8/2013.E-5153	10.00							
26	C:\CPMH\1\METHODS\Physis.m	Sample	2101	22077	QAQC Procedural Blank B1	22077.NA.B1.10/8/2013.E-5154	10.00							
27	C:\CPMH\1\METHODS\Physis.m	Sample	2101	22098	QAQC Procedural Blank B1	22098.NA.B1.10/8/2013.E-5155	10.00							
28	C:\CPMH\1\METHODS\Physis.m	Sample	2102	21957	B13-8233 Oceanside	21957.NA.R1.10/8/2013.E-5152	55.38							
29	C:\CPMH\1\METHODS\Physis.m	Sample	2103	21957/2	B13-8233 Oceanside Dup	21957.NA.R2.10/8/2013.E-5152	60.49							
30	C:\CPMH\1\METHODS\Physis.m	Sample	2104	21958	B13-8236 Oceanside	21958.NA.R1.10/8/2013.E-5152	43.03							
31	C:\CPMH\1\METHODS\Physis.m	Sample	2105	21959	B13-8238 Oceanside	21959.NA.R1.10/8/2013.E-5152	33.76							
32	C:\CPMH\1\METHODS\Physis.m	Sample	2106	21960	B13-8267 Dana Point	21960.NA.R1.10/8/2013.E-5152	51.29							
33	C:\CPMH\1\METHODS\Physis.m	Sample	2107	21961	B13-8266 Dana Point	21961.NA.R1.10/8/2013.E-5152	45.25							
34	C:\CPMH\1\METHODS\Physis.m	Sample	2108	21962	B13-8263 Dana Point	21962.NA.R1.10/8/2013.E-5152	32.44							
35	C:\CPMH\1\METHODS\Physis.m	Sample	2109	21963	B13-8263 Dana Point	21963.NA.R1.10/8/2013.E-5152	49.59							
36	C:\CPMH\1\METHODS\Physis.m	Sample	1	R11			1.000							
37	C:\CPMH\1\METHODS\Physis.m	Sample	2110	21959es1	QAQC Procedural Blank BS1	21959.NA.BS1.10/8/2013.E-5152	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Div/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
38	C:\CPMH\1\METHODS (Physis.m)	Sample	2111	21958.ms2	QAQC Procedural Blank BS2	21956,NA,BS2,10/8/2013,E-5152	1.000							
39	C:\CPMH\1\METHODS (Physis.m)	Sample	2112	21957.ms	B13-8233 Oceanside MS	21957,NA,MS1,10/8/2013,E-5152	1.000							
40	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	21957.ms2	B13-8233 Oceanside MS2	21957,NA,MS2,10/8/2013,E-5152	1.000							
41	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R12			1.000							
42	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R13			1.000							
43	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R14			1.000							
44	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R15			1.000							
45	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R16			1.000							
46	C:\CPMH\1\METHODS (Physis.m)	Sample	2202	22038	B13-8145 Grab	22036,NA,R1,10/8/2013,E-5153	44.84							
47	C:\CPMH\1\METHODS (Physis.m)	Sample	2203	22038r2	B13-8145 Grab Dup	22038,NA,R2,10/8/2013,E-5153	41.60							
48	C:\CPMH\1\METHODS (Physis.m)	Sample	2204	22037	B13-8163 Grab	22037,NA,R1,10/8/2013,E-5153	58.07							
49	C:\CPMH\1\METHODS (Physis.m)	Sample	2205	22038	B13-8160 Grab	22038,NA,R1,10/8/2013,E-5153	74.53							
50	C:\CPMH\1\METHODS (Physis.m)	Sample	2206	22039	B13-8159 Grab	22039,NA,R1,10/8/2013,E-5153	85.83							
51	C:\CPMH\1\METHODS (Physis.m)	Sample	2207	22040	B13-8157 Grab	22040,NA,R1,10/8/2013,E-5153	49.47							
52	C:\CPMH\1\METHODS (Physis.m)	Sample	2208	22041	B13-8158 Grab	22041,NA,R1,10/8/2013,E-5153	85.28							
53	C:\CPMH\1\METHODS (Physis.m)	Sample	2209	22042	B13-8152 Grab	22042,NA,R1,10/8/2013,E-5153	27.87							
54	C:\CPMH\1\METHODS (Physis.m)	Sample	2210	22043	B13-8151 Grab	22043,NA,R1,10/8/2013,E-5153	67.82							
55	C:\CPMH\1\METHODS (Physis.m)	Sample	2211	22044	B13-8146 Grab	22044,NA,R1,10/8/2013,E-5153	43.59							
56	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R17			1.000							
57	C:\CPMH\1\METHODS (Physis.m)	Sample	2110	22035.bs1	QAQC Procedural Blank BS1	22035,NA,BS1,10/8/2013,E-5153	1.000							
58	C:\CPMH\1\METHODS (Physis.m)	Sample	2111	22035.bs2	QAQC Procedural Blank BS2	22035,NA,BS2,10/8/2013,E-5153	1.000							
59	C:\CPMH\1\METHODS (Physis.m)	Sample	2212	22036.ms	B13-8145 Grab MS	22036,NA,MS1,10/8/2013,E-5153	1.000							
60	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	22036.ms2	B13-8145 Grab MS2	22036,NA,MS2,10/8/2013,E-5153	1.000							
61	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R18			1.000							
62	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R19			1.000							
63	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R20			1.000							
64	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R21			1.000							
65	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R22			1.000							
66	C:\CPMH\1\METHODS (Physis.m)	Sample	2302	22078	B13-8065 Grab	22078,NA,R1,10/8/2013,E-5154	58.92							
67	C:\CPMH\1\METHODS (Physis.m)	Sample	2303	22078r2	B13-8065 Grab Dup	22078,NA,R2,10/8/2013,E-5154	46.22							
68	C:\CPMH\1\METHODS (Physis.m)	Sample	2304	22079	B13-8048 Grab	22079,NA,R1,10/8/2013,E-5154	59.89							
69	C:\CPMH\1\METHODS (Physis.m)	Sample	2305	22080	B13-8029 Grab	22080,NA,R1,10/8/2013,E-5154	40.58							
70	C:\CPMH\1\METHODS (Physis.m)	Sample	2306	22081	B13-8056 Grab	22081,NA,R1,10/8/2013,E-5154	55.43							
71	C:\CPMH\1\METHODS (Physis.m)	Sample	2307	22082	B13-8054 Grab	22082,NA,R1,10/8/2013,E-5154	61.78							
72	C:\CPMH\1\METHODS (Physis.m)	Sample	2308	22083	B13-8066 Grab	22083,NA,R1,10/8/2013,E-5154	58.79							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
73	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2309	22084	B13-8020 Grab	22084,NA,R1,10/8/2013,E-5154	94.83							
74	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2310	22085	B13-8050 Grab	22085,NA,R1,10/8/2013,E-5154	50.52							
75	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2311	22086	B13-8086 Grab	22086,NA,R1,10/8/2013,E-5154	52.71							
76	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2312	22087	B13-8017 Grab	22087,NA,R1,10/8/2013,E-5154	55.80							
77	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R23			1.000							
78	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2110	22077bs1	QAQC Procedural Blank BS1	22077,NA,BS1,10/8/2013,E-5154	1.000							
79	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2111	22077bs2	QAQC Procedural Blank BS2	22077,NA,BS2,10/8/2013,E-5154	1.000							
80	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2401	22078ms	B13-8085 Grab MS	22078,NA,MS1,10/8/2013,E-5154	1.000							
81	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2402	22078msd	B13-8085 Grab MSD	22078,NA,MS2,10/8/2013,E-5154	1.000							
82	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R24			1.000							
83	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R25			1.000							
84	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R26			1.000							
85	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R27			1.000							
86	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R28			1.000							
87	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2403	22100	B13-8077 Grab	22100,NA,R1,10/8/2013,E-5155	45.60							
88	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2404	22100r2	B13-8077 Grab Dup	22100,NA,R2,10/8/2013,E-5155	41.21							
89	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2405	22101	B13-8075 Grab	22101,NA,R1,10/8/2013,E-5155	50.23							
90	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2406	22102	B13-8075 Grab	22102,NA,R1,10/8/2013,E-5155	50.34							
91	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2407	22103	B13-8074 Grab	22103,NA,R1,10/8/2013,E-5155	57.11							
92	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R29			1.000							
93	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2110	22099bs1	QAQC Procedural Blank BS1	22099,NA,BS1,10/8/2013,E-5155	1.000							
94	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2111	22099bs2	QAQC Procedural Blank BS2	22099,NA,BS2,10/8/2013,E-5155	1.000							
95	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2408	22100ms	B13-8077 Grab MS	22100,NA,MS1,10/8/2013,E-5155	1.000							
96	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2409	22100msd	B13-8077 Grab MSD	22100,NA,MS2,10/8/2013,E-5155	1.000							
97	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R30			1.000							
98	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R31			1.000							
99	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1106	CCV			1.000							
100	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R32			1.000							
101	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R33			1.000							
102	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R34			1.000							
103		Keyword		StandBy										
104		Keyword		SAMPLE	End of SMPL									
105		Keyword		END	End of Sequence									
106		Keyword		BLKBEG	Start of BLANK									
107		Keyword		BLKEND	End of BLANK									
108		Keyword		ERRBEG	Start of ERRTERM									
109		Keyword		ERREND	End of ERRTERM									



PHYSIS

Initial Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method: EPA 245.7 Mercury
Calibration data 100413

Calib Level Standard Raw Counts

Std01Rep1	0	-98
Std01Rep2	0	-98
Std01Rep3	0	-101
Std02Rep1	1	-72
Std02Rep2	1	-60
Std02Rep3	1	-56
Std03Rep1	10	127
Std03Rep2	10	142
Std03Rep3	10	128
Std04Rep1	100	2213
Std04Rep2	100	2230
Std04Rep3	100	2210
Std05Rep1	1000	23365
Std05Rep2	1000	23386
Std05Rep3	1000	23711
Std06Rep1	10000	239584
Std06Rep2	10000	240381
Std06Rep3	10000	239474

Note: Above calibration data used for the following project:

1307002-002
1307002-004
1307002-006
1307002-008
1307002-010
1307002-012
1307002-014
1307002-016
1307002-018

Continuing Calibration Data / Instrument Run Log

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Sequence# 100413 for PID: 1307002-002, 004

Sample ID	Date	Method
ICV	4-Oct-13	2457TST
Ck1Blank	4-Oct-13	2457TST
Blank	4-Oct-13	2457TST
BS1	4-Oct-13	2457TST
BS2	4-Oct-13	2457TST
Ck1Blank	4-Oct-13	2457TST
21957r1	4-Oct-13	2457TST
21957r2	4-Oct-13	2457TST
21957ms1	4-Oct-13	2457TST
21957ms2	4-Oct-13	2457TST
Ck1Blank	4-Oct-13	2457TST
21958	4-Oct-13	2457TST
21959	4-Oct-13	2457TST
21960	4-Oct-13	2457TST
21961	4-Oct-13	2457TST
21962	4-Oct-13	2457TST
21963	4-Oct-13	2457TST
21965CRM1	4-Oct-13	2457TST
21966CRM2	4-Oct-13	2457TST
CCV1	4-Oct-13	2457TST
Ck1Blank	4-Oct-13	2457TST
Blank	4-Oct-13	2457TST
BS1	4-Oct-13	2457TST
BS2	4-Oct-13	2457TST
Ck1Blank	4-Oct-13	2457TST
22036r1	4-Oct-13	2457TST
22036r2	4-Oct-13	2457TST
22036ms1	4-Oct-13	2457TST
22036ms2	4-Oct-13	2457TST
Ck1Blank	4-Oct-13	2457TST
22037	4-Oct-13	2457TST
22038	4-Oct-13	2457TST
22039	4-Oct-13	2457TST
22040	4-Oct-13	2457TST
22041	4-Oct-13	2457TST
22042	4-Oct-13	2457TST
22043	4-Oct-13	2457TST
22044	4-Oct-13	2457TST
22046CRM1	4-Oct-13	2457TST
22047CRM2	4-Oct-13	2457TST
Ck1Blank	4-Oct-13	2457TST

CCV2	4-Oct-13	2457TST
------	----------	---------

QAQC	Date	Method	True Value	Result (ppt)
ICV	4-Oct-13	2457TST	1000	954
CCV1	4-Oct-13	2457TST	1000	936
CCV2	4-Oct-13	2457TST	1000	913



PHYSIS

Extraction/Preparation Log

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ENVIRONMENTAL LABORATORIES, INC.

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24

1307002-002 / 004

OCTOBER 15, 2013

Z HANG, A HOANG

EXTRACTION OF AMEC PHMP SEDIMENTS FOR FIBRONS, OCPs, PCBs, AROCLORS, PBDEs, PAHs, PYRETHROIDS, TOXAPHENE. SAMPLES WERE RUN FOR PYR/PBDE/FIP AND THEN COLUMN CLEANED WITH SILICA/ALUMINA ADSORBENTS.

METHOD: EPA 8270 C

BSLO	SAMPLE DESCRIPTION	SAMPLE WT (g)	COMMENTS	%W	MULTIPLIER
B1 (21956)	BLANK	—	A	—	1.0
BS1	BLANK SPIKE	—	A, B	—	1.0
BS2	BLANK SPIKE DUP	—	A, B	—	1.0
21958 MS1	8236	15.0986	A, B	0.4920 0.4401 0.4938 0.4481	0.1346
21958 MS2	8236	15.3660	A, B	—	0.1323
21964 CRM	CRM - 1944	1.3235	A, C	—	0.7556
21957	8233	15.5027	A	0.4401	0.1466
21958	8236	15.2079	A	0.4920	0.1337
21958 R2	8236	15.3424	A	0.4920	0.1325
21959	8239	15.6365	A	0.5155	0.1241
21960	8267	15.0351	A	0.4090	0.1571
21961	8265	15.5607	A	0.5560	0.1156
21962	8263	15.7787	A	0.6124	0.1035
21963	8259	15.1659	A	0.4672	0.1411
22037	8163	15.5142		0.4559	0.1414
22038	8160	15.6512	A	0.3465	0.1844
22039	8159	15.6509	A	0.3090	0.2068
22040	8157	15.2045	A	0.4735	0.1380
22041	8156	15.0973	A	0.4119	0.1608
22042	8152	15.9991	A	0.7608	0.0822
22043	8151	15.4229	A	0.3185	0.2636
22044	8146	15.1469	A	0.5774	0.1143
22036	8145	14.9883		0.5774	0.1156

- a) 100µL CHC RS (1000µg, p 274)

100µL PAH RS (1000µg, p 244)

100µL PBDE RS (50µg, p 261)

100µL CR

100µL PA
- b) 1.0ML FIBRONS MIX (1000µg, p 270)

1.0ML OCP MIX (1000µg, p 241)

100µL DDMU (1000µg, p 223)

2µL PCB MIX (200µg, p 255)

2µL PCB + G MIX (200µg, p 259)

2µL PBDE MIX (+CHC) (100µg, p 262, p 263)

0.1ML CUSTOM PAH (1000µg, p 256)

1.0ML PYRETHROIDS (1000µg, p 260)

1.0ML TRALUTHAN (1000µg, p 253)
- c) LOST ~ 5% copper added in 50mL para flask before final rotovap + vialing

Organics - GC-MS

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Analytical Solutions
(EPA 8270C)

PHYSIS

Instrument Run Log

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

2013 Nov 02 1709 Sequence Log .LOG
 Starting sequence Sat Nov 02 17:09:01 2013

Instrument Name: GCMS1
 Sequence File: C:\msdchem\1\sequence\131102 EI.S
 Comment:
 Operator:
 Data Path: C:\MSDCHEM\1\DATA\131102 EI\
 Method Path: C:\MSDCHEM\1\METHODS\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX		
	Datafile		HEX		
	Method		EI_HEXANE		
2)	Sample	142	TUNE	EI_SCAN5	TUNE
3)	Sample	131	OCP_DDMU1000I CV		
	Datafile		OCP_DDMU1000I CV		
	Method		EI_SCAN5		
4)	Sample	132	PAH1000I CV		
	Datafile		PAH1000I CV		
	Method		EI_SCAN5		
5)	Sample	133	PCB+6_1000I CV		
	Datafile		PCB+6_1000I CV		
	Method		EI_SCAN5		
6)	Sample	134	SPEX1000MI X		
	Datafile		SPEX1000MI X		
	Method		EI_SCAN5		
7)	Sample	141	HEX2		
	Datafile		HEX2		
	Method		EI_HEXANE		
8)	Sample	1	B_5024	EI_SCAN5	B_5024
9)	Sample	2	BS1_5024	EI_SCAN5	BS1_5024
10)	Sample	3	BS2_5024	EI_SCAN5	BS2_5024
11)	Sample	4	21958MS1	EI_SCAN5	21958MS1
12)	Sample	5	21958MS2	EI_SCAN5	21958MS2
13)	Sample	141	HEX3		
	Datafile		HEX3		
	Method		EI_HEXANE		
14)	Sample	31	22623	EI_SCAN5	22623
15)	Sample	6	21964	EI_SCAN5	21964
16)	Sample	7	21957	EI_SCAN5	21957
17)	Sample	8	21958	EI_SCAN5	21958
18)	Sample	9	21958R2	EI_SCAN5	21958R2
19)	Sample	10	21959	EI_SCAN5	21959
20)	Sample	11	21960	EI_SCAN5	21960
21)	Sample	12	21961	EI_SCAN5	21961
22)	Sample	13	21962	EI_SCAN5	21962
23)	Sample	14	21963	EI_SCAN5	21963
24)	Sample	131	OCP_DDMU1000CCV		
	Datafile		OCP_DDMU1000CCV		
	Method		EI_SCAN5		
25)	Sample	132	PAH1000CCV		
	Datafile		PAH1000CCV		
	Method		EI_SCAN5		
26)	Sample	133	PCB+6_1000CCV		
	Datafile		PCB+6_1000CCV		
	Method		EI_SCAN5		
27)	Sample	141	HEX4		
	Datafile		HEX4		
	Method		EI_HEXANE		
28)	Sample	15	22036	EI_SCAN5	22036
29)	Sample	16	22037	EI_SCAN5	22037
30)	Sample	17	22038	EI_SCAN5	22038

2013 Nov 02 1709 Sequence Log . LOG

31)	Sample	18	22039	EI_SCAN5	22039
32)	Sample	19	22040	EI_SCAN5	22040
33)	Sample	20	22041	EI_SCAN5	22041
34)	Sample	21	22042	EI_SCAN5	22042
35)	Sample	22	22043	EI_SCAN5	22043
36)	Sample	23	22044	EI_SCAN5	22044
37)	Sample	131	OCP_DDMU1000FCV		
	Datafile		OCP_DDMU1000FCV		
	Method		EI_SCAN5		
38)	Sample	132	PAH1000FCV		
	Datafile		PAH1000FCV		
	Method		EI_SCAN5		
39)	Sample	133	PCB+6_1000FCV		
	Datafile		PCB+6_1000FCV		
	Method		EI_SCAN5		
40)	Sample	121	TEMEPHOS1000		
	Datafile		TEMEPHOS1000		
	Method		EI_SCAN5		

Sequence completed Tue Nov 05 08:21:04 2013

C:\MSDCHEM\1\DATA\131102 EI\2013 Nov 02 1709 Quality Log. LOG

C:\MSDCHEM\1\DATA\131102 EI\2013 Nov 02 1709 Sequence Log . LOG

PHYSIS

Instrument Tune Report

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Innovative Solutions for Nature

Chlorinated Pesticides

TERRA ENVIRONMENTAL SERVICES, INC.

Innovative Solutions for Nature



	4,4'-Dibromobiphenyl		2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time	Response	Retention Time
PCB+6_500ICV	1867274	44.2	371506	55.378
B_5024	5815048	44.211	1116601	55.384
BS1_5024	3312735	44.221	607745	55.382
BS2_5024	4126653	44.21	798041	55.38
21958MS1	6990225	44.244	1230961	55.394
21958MS2	3268862	44.241	625411	55.385
21964	6165848	44.341	1044777	55.497
21957	5543510	44.252	959764	55.396
21958	5885493	44.249	983177	55.397
21958R2	3767220	44.24	693885	55.393
21959	5485830	44.261	928570	55.402
21960	5315681	44.296	921227	55.411
21961	5468752	44.258	968780	55.399
21962	4608877	44.251	793877	55.399
21963	5034240	44.243	935706	55.4
PCB+6_1000CCV	2285137	44.21	419808	55.392
22036	4149573	44.248	742990	55.4
22037	3669031	44.22	691020	55.397
22038	5460658	44.235	1042497	55.394
22039	4016753	44.247	724971	55.394
22040	3639980	44.236	682093	55.39
22041	3378929	44.244	640778	55.391
22042	4475786	44.251	809730	55.396
22043	5771567	44.253	1086373	55.402
22044	4326463	44.236	824752	55.4
PCB+6_1000FCV	2747068	44.209	512356	55.382

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Initial Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\METHODS\
 Method File : Q_OCP130821.M
 Title : FIPRONIL
 Last Update : Thu Nov 07 15:37:36 2013
 Response Via : Initial Calibration

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Calibration Files

1000=OCP_DDMU1000ICV.D 500 =OCP500.D 250 =OCP250.D 100 =OCP100.D 50 =OCP50.D

Compound		1000	500	250	100	50	Avg	%RSD

1) I	4,4'-Dibromobiphenyl	-----ISTD-----						
2) S	(TCMX)	0.485	0.504	0.487	0.519	0.505	0.500	2.79
3) S	(PCB030)	1.254	1.260	1.220	1.268	1.186	1.237	2.77
4)	BHC-alpha	0.445	0.459	0.408	0.387	0.552	0.450	14.11
5)	Hexachlorobenzene	1.017	0.993	0.925	0.949	1.034	0.984	4.67
6)	BHC-beta	0.355	0.301	0.207	0.249	0.328	0.288	20.84
7)	BHC-gamma	0.340	0.335	0.297	0.389	0.326	0.338	9.91
8)	BHC-delta	0.322	0.289	0.277	0.256	0.300	0.289	8.66
9)	Heptachlor	0.352	0.466	0.406	0.377	0.390	0.398	10.78
10)	Aldrin	0.306	0.360	0.329	0.328	0.335	0.332	5.91
11)	DCPA (Dacthal)	0.872	0.839		0.814	0.870	0.849	3.25
12)	Heptachlor epoxide	0.321	0.402	0.362	0.367	0.356	0.362	8.07
13)	Oxychlordane	0.301	0.341	0.309	0.335	0.425	0.342	14.40

14) I	2,2',5,5'-Tetrabro...	-----ISTD-----						
15) S	(PCB112)	2.147	4.685	4.994	4.726	5.235	4.357	28.81
16) S	(PCB198)	1.424	1.510	1.621	1.525	1.643	1.545	5.77
17)	Chlordane-gamma	2.419	2.888	2.814	2.566	2.825	2.702	7.41
18)	2,4'-DDE	6.007	6.083	5.836	5.343	6.700	5.994	8.15
19)	Endosulfan-I	0.587	0.624	0.635	0.670	0.835	0.670	14.43
20)	Chlordane-alpha	2.205	2.608	2.474	2.231	2.652	2.434	8.54
21)	trans-Nonachlor	2.610	3.012	2.848	2.425	2.973	2.774	9.02
22)	4,4'-DDE	4.118	4.190	4.140	3.950	4.789	4.237	7.58
23)	Dieldrin	0.724	0.798	0.747	0.799	0.921	0.798	9.54
24)	2,4'-DDD	6.681	6.967	6.832	6.318	8.356	7.031	11.09
25)	Perthane	1.332	1.322	1.284	1.158	1.385	1.296	E1 6.58
26)	Endrin	0.719	0.885	0.883	0.839	1.066	0.878	14.23
27)	Endosulfan-II	0.460	0.440	0.488	0.554	0.823	0.553	28.39
28)	4,4'-DDD	6.687	6.631	6.888	5.921	7.561	6.737	8.72
29)	2,4'-DDT	5.680	5.394	5.534	4.228	5.966	5.360	12.45
30)	cis-Nonachlor	2.308	2.397	2.347	1.987	2.592	2.326	9.41
31)	Endrin aldehyde	0.600	0.681	0.671	0.573	0.697	0.644	8.43
32)	Endosulfan sulfate	1.213	1.311	1.223	1.128	1.415	1.258	8.67
33)	4,4'-DDT	5.283	4.724	4.372	3.342	4.026	4.350	16.79
34)	Endrin ketone	0.926	1.009	0.955	0.897	1.105	0.978	8.37
35)	Methoxychlor	9.784	8.871	8.202	6.528	7.682	8.213	14.94
36)	Dicofol	2.317	0.525		0.567	0.600	1.002	87.51
37)	Mirex	3.613	4.382	4.107	3.734	4.638	4.095	10.50

(#) = Out of Range

PHYSIS

Continuing Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : SPEX1000MIX.D
 Acq On : 3 Nov 2013 12:30 am
 Operator :
 Sample : SPEX1000MIX
 Misc :
 ALS Vial : 134 Sample Multiplier: 1

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Quant Time: Nov 07 15:50:15 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP130821.M
 Quant Title : FIPRONIL
 QLast Update : Thu Nov 07 15:37:36 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	44.200	312	956351	1000.00		0.00
14) 2,2',5,5'-Tetrabromobi...	55.383	391	176834	1000.00		0.01
System Monitoring Compounds						
2) (TCMX)	29.542	244	201891	422.18		0.00
Spiked Amount 400.000			Recovery	=	105.55%	
3) (PCB030)	34.782	256	531285	448.94		0.00
Spiked Amount 400.000			Recovery	=	112.24%	
15) (PCB112)	49.509	326	336207	436.33		0.00
Spiked Amount 400.000			Recovery	=	109.08%	
16) (PCB198)	63.714	358	105851	387.51		0.00
Spiked Amount 400.000			Recovery	=	96.88%	
Target Compounds						Qvalue
4) BHC-alpha	32.586	219	416358	977.35		98
5) Hexachlorobenzene	33.213	284	1017930	1056.17		99
6) BHC-beta	34.561	219	291072	903.04		98
7) BHC-gamma	35.072	219	322365	998.34		98
8) BHC-delta	36.820	219	293964	980.99		97
9) Heptachlor	40.574	272	289820	805.36		97
10) Aldrin	43.175	263	277139	913.27	#	76
11) DCPA (Dacthal)	44.072	301	859312	1039.09		98
12) Heptachlor epoxide	46.147	353	282125	871.39		98
13) Oxychlordane	46.244	115	289761	979.88		95
17) Chlordane-gamma	47.898	373	422977	946.07		99
18) 2,4'-DDE	48.289	246	1092361	1027.97		99
19) Endosulfan-I	48.793	241	90777	859.28		90
20) Chlordane-alpha	49.027	373	400473	986.76		96
21) trans-Nonachlor	49.414	409	439929	922.54		99
22) 4,4'-DDE	50.596	246	769523	1053.02		93
23) Dieldrin	50.698	263	124325m	950.57		
24) 2,4'-DDD	51.195	235	1146052	961.22		100
25) Perthane	52.410	223	2191654	934.40		99
26) Endrin	52.260	263	50001m	372.37		
27) Endosulfan-II	52.910	241	74686m	920.67		
28) 4,4'-DDD	53.585	235	1067250	903.28		97
29) 2,4'-DDT	53.855	235	957946	965.85		99
30) cis-Nonachlor	53.914	409	391269	951.68	#	92
31) Endrin aldehyde	54.261	345	138722	1268.48	#	75
32) Endosulfan sulfate	55.964	272	197437	906.33		97
33) 4,4'-DDT	56.265	235	806637	891.30		95
34) Endrin ketone	59.237	317	203559	1220.95	#	85
35) Methoxychlor	60.332	227	1410970	839.13	#	67
36) Dicofol	60.369	139	329864	959.02		95
37) Mirex	63.214	272	634115	947.63		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000ICV.D
 Acq On : 2 Nov 2013 7:22 pm
 Operator :
 Sample : OCP_DDMU1000ICV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 07 15:49:12 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP130821.M
 Quant Title : FIPRONIL
 QLast Update : Thu Nov 07 15:37:36 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	44.196	312	1510570	1000.00		0.00
14) 2,2',5,5'-Tetrabromobi...	55.371	391	298085	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)	29.542	244	293301	388.30		0.00
Spiked Amount	400.000		Recovery	=	97.08%	
3) (PCB030)	34.781	256	757529	405.26		0.00
Spiked Amount	400.000		Recovery	=	101.32%	
15) (PCB112)	49.499	326	531727	409.37		-0.01
Spiked Amount	400.000		Recovery	=	102.34%	
16) (PCB198)	63.711	358	170023	369.25		0.00
Spiked Amount	400.000		Recovery	=	92.31%	
Target Compounds						Qvalue
4) BHC-alpha	32.584	219	671766	998.34		100
5) Hexachlorobenzene	33.213	284	1536499	1009.31		100
6) BHC-beta	34.558	219	536536	1053.86		100
7) BHC-gamma	35.077	219	514263	1008.31		100
8) BHC-delta	36.819	219	487043	1029.00		100
9) Heptachlor	40.582	272	531576	935.20		100
10) Aldrin	43.179	263	461732	963.32		100
11) DCPA (Dacthal)	44.069	301	1316604	1007.94		100
12) Heptachlor epoxide	46.148	353	482921	944.33		97
13) Oxychlordane	46.245	115	454479	973.03		100
17) Chlordane-gamma	47.901	373	722113	958.16		100
18) 2,4'-DDE	48.286	246	1792686	1000.79		100
19) Endosulfan-I	48.809	241	176346	990.26		99
20) Chlordane-alpha	49.029	373	658229	962.15		100
21) trans-Nonachlor	49.402	409	779106	969.23		100
22) 4,4'-DDE	50.591	246	1229031	997.71		100
23) Dieldrin	50.697	263	215954	979.52		100
24) 2,4'-DDD	51.193	235	1993971	992.12		100
25) Perthane	52.411	223	3974089	1005.13		100
26) Endrin	52.270	263	214464	947.51		100
27) Endosulfan-II	52.919	241	137192	1003.28		100
28) 4,4'-DDD	53.587	235	1995899	1002.12		100
29) 2,4'-DDT	53.852	235	1695267	1013.99		100
30) cis-Nonachlor	53.912	409	688938	994.08	#	100
31) Endrin aldehyde	54.266	345	179019	971.09	#	74
32) Endosulfan sulfate	55.969	272	362098	986.07		100
33) 4,4'-DDT	56.265	235	1576848	1033.62		97
34) Endrin ketone	59.229	317	262167	932.85	#	97
35) Methoxychlor	60.333	227	2920594	1030.41		99
36) Dicofol	60.373	139	656857	1132.89		97
37) Mirex	63.216	272	1078250	955.91		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000ICV.D
 Acq On : 2 Nov 2013 7:22 pm
 Operator :
 Sample : OCP_DDMU1000ICV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 11 10:56:06 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP_DDMU_130911.M
 Quant Title : CHCs
 QLast Update : Wed Oct 02 14:49:23 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	55.371	391	298459	1000.00		-0.13
System Monitoring Compounds						
2) (PCB112)	49.499	326	531727	368.50		-0.02
Spiked Amount 400.000			Recovery	=	92.13%	
3) (PCB198)	63.709	358	169520m	392.64		-0.27
Spiked Amount 400.000			Recovery	=	98.16%	
Target Compounds						
4) 4,4'-DDMU	47.951	212	2429640	1087.96		Qvalue 93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000CCV.D
 Acq On : 4 Nov 2013 4:39 am
 Operator :
 Sample : OCP_DDMU1000CCV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 07 15:47:40 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP130821.M
 Quant Title : FIPRONIL
 QLast Update : Thu Nov 07 15:37:36 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	44.214	312	2163300	1000.00		0.02
14) 2,2',5,5'-Tetrabromobi...	55.393	391	387834	1000.00		0.02
System Monitoring Compounds						
2) (TCMX)	29.542	244	403300	372.83		0.00
Spiked Amount	400.000		Recovery	=	93.21%	
3) (PCB030)	34.786	256	1060733	396.25		0.00
Spiked Amount	400.000		Recovery	=	99.06%	
15) (PCB112)	49.518	326	742039m	439.09		0.00
Spiked Amount	400.000		Recovery	=	109.77%	
16) (PCB198)	63.721	358	232976	388.88		0.00
Spiked Amount	400.000		Recovery	=	97.22%	
Target Compounds						Qvalue
4) BHC-alpha	32.592	219	910343	944.69		99
5) Hexachlorobenzene	33.221	284	2150439	986.38		100
6) BHC-beta	34.580	219	745828	1022.93		98
7) BHC-gamma	35.082	219	725923	993.86		100
8) BHC-delta	36.839	219	718620	1060.16		96
9) Heptachlor	40.585	272	521816	641.03		99
10) Aldrin	43.181	263	607951	885.67		97
11) DCPA (Dacthal)	44.076	301	1905558	1018.65		99
12) Heptachlor epoxide	46.160	353	662251	904.26		97
13) Oxychlordane	46.243	115	650458	972.42		97
17) Chlordane-gamma	47.908	373	993199	1012.89		100
18) 2,4'-DDE	48.298	246	2567571	1101.68		98
19) Endosulfan-I	48.804	241	244064	1053.38		96
20) Chlordane-alpha	49.036	373	907754	1019.83		100
21) trans-Nonachlor	49.420	409	1038199	992.67		98
22) 4,4'-DDE	50.605	246	1790288	1117.01		99
23) Dieldrin	50.719	263	292026	1018.04		97
24) 2,4'-DDD	51.204	235	2802295	1071.65		98
25) Perthane	52.419	223	5462656	1061.90		99
26) Endrin	52.275	263	252059	855.91	#	71
27) Endosulfan-II	52.914	241	182598	1026.32	#	84
28) 4,4'-DDD	53.599	235	2829166	1091.78		100
29) 2,4'-DDT	53.861	235	2002585	920.62		99
30) cis-Nonachlor	53.924	409	932002	1033.60	#	99
31) Endrin aldehyde	54.277	345	240113	1001.09	#	74
32) Endosulfan sulfate	55.984	272	512224	1072.10	#	69
33) 4,4'-DDT	56.283	235	1626857	819.62		96
34) Endrin ketone	59.248	317	356915	976.09	#	95
35) Methoxychlor	60.346	227	2917405	791.10		99
36) Dicofol	60.380	139	369768	490.16	#	85
37) Mirex	63.219	272	1410470	961.07		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000CCV.D
 Acq On : 4 Nov 2013 4:39 am
 Operator :
 Sample : OCP_DDMU1000CCV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 11 10:55:10 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP_DDMU_130911.M
 Quant Title : CHCs
 QLast Update : Wed Oct 02 14:49:23 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	55.393	391	387205	1000.00		-0.10
System Monitoring Compounds						
2) (PCB112)	49.520	326	777809	415.49		0.00
Spiked Amount	400.000		Recovery	=	103.87%	
3) (PCB198)	63.721	358	232980	415.95		-0.26
Spiked Amount	400.000		Recovery	=	103.99%	
Target Compounds						
4) 4,4'-DDMU	47.955	212	3469732	1197.60		Qvalue 93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000FCV.D
 Acq On : 5 Nov 2013 1:39 am
 Operator :
 Sample : OCP_DDMU1000FCV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 07 15:48:43 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP130821.M
 Quant Title : FIPRONIL
 QLast Update : Thu Nov 07 15:37:36 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	44.213	312	2412817	1000.00		0.02
14) 2,2',5,5'-Tetrabromobi...	55.390	391	455435	1000.00		0.02
System Monitoring Compounds						
2) (TCMX)	29.547	244	460989	382.09		0.00
Spiked Amount	400.000		Recovery	=	95.52%	
3) (PCB030)	34.789	256	1153383	386.30		0.00
Spiked Amount	400.000		Recovery	=	96.58%	
15) (PCB112)	49.514	326	874409	440.62		0.00
Spiked Amount	400.000		Recovery	=	110.16%	
16) (PCB198)	63.715	358	255929	363.79		0.00
Spiked Amount	400.000		Recovery	=	90.95%	
Target Compounds						Qvalue
4) BHC-alpha	32.588	219	1058579	984.91		94
5) Hexachlorobenzene	33.222	284	2421512	995.85		99
6) BHC-beta	34.583	219	801813	985.99		98
7) BHC-gamma	35.087	219	801784	984.20		99
8) BHC-delta	36.838	219	752068	994.77		97
9) Heptachlor	40.585	272	560398	617.24		98
10) Aldrin	43.175	263	708708	925.69		95
11) DCPA (Dacthal)	44.075	301	2119188	1015.70		99
12) Heptachlor epoxide	46.156	353	818337	1001.83		93
13) Oxychlordane	46.250	115	701576	940.38		97
17) Chlordane-gamma	47.902	373	1096421	952.19		99
18) 2,4'-DDE	48.296	246	2811363	1027.23		99
19) Endosulfan-I	48.805	241	261342	960.53		96
20) Chlordane-alpha	49.037	373	1011513	967.72		99
21) trans-Nonachlor	49.411	409	1156411	941.58		99
22) 4,4'-DDE	50.601	246	1976558	1050.18		99
23) Dieldrin	50.715	263	315629	937.00		92
24) 2,4'-DDD	51.205	235	3084899	1004.62		99
25) Perthane	52.419	223	6013267	995.43		99
26) Endrin	52.282	263	273681	791.39	#	75
27) Endosulfan-II	52.922	241	199884	956.72		91
28) 4,4'-DDD	53.598	235	3118991	1024.97		98
29) 2,4'-DDT	53.860	235	2325662	910.45		98
30) cis-Nonachlor	53.923	409	1054133	995.52	#	98
31) Endrin aldehyde	54.276	345	279591	992.66	#	76
32) Endosulfan sulfate	55.978	272	539605	961.77		99
33) 4,4'-DDT	56.277	235	1961503	841.54		98
34) Endrin ketone	59.252	317	402476	937.32	#	93
35) Methoxychlor	60.342	227	3487898	805.41	#	94
36) Dicofol	60.382	139	385068	434.68	#	82
37) Mirex	63.218	272	1571037	911.59		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000FCV.D
 Acq On : 5 Nov 2013 1:39 am
 Operator :
 Sample : OCP_DDMU1000FCV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 11 10:55:22 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP_DDMU_130911.M
 Quant Title : CHCs
 QLast Update : Wed Oct 02 14:49:23 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	55.390	391	454721	1000.00		-0.11
System Monitoring Compounds						
2) (PCB112)	49.514	326	874409	397.74		0.00
Spiked Amount	400.000		Recovery	=	99.44%	
3) (PCB198)	63.715	358	255124	387.85		-0.27
Spiked Amount	400.000		Recovery	=	96.96%	
Target Compounds						
4) 4,4'-DDMU	47.960	212	3817948	1122.12		Qvalue 94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	OCP1000 ICV			OCP1000 CCV			OCP1000 FCV		
	11/2/13 7:22 PM			11/4/13 4:39 AM			11/5/13 1:39 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
BHC-alpha	1000	998	0	1000	945	6	1000	985	2
Hexachlorobenzene	1000	1009	1	1000	986	1	1000	996	0
BHC-beta	1000	1054	5	1000	1023	2	1000	986	1
BHC-gamma	1000	1008	1	1000	994	1	1000	984	2
BHC-delta	1000	1029	3	1000	1060	6	1000	995	1
Heptachlor	1000	935	6	1000	641	36	1000	617	38
Aldrin	1000	963	4	1000	886	11	1000	926	7
DCPA (Dacthal)	1000	1008	1	1000	1019	2	1000	1016	2
Heptachlor epoxide	1000	944	6	1000	904	10	1000	1002	0
Oxychlordane	1000	973	3	1000	972	3	1000	940	6
Chlordane-gamma	1000	958	4	1000	1013	1	1000	952	5
2,4'-DDE	1000	1001	0	1000	1102	10	1000	1027	3
Endosulfan-I	1000	990	1	1000	1053	5	1000	961	4
Chlordane-alpha	1000	962	4	1000	1020	2	1000	968	3
trans-Nonachlor	1000	969	3	1000	993	1	1000	942	6
4,4'-DDE	1000	998	0	1000	1117	12	1000	1050	5
Dieldrin	1000	980	2	1000	1018	2	1000	937	6
2,4'-DDD	1000	992	1	1000	1072	7	1000	1005	0
Perthane	1000	1005	1	1000	1062	6	1000	995	0
Endrin	1000	948	5	1000	856	14	1000	791	21
Endosulfan-II	1000	1003	0	1000	1026	3	1000	957	4
4,4'-DDD	1000	1002	0	1000	1092	9	1000	1025	2
2,4'-DDT	1000	1014	1	1000	921	8	1000	910	9
cis-Nonachlor	1000	994	1	1000	1034	3	1000	996	0
Endrin aldehyde	1000	971	3	1000	1001	0	1000	993	1
Endosulfan sulfate	1000	986	1	1000	1072	7	1000	962	4
4,4'-DDT	1000	1034	3	1000	820	18	1000	842	16
Endrin ketone	1000	933	7	1000	976	2	1000	937	6
Methoxychlor	1000	1030	3	1000	791	21	1000	805	19
Dicofol	1000	1133	13	1000	490	51	1000	435	57
Mirex	1000	956	4	1000	961	4	1000	912	9
4,4'-DDMU	1000	1088	9	1000	1198	20	1000	1122	12
Average	-	-	3	-	-	9	-	-	8

PHYSIS

PCB Congeners

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PHYSIS

Initial Calibration Data

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FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\METHODS\
 Method File : Q_PCB+6_130910.M
 Title : PCBs (Richs Version)
 Last Update : Tue Sep 10 11:06:40 2013
 Response Via : Initial Calibration

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Calibration Files

10 =PCB+6_10.D 25 =PCB+6_25.D 50 =PCB+6_50.D 75 =PCB+6_75.D 100 =PCB+6_100.D
 200 =PCB+6_200.D

Compound	10	25	50	75	100	200	Avg	%RSD

1) I 4,4'-Dibromobiphenyl	-----ISTD-----							
2) PCB003	2.398	2.074	1.853	2.265	2.136	2.485	2.202	10.45
3) PCB008	1.812	1.421	1.586	1.689	1.738	2.148	1.732	14.13
4) PCB005	2.043	1.733	1.423	1.693	1.465	1.530	1.648	13.92
5) PCB018	0.996	0.874	0.882	0.912	0.872	1.015	0.925	6.93
6) PCB015	1.755	1.410	1.357	1.451	1.422	1.482	1.479	9.56
7) PCB027	0.963	0.800	0.756	0.789	0.756	0.841	0.817	9.52
8) PCB029	1.189	0.950	0.964	1.059	0.969	1.081	1.035	8.96
9) I PCB031	1.157	1.150	1.174	1.160	1.253	1.259	1.192	4.21
10) PCB028	1.376	1.188	1.135	1.233	1.175	1.413	1.253	9.13
11) PCB033	1.223	1.088	1.084	1.183	1.150	1.281	1.168	6.61
12) PCB052	0.822	0.741	0.796	0.838	0.826	0.913	0.823	6.84
13) PCB049	0.887	0.750	0.816	0.828	0.863	0.963	0.851	8.46
14) PCB044	0.691	0.652	0.638	0.700	0.707	0.785	0.695	7.44
15) PCB037	1.006	0.898	1.021	1.044	1.071	1.163	1.034	8.39
16) PCB074	1.056	0.902	0.997	1.068	1.037	1.103	1.027	6.88
17) PCB070	1.062	0.926	1.056	1.022	1.065	1.150	1.047	6.97
18) PCB066	1.084	0.866	1.054	1.093	1.114	1.212	1.070	10.64
19) PCB095	0.810	0.792	0.832	0.813	0.824	0.911	0.831	5.04
20) PCB056(060)	0.907	0.767	0.922	0.865	0.881	0.998	0.890	8.52
21) PCB101	0.741	0.678	0.674	0.746	0.714	0.797	0.725	6.42
22) PCB099	0.800	0.730	0.752	0.795	0.772	0.849	0.783	5.32
23) PCB119	0.968	0.873	0.907	0.949	0.973	1.001	0.945	5.00
24) PCB097	0.677	0.552	0.639	0.698	0.663	0.741	0.662	9.64
25) PCB087	0.706	0.631	0.660	0.760	0.716	0.790	0.710	8.34
26) PCB081	1.060	0.923	0.969	0.992	1.051	1.139	1.022	7.53
27) PCB110	1.013	0.818	0.910	1.018	0.974	1.028	0.960	8.56
28) PCB077	0.987	0.728	0.945	0.969	0.938	1.087	0.942	12.52
29) PCB151	0.695	0.570	0.612	0.645	0.647	0.703	0.645	7.79
30) PCB149	0.778	0.625	0.718	0.733	0.753	0.796	0.734	8.24
31) PCB123	0.914	0.720	0.895	0.907	0.857	0.962	0.876	9.52
32) PCB118	1.022	0.819	1.001	0.953	0.950	1.032	0.963	8.15
33) PCB114	0.877	0.715	0.820	0.821	0.833	0.943	0.835	9.00
34) I 2,2',5,5'-Tetrabro...	-----ISTD-----							
35) PCB153	3.157	3.403	3.120	3.271	3.247	3.981	3.363	9.46
36) PCB168+132	3.345	3.517	3.520	3.388	3.607	4.116	3.582	7.78
37) PCB105	4.690	4.335	4.739	4.752	4.946	5.837	4.883	10.40
38) PCB141	2.911	3.205	2.695	2.940	3.142	3.529	3.070	9.40
39) PCB137	2.437	1.912	1.824	1.920	2.100	2.389	2.097	12.45
40) PCB138	2.998	3.008	2.983	3.057	3.075	3.616	3.123	7.82
41) PCB158	4.036	3.996	4.138	4.047	4.259	4.984	4.243	8.83
42) PCB126	3.640	3.080	3.586	3.545	3.780	4.415	3.674	11.79
43) PCB187	2.581	2.601	2.489	2.525	2.638	3.056	2.648	7.81
44) PCB183	2.571	2.749	2.800	2.783	2.721	3.239	2.811	8.01
45) PCB128	2.183	2.496	2.973	2.561	2.699	3.117	2.672	12.66
46) PCB167	3.971	3.592	3.691	3.786	4.506	4.567	4.019	10.46
47) PCB174	2.040	2.213	2.078	2.216	2.277	2.512	2.223	7.55
48) PCB177	2.173	2.378	2.241	2.421	2.439	2.773	2.404	8.69
49) PCB156	3.644	3.185	3.417	3.423	3.722	4.314	3.618	10.80
50) PCB199(200)	3.213	3.521	3.351	3.352	3.573	4.011	3.503	8.01
51) PCB157	4.909	4.398	5.033	5.140	5.303	6.039	5.137	10.49
52) PCB180	2.355	2.106	2.397	2.327	2.469	2.699	2.392	8.09
53) PCB169	2.956	2.420	2.783	2.922	2.901	3.688	2.945	14.05
54) PCB170	2.056	1.916	2.127	2.205	2.275	2.606	2.197	10.72
55) PCB201	1.856	1.572	1.832	1.684	2.012	2.107	1.844	10.77
56) PCB203	2.171	1.872	1.795	2.013	2.025	2.074	1.992	6.87
57) PCB189	2.923	2.393	2.725	2.604	2.791	3.235	2.779	10.32
58) PCB195	1.742	1.760	1.866	1.707	1.973	1.992	1.840	6.68
59) PCB194	1.944	1.747	1.909	1.846	2.157	2.311	1.986	10.54
60) PCB206	1.704	1.726	1.866	1.694	1.896	1.982	1.811	6.62

Method Path : C:\msdchem\1\METHODS\

Method File : Q_PCB+6_130910.M

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Title : PCBs (Richs Version)

61)	PCB209	2.354	2.146	2.224	2.336	2.400	2.700	2.360	8.09
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(#) = Out of Range

PHYSIS

Continuing Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : PCB+6_1000ICV.D
 Acq On : 2 Nov 2013 10:47 pm
 Operator :
 Sample : PCB+6_1000ICV
 Misc :
 ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 18:57:57 2013

Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M

Quant Title : PCBs (Richs Version)

QLast Update : Wed Nov 06 18:55:11 2013

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	44.200	312	1867274	1000.00		0.00
34) 2,2',5,5'-Tetrabromobi...	55.378	389	371506	1000.00		0.00
Target Compounds						Qvalue
2) PCB003	27.801	188	2396075	540.67		99
3) PCB008	32.570	222	1863536	498.36	#	98
4) PCB005	32.634	222	1256655m	438.99		
5) PCB018	35.845	256	857602	471.69	#	85
6) PCB015	36.012	222	1424273	521.27		96
7) PCB027	36.656	256	698005	457.26		95
8) PCB029	38.314	256	1009929	513.48	#	84
9) PCB031	39.295	256	1260787	542.88		89
10) PCB028	39.396	256	1277552m	510.26		
11) PCB033	40.124	256	1245748	538.51		97
12) PCB052	42.007	292	846428	512.69		92
13) PCB049	42.341	292	881359	510.65	#	86
14) PCB044	43.555	292	760001	538.80		94
15) PCB037	43.808	256	1240494	589.40	#	87
16) PCB074	46.201	292	1169109	578.85	#	65
17) PCB070	46.470	292	1189762	570.63		99
18) PCB066	46.741	292	1186051	541.40		96
19) PCB095	46.801	326	771831	468.46	#	76
20) PCB056(060)	47.967	292	1064341	593.87		94
21) PCB101	48.484	326	803802	558.02		95
22) PCB099	48.874	326	837236m	543.39		
23) PCB119	49.349	326	1027211	557.89		97
24) PCB097	50.055	326	746493	557.42		94
25) PCB087	50.422	326	742277	518.36	#	100
26) PCB081	50.422	292	1167920	568.28		95
27) PCB110	51.141	326	1045095	553.70		97
28) PCB077	51.135	292	1142021	587.89	#	85
29) PCB151	52.041	360	676994	530.94	#	86
30) PCB149	52.889	360	734581	506.04		97
31) PCB123	52.842	326	997552m	572.26		
32) PCB118	53.009	326	1071947	570.09		96
33) PCB114	53.817	326	1007888	596.23	#	93
35) PCB153	54.628	360	771504	554.65	#	48
36) PCB168+132	54.825	360	1470548	1007.98		98
37) PCB105	54.900	326	1077512	525.71		98
38) PCB141	55.527	360	582260	465.51	#	57
39) PCB137	56.027	360	463101	550.09		93
40) PCB138	56.582	360	702548	550.30	#	77
41) PCB158	56.769	360	931966	531.11	#	38
42) PCB126	57.194	326	927225	598.05	#	75
43) PCB187	57.775	394	597569	553.76		94
44) PCB183	58.131	394	615138	537.17		97
45) PCB128	58.514	360	531167m	479.99		
46) PCB167	58.556	360	1004264m	609.77		
47) PCB174	59.412	394	465499	517.47		96
48) PCB177	59.789	394	531641	539.11		97
49) PCB156	60.153	360	886118	585.00		95
50) PCB199(200)	60.587	430	657819	461.25		98
51) PCB157	60.544	360	1137317	530.92	#	59
52) PCB180	61.303	394	573691	592.92	#	96
53) PCB169	62.726	360	825218	648.02	#	49
54) PCB170	63.327	394	514732	558.05	#	95
55) PCB201	63.926	430	406053	537.75		97

Data Path : C:\msdchem\1\DATA\O-5024 EI\
Data File : PCB+6_1000ICV.D
Acq On : 2 Nov 2013 10:47 pm
Operator :
Sample : PCB+6_1000ICV
Misc :
ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 18:57:57 2013
Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M
Quant Title : PCBs (Richs Version)
QLast Update : Wed Nov 06 18:55:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	64.279	430	394384	518.83		88
57) PCB189	65.259	394	689546	604.95		97
58) PCB195	66.308	430	402695	554.88	#	95
59) PCB194	67.619	430	452259	549.16	#	51
60) PCB206	70.104	464	371087	517.08	#	100
61) PCB209	72.109	498	430830	448.13		90

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : PCB+6_1000CCV.D
 Acq On : 4 Nov 2013 8:05 am
 Operator :
 Sample : PCB+6_1000CCV
 Misc :
 ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 19:36:08 2013

Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M

Quant Title : PCBs (Richs Version)

QLast Update : Wed Nov 06 19:33:03 2013

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	44.210	312	2285137	1000.00		0.01
34) 2,2',5,5'-Tetrabromobi...	55.392	389	419808	1000.00		0.02
Target Compounds						Qvalue
2) PCB003	27.806	188	2914489	537.39		99
3) PCB008	32.574	222	2456704	536.85	#	94
4) PCB005	32.646	222	1444877	412.44		96
5) PCB018	35.847	256	1080576	485.65		97
6) PCB015	36.019	222	1791886	535.89		93
7) PCB027	36.660	256	865329	463.22		96
8) PCB029	38.320	256	1235853	513.44		96
9) PCB031	39.304	256	1626337	572.23		94
10) PCB028	39.408	256	1512946	493.78		94
11) PCB033	40.131	256	1569115	554.26		98
12) PCB052	42.013	292	1051820	520.59		96
13) PCB049	42.349	292	1104449	522.89		99
14) PCB044	43.559	292	901671	522.35		88
15) PCB037	43.822	256	1540807	598.22		98
16) PCB074	46.209	292	1474283	596.47		99
17) PCB070	46.471	292	1453898	569.80	100	
18) PCB066	46.751	292	1474185	549.88		96
19) PCB095	46.809	326	940889	466.64		94
20) PCB056(060)	47.970	292	1284792	585.79	#	90
21) PCB101	48.494	326	968068	549.16		91
22) PCB099	48.880	326	1043306	553.31		95
23) PCB119	49.353	326	1256631	557.69		96
24) PCB097	50.056	326	907667	553.83		96
25) PCB087	50.428	326	876382	500.10		92
26) PCB081	50.437	292	1415778	562.91		98
27) PCB110	51.150	326	1247802	540.21		98
28) PCB077	51.139	292	1387648	583.71		98
29) PCB151	52.039	360	812890	520.94		92
30) PCB149	52.897	360	857449	482.67		97
31) PCB123	52.852	326	1220874	572.30		97
32) PCB118	53.023	326	1271141	552.41		97
33) PCB114	53.826	326	1196363	578.31		98
35) PCB153	54.635	360	919682	585.11		92
36) PCB168+132	54.830	360	1739313	1055.03		95
37) PCB105	54.910	326	1285141	554.87	#	86
38) PCB141	55.536	360	710308	502.54	#	89
39) PCB137	56.031	360	527669	554.66		91
40) PCB138	56.591	360	838089	580.94		96
41) PCB158	56.773	360	1063102	536.13		90
42) PCB126	57.208	326	1135436	648.09		98
43) PCB187	57.784	394	671109	550.35		97
44) PCB183	58.140	394	689001	532.45		93
45) PCB128	58.519	360	632666m	505.93		
46) PCB167	58.561	360	1190756m	639.82		
47) PCB174	59.408	394	549888	540.95		92
48) PCB177	59.795	394	629848	565.21		96
49) PCB156	60.155	360	1095616m	640.09		
50) PCB199(200)	60.587	430	761053	472.24		98
51) PCB157	60.554	360	1345147	555.69		92
52) PCB180	61.312	394	692102	633.00		90
53) PCB169	62.741	360	1013331	704.18		99
54) PCB170	63.329	394	600238	575.88		87
55) PCB201	63.928	430	461313	540.64		95

Data Path : C:\msdchem\1\DATA\O-5024 EI\
Data File : PCB+6_1000CCV.D
Acq On : 4 Nov 2013 8:05 am
Operator :
Sample : PCB+6_1000CCV
Misc :
ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 19:36:08 2013
Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M
Quant Title : PCBs (Richs Version)
QLast Update : Wed Nov 06 19:33:03 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	64.275	430	438744	510.78	#	79
57) PCB189	65.269	394	861718	669.01		96
58) PCB195	66.314	430	478497	583.46		98
59) PCB194	67.628	430	561827	603.71		96
60) PCB206	70.116	464	430513	530.86	#	82
61) PCB209	72.119	498	514572	473.66		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : PCB+6_1000FCV.D
 Acq On : 5 Nov 2013 5:04 am
 Operator :
 Sample : PCB+6_1000FCV
 Misc :
 ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 19:39:34 2013

Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M

Quant Title : PCBs (Richs Version)

QLast Update : Tue Sep 10 11:06:40 2013

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	44.209	312	2747068	1000.00		0.01
34) 2,2',5,5'-Tetrabromobi...	55.382	389	512356	1000.00		0.00
Target Compounds						
					Qvalue	
2) PCB003	27.807	188	3391481	520.19		99
3) PCB008	32.575	222	2819882	512.59	#	94
4) PCB005	32.646	222	1690481	401.41		97
5) PCB018	35.845	256	1256563	469.78		98
6) PCB015	36.013	222	2075770	516.40		93
7) PCB027	36.654	256	1002780	446.53		96
8) PCB029	38.317	256	1447501	500.25		95
9) PCB031	39.305	256	1906599	558.04		94
10) PCB028	39.411	256	1765391	479.28		96
11) PCB033	40.128	256	1788898	525.64		97
12) PCB052	42.010	292	1215819	500.57		95
13) PCB049	42.348	292	1251081	492.71		97
14) PCB044	43.563	292	1073022	517.09		89
15) PCB037	43.817	256	1813385	585.66		97
16) PCB074	46.210	292	1693988	570.11		98
17) PCB070	46.478	292	1724416m	562.18		
18) PCB066	46.749	292	1768660	548.78		97
19) PCB095	46.804	326	1130084	466.23		95
20) PCB056(060)	47.975	292	1526520	578.97	#	90
21) PCB101	48.488	326	1151683	543.46		92
22) PCB099	48.881	326	1212255	534.81		95
23) PCB119	49.353	326	1498625	553.25		97
24) PCB097	50.057	326	1082327	549.35		93
25) PCB087	50.428	326	1072320	509.02		95
26) PCB081	50.436	292	1679477	555.47		97
27) PCB110	51.148	326	1508144	543.12		98
28) PCB077	51.144	292	1671894	585.02		98
29) PCB151	52.046	360	975246	519.89		91
30) PCB149	52.897	360	1057239	495.06		97
31) PCB123	52.850	326	1490959	581.39		95
32) PCB118	53.019	326	1538626	556.22		99
33) PCB114	53.823	326	1423296	572.31		98
35) PCB153	54.632	360	1141801	595.20		97
36) PCB168+132	54.833	360	2081829	1034.70		94
37) PCB105	54.909	326	1561819	552.52	#	87
38) PCB141	55.535	360	861244	499.26	#	89
39) PCB137	56.030	360	656762	565.66	#	90
40) PCB138	56.595	360	1010069	573.68		97
41) PCB158	56.777	360	1301896	537.96		91
42) PCB126	57.209	326	1409151	659.03		98
43) PCB187	57.782	394	820055	551.03		95
44) PCB183	58.133	394	863719	546.90		95
45) PCB128	58.514	360	861044m	564.18		
46) PCB167	58.561	360	1504972m	662.59		
47) PCB174	59.411	394	658825	531.05		92
48) PCB177	59.792	394	738134	542.74		98
49) PCB156	60.155	360	1315969m	629.95		
50) PCB199(200)	60.586	430	963705	489.97	#	91
51) PCB157	60.555	360	1690651	572.26		91
52) PCB180	61.319	394	840259	629.69	#	68
53) PCB169	62.735	360	1237267	704.49		99
54) PCB170	63.336	394	749061	588.85		89
55) PCB201	63.931	430	606725	582.62		98

Data Path : C:\msdchem\1\DATA\O-5024 EI\
Data File : PCB+6_1000FCV.D
Acq On : 5 Nov 2013 5:04 am
Operator :
Sample : PCB+6_1000FCV
Misc :
ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 19:39:34 2013
Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M
Quant Title : PCBs (Richs Version)
QLast Update : Tue Sep 10 11:06:40 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	64.283	430	548736	523.43	#	83
57) PCB189	65.266	394	1041018	662.23		99
58) PCB195	66.315	430	570074	569.57		98
59) PCB194	67.627	430	674544	593.90		94
60) PCB206	70.111	464	539094	544.68	#	89
61) PCB209	72.118	498	629402	474.71		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PCB500 CCV			PCB500 CCV2			PCB500 CCV2		
	11/2/2013 10:47:00 PM			11/4/13 8:05 AM			11/5/12 5:04 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PCB003	500	540.67	8	500	537.39	7	500	520.19	4
PCB008	500	498.36	0	500	536.85	7	500	512.59	3
PCB005	500	438.99	12	500	412.44	18	500	401.41	20
PCB018	500	471.69	6	500	485.65	3	500	469.78	6
PCB015	500	521.27	4	500	535.89	7	500	516.4	3
PCB027	500	457.26	9	500	463.22	7	500	446.53	11
PCB029	500	513.48	3	500	513.44	3	500	500.25	0
PCB031	500	542.88	9	500	572.23	14	500	558.04	12
PCB028	500	510.26	2	500	493.78	1	500	479.28	4
PCB033	500	538.51	8	500	554.26	11	500	525.64	5
PCB052	500	512.69	3	500	520.59	4	500	500.57	0
PCB049	500	510.65	2	500	522.89	5	500	492.71	1
PCB044	500	538.8	8	500	522.35	4	500	517.09	3
PCB037	500	589.4	18	500	598.22	20	500	585.66	17
PCB074	500	578.85	16	500	596.47	19	500	570.11	14
PCB070	500	570.63	14	500	569.8	14	500	562.18	12
PCB066	500	541.4	8	500	549.88	10	500	548.78	10
PCB095	500	468.46	6	500	466.64	7	500	466.23	7
PCB056 (060)	500	593.87	19	500	585.79	17	500	578.97	16
PCB101	500	558.02	12	500	549.16	10	500	543.46	9
PCB099	500	543.39	9	500	553.31	11	500	534.81	7
PCB119	500	557.89	12	500	557.69	12	500	553.25	11
PCB097	500	557.42	11	500	553.83	11	500	549.35	10
PCB087	500	518.36	4	500	500.1	0	500	509.02	2
PCB081	500	568.28	14	500	562.91	13	500	555.47	11
PCB110	500	553.7	11	500	540.21	8	500	543.12	9
PCB077	500	587.79	18	500	583.71	17	500	585.02	17
PCB151	500	530.94	6	500	520.94	4	500	519.89	4
PCB149	500	506.04	1	500	482.67	3	500	495.06	1
PCB123	500	572.26	14	500	572.3	14	500	581.39	16
PCB118	500	570.09	14	500	552.41	10	500	556.22	11
PCB114	500	596.23	19	500	578.31	16	500	572.31	14
PCB153	500	554.65	11	500	585.11	17	500	595.2	19
PCB168+132	1000	1007.98	1	1000	1055.03	6	1000	1034.7	3
PCB105	500	525.71	5	500	554.87	11	500	552.52	11
PCB141	500	465.51	7	500	502.54	1	500	499.26	0
PCB137	500	550.09	10	500	554.66	11	500	565.66	13
PCB138	500	550.3	10	500	580.94	16	500	573.68	15
PCB158	500	531.11	6	500	536.13	7	500	537.96	8
PCB126	500	598.05	20	500	648.09	30	500	659.03	32
PCB187	500	553.76	11	500	550.35	10	500	551.03	10
PCB183	500	537.17	7	500	532.45	6	500	546.9	9
PCB128	500	479.99	4	500	505.93	1	500	564.18	13
PCB167	500	609.77	22	500	639.82	28	500	662.59	33
PCB174	500	517.47	3	500	540.95	8	500	531.05	6
PCB177	500	539.11	8	500	565.21	13	500	542.74	9
PCB156	500	585	17	500	640.09	28	500	629.95	26
PCB199 (200)	500	461.25	8	500	472.24	6	500	489.97	2
PCB157	500	530.92	6	500	555.69	11	500	572.26	14
PCB180	500	592.92	19	500	633	27	500	629.69	26
PCB169	500	648.02	30	500	704.18	41	500	704.49	41
PCB170	500	558.05	12	500	575.88	15	500	588.85	18
PCB201	500	537.75	8	500	540.64	8	500	582.62	17
PCB203	500	518.83	4	500	510.78	2	500	523.43	5
PCB189	500	604.95	21	500	669.01	34	500	662.23	32
PCB195	500	554.88	11	500	583.46	17	500	569.57	14
PCB194	500	549.16	10	500	603.71	21	500	593.9	19
PCB206	500	517.08	3	500	530.86	6	500	544.68	9
PCB209	500	448.13	10	500	473.66	5	500	474.71	5
Average	-	-	10	-	-	12	-	-	11

Polynuclear

Aromatic

Hydrocarbons

(PAHs)

PHYSIS

Summary of Internal Standards

TERRA FACTORY AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

	D10-Anthracene		D-12 Perylene	
	Response	Retention Time	Response	Retention Time
PAH1000SPEX	6654505	36.057	1943594	83.612
B_5024	34611984	36.072	16820912	83.653
BS1_5024	9114089	36.057	7963655	83.641
BS2_5024	10134115	36.064	10152647	83.642
21958MS1	46636000	36.087	17197570	83.669
21958MS2	21131353	36.071	9325894	83.642
22623	6514013	36.057	2378662	83.623
21964	43874583	36.133	5452801	83.736
21957	40758084	36.086	11018503	83.69
21958	42375957	36.08	13330247	83.664
21958R2	24065887	36.071	10301893	83.659
21959	35702175	36.091	12593599	83.682
21960	35119386	36.089	6929255	83.702
21961	38472631	36.089	10190058	83.682
21962	32904357	36.083	9019775	83.68
21963	34551292	36.081	10596074	83.679
PAH1000CCV	11081824	36.068	2661700	83.66
22036	28204272	36.081	6672047	83.674
22037	26132953	36.075	6028310	83.684
22038	36462488	36.078	11221185	83.681
22039	26631226	36.078	7095628	83.672
22040	24806147	36.074	7621328	83.67
22041	23732884	36.073	7532582	83.673
22042	29920771	36.081	7526315	83.679
22043	38608466	36.082	10086523	83.695
22044	28695734	36.079	7726055	83.688
PAH500FCV	12365686	36.068	2631186	83.644

PHYSIS

Initial Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\DATA\O-5024 EI\
 Method File : Q_PAH131107.M
 Title : PAH
 Last Update : Thu Nov 07 13:02:12 2013
 Response Via : Initial Calibration

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Calibration Files

500 =PAH500.D 250 =PAH250.D 1000=PAH1000.D 100 =PAH100.D 50 =PAH50.D 25 =PAH25.D

Compound		500	250	1000	100	50	25	Avg	%RSD

1) I	d10-Anthracene	-----ISTD-----							
2) S	(d8-Naphthalene)	2.323	2.000	1.949	1.977	2.613	2.207	2.178	11.90
3) S	(d10-Acenaphth...	0.992	0.914	0.895	0.888	1.048	0.953	0.948	6.62
4) S	(d10-Phenanthr...	1.205	1.200	1.190	1.182	1.241	1.206	1.204	1.70
5) S	(d12-Chrysene)	1.024	0.946	1.058	0.941	0.938	0.884	0.965	6.61
6) S	(d12-Perylene)	0.826	0.753	0.812	0.762	0.795	0.760	0.785	3.88
7)	Naphthalene	2.201	1.960	1.892	1.847	2.520	2.141	2.094	11.98
8)	2-Methylnaphth...	1.486	1.269	1.292	1.182	1.447	1.380	1.343	8.61
9)	1-Methylnaphth...	1.492	1.311	1.299	1.114	1.501	1.306	1.337	10.77
10)	Biphenyl	1.571	1.410	1.396	1.347	1.531	1.570	1.471	6.67
11)	2,6-Dimethylna...	1.180	1.032	1.084	0.913	1.176	1.161	1.091	9.64
12)	Acenaphthylene	1.397	1.248	1.378	1.146	1.349	1.316	1.306	7.22
13)	Acenaphthene	1.047	0.969	0.979	0.882	1.044	1.053	0.996	6.68
14)	2,3,5-Trimethy...	0.958	0.860	0.932	0.778	0.882	0.841	0.875	7.41
15)	Fluorene	0.958	0.871	0.947	0.798	0.880	0.885	0.890	6.52
16)	Dibenzothiophene	1.362	1.278	1.354	1.221	1.226	1.250	1.282	4.88
17)	Phenanthrene	1.254	1.209	1.250	1.115	1.154	1.234	1.203	4.70
18)	Anthracene	0.537	0.518	0.540	0.495	0.532	0.615	0.540	7.52
19)	1-Methylphenan...	0.821	0.778	0.885	0.681	0.713	0.657	0.756	11.62
20)	Fluoranthene	0.966	0.889	1.058	0.798	0.832	0.790	0.889	11.90
21)	Pyrene	1.018	0.908	1.107	0.817	0.825	0.855	0.922	12.73
22)	Benz[a]anthracene	0.619	0.544	0.702	0.489	0.508	0.552	0.569	13.87
23)	Chrysene	0.842	0.744	0.886	0.703	0.716	0.689	0.763	10.65
24)	Benzo[b]fluora...	0.771	0.653	0.823	0.563	0.582	0.592	0.664	16.37
25)	Benzo[k]fluora...	0.638	0.536	0.786	0.499	0.564	0.625	0.608	16.73
26)	Benzo[e]pyrene	0.896	0.721	0.876	0.639	0.668	0.659	0.743	15.36
27)	Benzo[a]pyrene	0.524	0.456	0.613	0.413	0.505	0.417	0.488	15.59
28)	Perylene	0.633	0.555	0.684	0.500	0.582	0.521	0.579	11.99

29) I	d12-Benzo[g,h,i]pe...	-----ISTD-----							
30)	Indeno[1,2,3-c...	0.890	0.779	0.916	0.738	0.802	0.784	0.818	8.49
31)	Dibenz[a,h]ant...	0.782	0.703	0.907	0.637	0.663	0.643	0.722	14.54
32)	Benzo[g,h,i]pe...	1.262	1.162	1.333	1.112	1.359	1.352	1.263	8.29

(#) = Out of Range

PHYSIS

Continuing Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : SPEX1000MIX.D
 Acq On : 3 Nov 2013 12:30 am
 Operator :
 Sample : SPEX1000MIX
 Misc :
 ALS Vial : 134 Sample Multiplier: 1

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Quant Time: Jan 29 12:55:47 2014
 Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PAH131107.M
 Quant Title : PAH
 QLast Update : Thu Nov 07 13:02:12 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	36.057	188	6654505m	2000.00		0.49
29) d12-Benzo[g,h,i]perylene	83.612	288	1943594m	2000.00		0.65
System Monitoring Compounds						
2) (d8-Naphthalene)	15.104	136	6810064	939.65		0.31
3) (d10-Acenaphthene)	24.221	164	2780250m	881.24		0.45
4) (d10-Phenanthrene)	35.643	188	3815955m	952.48		0.49
5) (d12-Chrysene)	59.615	240	3122527m	972.37		0.47
6) (d12-Perylene)	71.787	264	2139185m	819.26		0.44
Target Compounds						Qvalue
7) Naphthalene	15.176	128	6680038	1027.21		100
8) 2-Methylnaphthalene	18.032	142	3681954	834.07		95
9) 1-Methylnaphthalene	18.565	142	3846343m	865.91		
10) Biphenyl	20.562	154	4176131	878.17		100
11) 2,6-Dimethylnaphthalene	21.469	156	2781669	761.05		96
12) Acenaphthylene	23.162	152	4561634m	998.16		
13) Acenaphthene	24.431	153	3077027m	933.68		
14) 2,3,5-Trimethylnaphtha...	27.319	170	2111788m	680.71		
15) Fluorene	28.105	166	3005097m	956.59		
16) Dibenzothiophene	34.773	184	3474537m	773.27		
17) Phenanthrene	35.827	178	3844571m	926.34		
18) Anthracene	36.204	178	2865067m	1599.77		
19) 1-Methylphenanthrene	41.378	192	2445004m	848.70		
20) Fluoranthene	46.405	202	3596586m	1049.41		
21) Pyrene	48.308	202	3653946m	1018.48		
22) Benz[a]anthracene	59.489	228	2782948m	1235.87		
23) Chrysene	59.835	228	2952751m	1020.88		
24) Benzo[b]fluoranthene	68.856	252	2552499m	955.36		
25) Benzo[k]fluoranthene	69.045	252	2635057m	1064.93		
26) Benzo[e]pyrene	70.953	252	2338536m	807.62		
27) Benzo[a]pyrene	71.315	252	1956846m	1001.62		
28) Perylene	71.981	252	2041037m	920.09		
30) Indeno[1,2,3-c,d]pyrene	81.264	276	1141286m	1300.84		
31) Dibenz[a,h]anthracene	81.699	278	973239m	1149.61		
32) Benzo[g,h,i]perylene	83.901	276	1455796m	1143.57		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : PAH1000CCV.D
 Acq On : 4 Nov 2013 6:22 am
 Operator :
 Sample : PAH1000CCV
 Misc :
 ALS Vial : 132 Sample Multiplier: 1

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Quant Time: Jan 29 12:52:39 2014
 Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PAH131107.M
 Quant Title : PAH
 QLast Update : Thu Nov 07 13:02:12 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	36.068	188	11081824m	2000.00		0.50
29) d12-Benzo[g,h,i]perylene	83.660	288	2661700m	2000.00		0.70
System Monitoring Compounds						
2) (d8-Naphthalene)	15.113	136	9335936	773.53		0.31
3) (d10-Acenaphthene)	24.226	164	4277337m	814.12		0.45
4) (d10-Phenanthrene)	35.654	188	6207254m	930.37		0.50
5) (d12-Chrysene)	59.636	240	4670851m	873.43		0.49
6) (d12-Perylene)	71.813	264	3435900m	790.16		0.47
Target Compounds						
					Qvalue	
7) Naphthalene	15.184	128	9259806	855.04		100
8) 2-Methylnaphthalene	18.041	142	6213246	845.17		97
9) 1-Methylnaphthalene	18.575	142	6219877m	840.83		
10) Biphenyl	20.569	154	6456037	815.22		100
11) 2,6-Dimethylnaphthalene	21.476	156	4769819	783.64		96
12) Acenaphthylene	23.173	152	7571192m	994.82		
13) Acenaphthene	24.441	153	4835535m	881.09		
14) 2,3,5-Trimethylnaphtha...	27.324	170	4539898m	878.74		
15) Fluorene	28.126	166	4966076m	949.26		
16) Dibenzothiophene	34.789	184	6928337m	925.91		
17) Phenanthrene	35.837	178	6393597m	925.07		
18) Anthracene	36.220	178	3187935m	1068.90		
19) 1-Methylphenanthrene	41.394	192	4864396m	1013.93		
20) Fluoranthene	46.421	202	5792136m	1014.85		
21) Pyrene	48.324	202	6039522m	1010.87		
22) Benz[a]anthracene	59.515	228	4050119m	1080.04		
23) Chrysene	59.856	228	4267695m	886.02		
24) Benzo[b]fluoranthene	68.877	252	3782199m	850.06		
25) Benzo[k]fluoranthene	69.071	252	3571384m	866.70		
26) Benzo[e]pyrene	70.969	252	3606665m	747.95		
27) Benzo[a]pyrene	71.341	252	2887265m	887.44		
28) Perylene	71.991	252	3060039m	828.35		
30) Indeno[1,2,3-c,d]pyrene	81.296	276	1723980m	1434.86		
31) Dibenz[a,h]anthracene	81.725	278	1483449m	1279.53		
32) Benzo[g,h,i]perylene	83.953	276	1941777m	1113.80		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : PAH1000FCV.D
 Acq On : 5 Nov 2013 3:21 am
 Operator :
 Sample : PAH1000FCV
 Misc :
 ALS Vial : 132 Sample Multiplier: 1

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Quant Time: Jan 29 12:54:25 2014
 Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PAH131107.M
 Quant Title : PAH
 QLast Update : Thu Nov 07 13:02:12 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	36.068	188	12365686m	2000.00		0.50
29) d12-Benzo[g,h,i]perylene	83.644	288	2631186m	2000.00		0.69
System Monitoring Compounds						
2) (d8-Naphthalene)	15.111	136	10513640	780.67		0.31
3) (d10-Acenaphthene)	24.226	164	4850593m	827.37		0.45
4) (d10-Phenanthrene)	35.648	188	6953169m	933.97		0.50
5) (d12-Chrysene)	59.630	240	4738498m	794.08		0.49
6) (d12-Perylene)	71.808	264	3206223m	660.79		0.46
Target Compounds						Qvalue
7) Naphthalene	15.183	128	10314237	853.52		100
8) 2-Methylnaphthalene	18.040	142	6944273	846.54		96
9) 1-Methylnaphthalene	18.570	142	6970962m	844.53		
10) Biphenyl	20.569	154	7175164	811.96		100
11) 2,6-Dimethylnaphthalene	21.474	156	5952057m	876.34		
12) Acenaphthylene	23.167	152	8507820m	1001.83		
13) Acenaphthene	24.436	153	5473665m	893.81		
14) 2,3,5-Trimethylnaphtha...	27.319	170	5118330m	887.84		
15) Fluorene	28.121	166	5535590m	948.26		
16) Dibenzothiophene	34.784	184	7744357m	927.51		
17) Phenanthrene	35.837	178	7067866m	916.45		
18) Anthracene	36.220	178	3505168m	1053.24		
19) 1-Methylphenanthrene	41.394	192	5449287m	1017.91		
20) Fluoranthene	46.415	202	6309121m	990.66		
21) Pyrene	48.329	202	6552850m	982.92		
22) Benz[a]anthracene	59.510	228	4102595m	980.45		
23) Chrysene	59.861	228	4402124m	819.04		
24) Benzo[b]fluoranthene	68.877	252	3555953m	716.24		
25) Benzo[k]fluoranthene	69.066	252	3464164m	753.40		
26) Benzo[e]pyrene	70.974	252	3231836m	600.63		
27) Benzo[a]pyrene	71.336	252	2617806m	721.08		
28) Perylene	72.002	252	2879503m	698.55		
30) Indeno[1,2,3-c,d]pyrene	81.306	276	1657219m	1395.29		
31) Dibenz[a,h]anthracene	81.725	278	1517787m	1324.33		
32) Benzo[g,h,i]perylene	83.948	276	1743609m	1011.73		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PAH1000 ICV			PAH1000 CCV			PAH1000 FCV		
	11/2/13 9:04 PM			11/4/13 6:22 AM			11/5/13 3:21 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
d8-Naphthalene	1000	1080.24	8	1000	773.53	23	1000	780.67	22
d10-Acenaphthene	1000	964.2	4	1000	814.12	19	1000	827.37	17
d10-Phenanthrene	1000	938.82	6	1000	930.37	7	1000	933.97	7
d10-Chrysene	1000	871.57	13	1000	873.43	13	1000	794.08	21
d12-Perylene	1000	779.52	22	1000	790.16	21	1000	660.79	34
Naphthalene	1000	1167.88	17	1000	855.04	14	1000	853.52	15
2-Methylnaphthalene	1000	1107.91	11	1000	845.17	15	1000	846.54	15
1-Methylnaphthalene	1000	1081.62	8	1000	840.83	16	1000	844.53	16
Biphenyl	1000	1036.67	4	1000	815.22	18	1000	811.96	19
2,6-Dimethylnaphthalene	1000	1049.48	5	1000	783.64	22	1000	876.34	12
Acenaphthylene	1000	1144.08	14	1000	994.82	1	1000	1001.83	0
Acenaphthene	1000	1022.12	2	1000	881.09	12	1000	893.81	11
2,3,5-Trimethylnaphthalene	1000	1016.35	2	1000	878.74	12	1000	887.84	11
Fluorene	1000	1017.41	2	1000	949.26	5	1000	948.26	5
Dibenzothiophene	1000	962.73	4	1000	925.91	7	1000	927.51	7
Phenanthrene	1000	940.7	6	1000	925.07	7	1000	916.45	8
Anthracene	1000	1014.18	1	1000	1068.9	7	1000	1053.24	5
1-Methylphenanthrene	1000	985.5	1	1000	1013.93	1	1000	1017.91	2
Fluoranthene	1000	989.43	1	1000	1014.85	1	1000	990.66	1
Pyrene	1000	977	2	1000	1010.87	1	1000	982.92	2
Benz[a]anthracene	1000	1058.65	6	1000	1080.04	8	1000	980.45	2
Chrysene	1000	875.72	12	1000	886.02	11	1000	819.04	18
Benzo[b]fluoranthene	1000	841.51	16	1000	850.06	15	1000	716.24	28
Benzo[k]fluoranthene	1000	869.81	13	1000	866.7	13	1000	753.4	25
Benzo[e]pyrene	1000	747.3	25	1000	747.95	25	1000	600.63	40
Benzo[a]pyrene	1000	862.88	14	1000	887.44	11	1000	721.08	28
Perylene	1000	789.11	21	1000	828.35	17	1000	698.55	30
Indeno[1,2,3-c,d]pyrene	1000	1189.05	19	1000	1434.86	43	1000	1395.29	40
Dibenz[a,h]anthracene	1000	1194.79	19	1000	1279.53	28	1000	1324.33	32
Benzo[g,h,i]perylene	1000	1082.39	8	1000	1113.8	11	1000	1011.73	1
Average	-	-	10	-	-	14	-	-	16

Organics - GC-MS-NCI

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Analytical Solutions
(EPA 8270C)

PHYSIS

Instrument Run Log

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

2013 Oct 24 1214 Sequence Log .LOG
Starting sequence Wed Oct 23 14:49:11 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MassHunter\GCMS\1\sequence\131023 NCI . sequence. xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131023 NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
------	------	------	----------	--------	-------------

Limits fail: EM Voltage

1)	Sample	141	HEX	HEX_NCI	HEX
2)	Sample	131	PBDE10	PYR_NCI	PBDE10
3)	Sample	132	PBDE25	PYR_NCI	PBDE25
4)	Sample	133	PBDE50	PYR_NCI	PBDE50
5)	Sample	134	PBDE75	PYR_NCI	PBDE75
6)	Sample	135	PBDE100	PYR_NCI	PBDE100
7)	Sample	136	PBDE200	PYR_NCI	PBDE200
8)	Sample	121	FIP25	PYR_NCI	FIP25
9)	Sample	122	FIP50	PYR_NCI	FIP50
10)	Sample	123	FIP100	PYR_NCI	FIP100
11)	Sample	124	FIP250	PYR_NCI	FIP250
12)	Sample	125	FIP500	PYR_NCI	FIP500
13)	Sample	126	FIP1000	PYR_NCI	FIP1000
14)	Sample	111	PYR25	PYR_NCI	PYR25
15)	Sample	112	PYR50	PYR_NCI	PYR50
16)	Sample	113	PYR100	PYR_NCI	PYR100
17)	Sample	114	PYR250	PYR_NCI	PYR250
18)	Sample	115	PYR500	PYR_NCI	PYR500
19)	Sample	116	PYR1000	PYR_NCI	PYR1000

Thu Oct 24 11:32:11 2013
Fatal sequence error detected.
Failed to write scan record to the data file.

D:\MassHunter\GCMS\1\data\131023 NCI\2013 Oct 23 1449 Sequence Log .LOG

Resuming sequence Thu Oct 24 12:14:18 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MassHunter\GCMS\1\sequence\131023 NCI . sequence. xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131023 NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
------	------	------	----------	--------	-------------

21)	Sample	101	TOX10KICVRR		
	Datafile		TOX10KICVRR		
	Method		PYR_NCI		
22)	Sample	102	TRAL01000ICV		
	Datafile		TRAL01000ICV		
	Method		PYR_NCI		
23)	Sample	103	PYR1000SPEX		
	Datafile		PYR1000SPEX		
	Method		PYR_NCI		

Limits fail: EM Voltage

24)	Sample	141	HEX2	HEX_NCI	HEX2
25)	Sample	1	B_5024	PYR_NCI	B_5024
26)	Sample	2	BS1_5024	PYR_NCI	BS1_5024

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2013 Oct 24 1214 Sequence Log . LOG
27) Sample      3 BS2_5024  PYR_NCI  BS2_5024
28) Sample      4 21958MS1 PYR_NCI  21958MS1
29) Sample      5 21958MS2 PYR_NCI  21958MS2
Limits fail: EM Voltage
30) Sample     141 HEX3      HEX_NCI  HEX3
31) Sample      6 21964      PYR_NCI  21964
32) Sample      7 21957      PYR_NCI  21957
33) Sample      8 21958      PYR_NCI  21958
34) Sample      9 21958R2    PYR_NCI  21958R2
35) Sample     10 21959      PYR_NCI  21959
36) Sample     11 21960      PYR_NCI  21960
37) Sample     12 21961      PYR_NCI  21961
38) Sample     13 21962      PYR_NCI  21962
39) Sample     14 21963      PYR_NCI  21963
40) Sample     116 PYR1000CCV
    Datafile      PYR1000CCV
    Method        PYR_NCI
41) Sample     101 TOX10KCCV
    Datafile      TOX10KCCV
    Method        PYR_NCI
42) Sample     102 TRAL01000CCV
    Datafile      TRAL01000CCV
    Method        PYR_NCI

```

Fri Oct 25 10:01:16 2013
 Fatal sequence error detected.
 User aborted run

D:\MassHunter\GCMS\1\data\131023 NCI\2013 Oct 24 1214 Sequence Log . LOG

2013 Oct 25 1635 Sequence Log .LOG
Starting sequence Fri Oct 25 12:55:34 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MassHunter\GCMS\1\sequence\131023 NCI . sequence.xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131023 NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
42)	Sample	102	TRAL01000CCV		
	Datafile		TRAL01000CCV		
	Method		PYR_NCI		
43)	Sample	136	PBDE200CCV		
	Datafile		PBDE200CCV		
	Method		PYR_NCI		
44)	Sample	126	FIP1000CCV		
	Datafile		FIP1000CCV		
	Method		PYR_NCI		

Fri Oct 25 16:34:54 2013
Fatal sequence error detected.
There was no bottle in the gripper.

D:\MassHunter\GCMS\1\data\131023 NCI\2013 Oct 25 1255 Sequence Log .LOG

Resuming sequence Fri Oct 25 16:35:31 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MassHunter\GCMS\1\sequence\131023 NCI . sequence.xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131023 NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
Limits fail: EM Voltage					
46)	Sample	141	HEX4	HEX_NCI	HEX4
47)	Sample	15	22036	PYR_NCI	22036
48)	Sample	16	22037	PYR_NCI	22037
49)	Sample	17	22038	PYR_NCI	22038
50)	Sample	18	22039	PYR_NCI	22039
51)	Sample	19	22040	PYR_NCI	22040
52)	Sample	20	22041	PYR_NCI	22041
53)	Sample	21	22042	PYR_NCI	22042
54)	Sample	22	22043	PYR_NCI	22043
55)	Sample	23	22044	PYR_NCI	22044
56)	Sample	116	PYR1000FCV		
	Datafile		PYR1000FCV		
	Method		PYR_NCI		
57)	Sample	101	TOX10KF CV		
	Datafile		TOX10KF CV		
	Method		PYR_NCI		
58)	Sample	102	TRAL01000FCV		
	Datafile		TRAL01000FCV		
	Method		PYR_NCI		
59)	Sample	136	PBDE200FCV		
	Datafile		PBDE200FCV		
	Method		PYR_NCI		
60)	Sample	126	FIP1000FCV		

Datafile	2013 Oct 25 1635 Sequence Log .LOG
Method	FIP1000FCV PYR_NCI

Sequence completed Sat Oct 26 07:57:56 2013

D:\MassHunter\GCMS\1\data\131023 NCI\2013 Oct 25 1635 Sequence Log .LOG

Fipronil & Degradates

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Initial Calibration Data

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Quantitative Analysis Calibration Report

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Batch Info

Batch Data Path	C:\Masshunter\Data\131023 NCI\QuantResults\O-5024.batch.bin		
Analysis Time	10/23/2013 1:45 AM	Analyst Name	ryanhong
Report Time	5/29/2014 5:09 PM	Reporter Name	ryanhong
Last Calib Update	10/29/2013 8:44 AM	Batch State	Processed

Calibration Information

Fipronil Desulfinyl

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\131023 NCI CURVES\FIP100.D	Calibration	4	110228	100.0000	1.6732	7.28
C:\msdchem\1\DATA\131023 NCI CURVES\FIP1000.D	Calibration	1	1057587	1000.0000	1.4727	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP25.D	Calibration	6	35165	25.0000	1.5828	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP250.D	Calibration	3	287803	250.0000	1.8380	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP50.D	Calibration	5	52194	50.0000	1.6656	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP500.D	Calibration	2	590187	500.0000	1.6544	

Fipronil Sulfide

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\131023 NCI CURVES\FIP100.D	Calibration	4	89560	100.0000	1.3595	8.74
C:\msdchem\1\DATA\131023 NCI CURVES\FIP1000.D	Calibration	1	937731	1000.0000	1.3058	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP25.D	Calibration	6	28771	25.0000	1.2950	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP250.D	Calibration	3	245957	250.0000	1.5707	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP50.D	Calibration	5	41188	50.0000	1.3144	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP500.D	Calibration	2	545180	500.0000	1.5283	

Fipronil

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\131023 NCI CURVES\FIP100.D	Calibration	4	21093	100.0000	0.3202	9.51
C:\msdchem\1\DATA\131023 NCI CURVES\FIP1000.D	Calibration	1	251955	1000.0000	0.3509	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP25.D	Calibration	6	6342	25.0000	0.2854	
C:\msdchem\1\DATA\131023 NCI CURVES\FIP250.D	Calibration	3	54429	250.0000	0.3476	

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\1310
23 NCI CURVES\FIP50.D Calibration 5 9184 50.0000 0.2931

C:\msdchem\1\DATA\1310
23 NCI CURVES\FIP500.D Calibration 2 127316 500.0000 0.3569

Fipronil Sulfone

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP100.D	Calibration	4	19076	100.0000	0.2896	27.49
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP1000.D	Calibration	1	239084	1000.0000	0.3329	
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP25.D	Calibration	6	2892	25.0000	0.1302	
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP250.D	Calibration	3	47336	250.0000	0.3023	
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP50.D	Calibration	5	9856	50.0000	0.3145	
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP500.D	Calibration	2	122199	500.0000	0.3426	
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2,2',5,5'-Tetrabromobiphenyl

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP100.D	Calibration	4	658798	1000.0000	658.7980	13.95
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP1000.D	Calibration	1	718110	1000.0000	718.1097	
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP25.D	Calibration	6	888686	1000.0000	888.6858	
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP250.D	Calibration	3	626349	1000.0000	626.3489	
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP50.D	Calibration	5	626710	1000.0000	626.7098	
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C:\msdchem\1\DATA\1310 23 NCI CURVES\FIP500.D	Calibration	2	713454	1000.0000	713.4542	
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PHYSIS

Continuing Calibration Data

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\Masshunter\Data\131023 NCI\QuantResults\O-5024.batch.bin		
Analysis Time	10/25/2013 3:07 PM	Analyst Name	ryanhong
Report Time	5/29/2014 5:09 PM	Reporter Name	ryanhong
Last Calib Update	10/29/2013 8:44 AM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	FIP1000CCV
Level		Data File	FIP1000CCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD 2,2',5,5'-	RT	Response	ISTD Resp	RR	Final Conc	
Fipronil Desulfinyl	Tetrabromobiphenyl	17.571	1202946	1830388	0.6572	430.6303	ng
Fipronil Sulfide	Tetrabromobiphenyl	19.609	1289015	1830388	0.7042	517.5540	ng
Fipronil	Tetrabromobiphenyl	19.930	322647	1830388	0.1763	501.5264	ng
Fipronil Sulfone	Tetrabromobiphenyl	22.246	484225	1830388	0.2645	794.8000	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\Masshunter\Data\131023 NCI\QuantResults\O-5024.batch.bin		
Analysis Time	10/26/2013 6:59 AM	Analyst Name	ryanhong
Report Time	5/29/2014 5:09 PM	Reporter Name	ryanhong
Last Calib Update	10/29/2013 8:44 AM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	FIP1000FCV
Level		Data File	FIP1000FCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD 2,2',5,5'-	RT	Response	ISTD Resp	RR	Final Conc	
Fipronil Desulfinyl	Tetrabromobiphenyl	17.521	1081011	1093032	0.9890	648.0356	ng
Fipronil Sulfide	Tetrabromobiphenyl	19.541	1002757	1093032	0.9174	674.2236	ng
Fipronil	Tetrabromobiphenyl	19.854	272532	1093032	0.2493	709.4040	ng
Fipronil Sulfone	Tetrabromobiphenyl	22.136	378868	1093032	0.3466	1041.3801	ng

	FIP1000 CCV			FIP1000 FCV		
	10/25/13 3:07 PM			10/26/13 6:59 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Fipronil Desulfinyl	1000	430.6303	56.94	1000	648.0356	35.20
Fipronil Sulfide	1000	517.5540	48.24	1000	674.2236	32.58
Fipronil	1000	501.5264	49.85	1000	709.4040	29.06
Fipronil Sulfone	1000	794.8000	20.52	1000	1041.3801	4.14
Average	-	-	43.89	-	-	25.24

PolyBrominated Diphenyl Ethers (PBDEs)

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	2,2',5,5' - Tetrabromobiphenyl	
	Response	Retention Time
PBDE10.D	8420757	16.8053
PBDE25.D	7138104	16.8051
PBDE50.D	6755020	16.8051
PBDE75.D	6636959	16.8051
PBDE100.D	7765091	16.8003
PBDE200.D	11371385	16.8003
PBDE049_90ICV.D	20744851	16.8051
B_5024.D	10777911	16.8004
BS1_5024.D	8213000	16.8003
BS2_5024.D	8212451	16.8003
21958MS1.D	11857487	16.8003
21958MS2.D	8490905	16.8003
21964.D	11309330	16.8392
21957.D	11751888	16.8051
21958.D	10774088	16.8051
21958R2.D	9170704	16.8051
21959.D	9723165	16.8100
21960.D	9572421	16.8100
PBDE100CCV.D	8179220	16.8003
21961.D	8825184	16.8053
21962.D	8772217	16.8100
21963.D	8379874	16.8051
22037.D	9431406	16.8100
22038.D	7534555	16.8051
22039.D	8831017	16.8051
22040.D	6816735	16.8051
22041.D	6922464	16.8051
22042.D	8701208	16.8051
22043.D	8353643	16.8051
22044.D	13173921	16.8051
22036.D	7719963	16.8051
PBDE100FCV.D	7232405	16.8051

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Batch Info

Batch Data Path	C:\Masshunter\Data\O-5024 PBDE\QuantResults\O-5024 PBDE.batch.bin		
Analysis Time	10/29/2013 12:57 PM	Analyst Name	eugenechae
Report Time	5/29/2014 7:28 PM	Reporter Name	ryanhong
Last Calib Update	11/1/2013 11:41 AM	Batch State	Processed

Calibration Information*(FTBDE)*

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	362466	50.0000	0.8609	9.34
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	337714	50.0000	0.8698	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	607995	50.0000	1.0693	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	307831	50.0000	0.8625	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	296957	50.0000	0.8792	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	282764	50.0000	0.8521	

PBDE017

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	52253	10.0000	0.6205	6.24
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	528996	100.0000	0.6812	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1704812	200.0000	0.7496	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	123267	25.0000	0.6908	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	223360	50.0000	0.6613	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	332929	75.0000	0.6688	

PBDE028

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	58500	10.0000	0.6947	9.32
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	566816	100.0000	0.7300	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1874211	200.0000	0.8241	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	117608	25.0000	0.6590	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	216999	50.0000	0.6425	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	338205	75.0000	0.6794	

2,2',5,5'Tetrabromobiphenyl

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	8420757	1000.0000	8420.7572	22.14
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	7765091	1000.0000	7765.0915	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	11371385	1000.0000	11371.3849	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	7138104	1000.0000	7138.1044	

C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	6755020	1000.0000	6755.0195
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	6636959	1000.0000	6636.9590

PBDE049

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	61371	10.0000	0.7288	5.22
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	585232	100.0000	0.7537	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1850487	200.0000	0.8137	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	133638	25.0000	0.7489	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	238360	50.0000	0.7057	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	355624	75.0000	0.7144	

PBDE071

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	54217	10.0000	0.6438	8.94
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	493999	100.0000	0.6362	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1680098	200.0000	0.7387	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	110183	25.0000	0.6174	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	192682	50.0000	0.5705	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	301875	75.0000	0.6065	

PBDE047

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	54571	10.0000	0.6481	11.41
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	454915	100.0000	0.5858	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1606336	200.0000	0.7063	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	103036	25.0000	0.5774	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	173451	50.0000	0.5135	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	279045	75.0000	0.5606	

PBDE066

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	76790	10.0000	0.9119	17.54
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	505778	100.0000	0.6513	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1657219	200.0000	0.7287	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	120178	25.0000	0.6734	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	194152	50.0000	0.5748	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	300050	75.0000	0.6028	

PBDE100

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	47004	10.0000	0.5582	9.08
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	424904	100.0000	0.5472	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1356524	200.0000	0.5965	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	92995	25.0000	0.5211	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	155825	50.0000	0.4614	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	246104	75.0000	0.4944	

(DFPBDE)

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	255002	50.0000	0.6057	13.12
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	271392	50.0000	0.6990	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	448005	50.0000	0.7880	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	211378	50.0000	0.5923	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	189019	50.0000	0.5596	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	205194	50.0000	0.6183	

PBDE099

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	50407	10.0000	0.5986	11.90
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	442583	100.0000	0.5700	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1386670	200.0000	0.6097	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	92620	25.0000	0.5190	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	148404	50.0000	0.4394	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	253216	75.0000	0.5087	

PBDE085

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	39462	10.0000	0.4686	10.84
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	360304	100.0000	0.4640	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1060242	200.0000	0.4662	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	72504	25.0000	0.4063	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	120379	50.0000	0.3564	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	199688	75.0000	0.4012	

PBDE154

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
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C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	44515	10.0000	0.5286	9.07
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	412441	100.0000	0.5311	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1209803	200.0000	0.5320	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	83023	25.0000	0.4652	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	142484	50.0000	0.4219	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	243445	75.0000	0.4891	

PBDE153

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	39939	10.0000	0.4743	9.21
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	390618	100.0000	0.5030	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1095420	200.0000	0.4817	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	80633	25.0000	0.4518	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	129283	50.0000	0.3828	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	219510	75.0000	0.4410	

PBDE138

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	33029	10.0000	0.3922	13.44
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	358264	100.0000	0.4614	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	993361	200.0000	0.4368	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	72370	25.0000	0.4055	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	102656	50.0000	0.3039	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	198720	75.0000	0.3992	

PBDE183

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	38071	10.0000	0.4521	13.07
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	311176	100.0000	0.4007	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	846727	200.0000	0.3723	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	66367	25.0000	0.3719	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	101259	50.0000	0.2998	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	185387	75.0000	0.3724	

PBDE190

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	13841	10.0000	0.1644	15.50
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	154666	100.0000	0.1992	

C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	367277	200.0000	0.1615
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	32494	25.0000	0.1821
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	41375	50.0000	0.1225
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	88271	75.0000	0.1773

PBDE209

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	1273	50.0000	0.0030	27.17
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	7426	500.0000	0.0019	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	19867	1000.0000	0.0017	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	2479	125.0000	0.0028	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	2622	250.0000	0.0016	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	5048	375.0000	0.0020	

PHYSIS

Continuing Calibration Data

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\Masshunter\Data\O-5024 PBDE\QuantResults\O-5024 PBDE.batch.bin		
Analysis Time	10/30/2013 1:40 AM	Analyst Name	eugenechae
Report Time	5/29/2014 7:28 PM	Reporter Name	ryanhong
Last Calib Update	11/1/2013 11:41 AM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	PBDE100CCV
Level		Data File	PBDE100CCV.D
Position		Acq Method File	NCI-15m PBDE.M
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphe nyl	15.255	361252	8179220	0.0442	49.1303	ng
PBDE017	2,2',5,5'Tetrabromobiphe nyl	15.812	567255	8179220	0.0694	95.5705	ng
PBDE028	2,2',5,5'Tetrabromobiphe nyl	16.161	585951	8179220	0.0716	91.3086	ng
PBDE049	2,2',5,5'Tetrabromobiphe nyl	18.147	554960	8179220	0.0679	86.0425	ng
PBDE071	2,2',5,5'Tetrabromobiphe nyl	18.239	492586	8179220	0.0602	86.0257	ng
PBDE047	2,2',5,5'Tetrabromobiphe nyl	18.539	438121	8179220	0.0536	80.8832	ng
PBDE066	2,2',5,5'Tetrabromobiphe nyl	18.873	486967	8179220	0.0595	85.4564	ng
PBDE100	2,2',5,5'Tetrabromobiphe nyl	20.375	392074	8179220	0.0479	83.8421	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphe nyl	20.709	245451	8179220	0.0300	46.6121	ng
PBDE099	2,2',5,5'Tetrabromobiphe nyl	20.878	402964	8179220	0.0493	84.2037	ng
PBDE085	2,2',5,5'Tetrabromobiphe nyl	21.740	319782	8179220	0.0391	86.0584	ng
PBDE154	2,2',5,5'Tetrabromobiphe nyl	22.336	367466	8179220	0.0449	86.0130	ng
PBDE153	2,2',5,5'Tetrabromobiphe nyl	23.048	343166	8179220	0.0420	87.9811	ng
PBDE138	2,2',5,5'Tetrabromobiphe nyl	23.910	304044	8179220	0.0372	86.1837	ng
PBDE183	2,2',5,5'Tetrabromobiphe nyl	25.058	277466	8179220	0.0339	90.6554	ng
PBDE190	2,2',5,5'Tetrabromobiphe nyl	26.206	140904	8179220	0.0172	102.5555	ng
PBDE209	2,2',5,5'Tetrabromobiphe nyl	30.119	9009	8179220	0.0011	609.5662	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\Masshunter\Data\O-5024 PBDE\QuantResults\O-5024 PBDE.batch.bin	Analyst Name	eugenechae
Analysis Time	10/30/2013 10:38 AM	Reporter Name	ryanhong
Report Time	5/29/2014 7:28 PM	Batch State	Processed
Last Calib Update	11/1/2013 11:41 AM		

Analysis Info

Acq Time		Sample Name	PBDE100FCV
Level		Data File	PBDE100FCV.D
Position		Acq Method File	NCI-15m PBDE.M
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphenyl	15.255	309637	7232405	0.0428	47.6234	ng
PBDE017	2,2',5,5'Tetrabromobiphenyl	15.812	486269	7232405	0.0672	92.6512	ng
PBDE028	2,2',5,5'Tetrabromobiphenyl	16.161	501377	7232405	0.0693	88.3577	ng
PBDE049	2,2',5,5'Tetrabromobiphenyl	18.152	491320	7232405	0.0679	86.1479	ng
PBDE071	2,2',5,5'Tetrabromobiphenyl	18.234	425242	7232405	0.0588	83.9869	ng
PBDE047	2,2',5,5'Tetrabromobiphenyl	18.544	375716	7232405	0.0519	78.4429	ng
PBDE066	2,2',5,5'Tetrabromobiphenyl	18.873	403822	7232405	0.0558	80.1428	ng
PBDE100	2,2',5,5'Tetrabromobiphenyl	20.375	328147	7232405	0.0454	79.3583	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphenyl	20.704	204635	7232405	0.0283	43.9482	ng
PBDE099	2,2',5,5'Tetrabromobiphenyl	20.878	337006	7232405	0.0466	79.6402	ng
PBDE085	2,2',5,5'Tetrabromobiphenyl	21.740	268715	7232405	0.0372	81.7824	ng
PBDE154	2,2',5,5'Tetrabromobiphenyl	22.336	294971	7232405	0.0408	78.0829	ng
PBDE153	2,2',5,5'Tetrabromobiphenyl	23.048	275923	7232405	0.0382	80.0022	ng
PBDE138	2,2',5,5'Tetrabromobiphenyl	23.910	245449	7232405	0.0339	78.6828	ng
PBDE183	2,2',5,5'Tetrabromobiphenyl	25.058	226894	7232405	0.0314	83.8371	ng
PBDE190	2,2',5,5'Tetrabromobiphenyl	26.211	119439	7232405	0.0165	98.3133	ng
PBDE209	2,2',5,5'Tetrabromobiphenyl	30.119	9660	7232405	0.0013	739.1707	ng

	PBDE100 CCV			PBDE100 FCV		
	10/30/13 1:40 AM			10/30/13 10:38 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PBDE017	100	95.5705	4.43	100	92.6512	7.35
PBDE028	100	91.3086	8.69	100	88.3577	11.64
PBDE049	100	86.0425	13.96	100	86.1479	13.85
PBDE071	100	86.0257	13.97	100	83.9869	16.01
PBDE047	100	80.8832	19.12	100	78.4429	21.56
PBDE066	100	85.4564	14.54	100	80.1428	19.86
PBDE100	100	83.8421	16.16	100	79.3583	20.64
PBDE099	100	84.2037	15.80	100	79.6402	20.36
PBDE085	100	86.0584	13.94	100	81.7824	18.22
PBDE154	100	86.0130	13.99	100	78.0829	21.92
PBDE153	100	87.9811	12.02	100	80.0022	20.00
PBDE138	100	86.1837	13.82	100	78.6828	21.32
PBDE183	100	90.6554	9.34	100	83.8371	16.16
PBDE190	100	102.5555	2.56	100	98.3133	1.69
PBDE209	500	609.5662	21.91	500	739.1707	47.83
Average	-	-	12.95	-	-	18.56

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Pyrethroids

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Summary of Internal Standards

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	2,2',5,5' - Tetrabromobiphenyl	
	Response	Retention Time
TRALO1000ICV.D	659337	25.1376
PYR1000SPEX.D	771891	25.0953
B_5024.D	1468891	25.0362
BS1_5024.D	1703336	25.0108
BS2_5024.D	1700302	25.0023
21958MS1.D	2108317	24.9854
21958MS2.D	2115480	24.9770
21964.D	1451439	24.9939
21957.D	2276267	24.9516
21958.D	1904097	24.9432
21958R2.D	1829360	24.9347
21959.D	1899326	24.9178
21960.D	1927079	24.9178
21961.D	1971899	24.9009
21962.D	1560273	24.8924
21963.D	1733017	24.8755
PYR1000CCV.D	977217	24.8924
TRALO1000CCV.D	1818447	24.8679
22036.D	2727498	24.8080
22037.D	2407241	24.7995
22038.D	2819943	24.7825
22039.D	2476010	24.7825
22040.D	2320762	24.7741
22041.D	2606261	24.7656
22042.D	2077278	24.7656
22043.D	2419115	24.7572
22044.D	2449562	24.7487
PYR1000FCV.D	1431015	24.7572
TRALO1000FCV.D	1210736	24.7572

PHYSIS

Initial Calibration Data

TERRA FAUNA FLORA AQUA AURA
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Quantitative Analysis Calibration Report

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Batch Info

Batch Data Path	C:\Masshunter\Data\131023 NCI\QuantResults\O-5024 PYR.batch.bin		
Analysis Time	10/24/2013 11:32 AM	Analyst Name	ryanhong
Report Time	5/29/2014 4:41 PM	Reporter Name	ryanhong
Last Calib Update	11/1/2013 4:40 PM	Batch State	Processed

Calibration Information

Allethrin

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\131023 NCI CURVES\PYR100.D	Calibration	4	9647	100.0000	0.1369	20.88
C:\msdchem\1\DATA\131023 NCI CURVES\PYR1000.D	Calibration	1	172858	1000.0000	0.2266	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR25.D	Calibration	6	2758	25.0000	0.1438	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR250.D	Calibration	3	34927	250.0000	0.1731	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR50.D	Calibration	5	4284	50.0000	0.1462	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR500.D	Calibration	2	67821	500.0000	0.1984	

Prallethrin

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\131023 NCI CURVES\PYR100.D	Calibration	4	69544	100.0000	0.9870	20.29
C:\msdchem\1\DATA\131023 NCI CURVES\PYR1000.D	Calibration	1	1171056	1000.0000	1.5350	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR25.D	Calibration	6	20849	25.0000	1.0866	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR250.D	Calibration	3	220363	250.0000	1.0924	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR50.D	Calibration	5	32147	50.0000	1.0974	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR500.D	Calibration	2	528290	500.0000	1.5451	

Resmethrin

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\131023 NCI CURVES\PYR100.D	Calibration	4	53933	100.0000	0.7655	21.24
C:\msdchem\1\DATA\131023 NCI CURVES\PYR1000.D	Calibration	1	987470	1000.0000	1.2944	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR25.D	Calibration	6	16197	25.0000	0.8441	
C:\msdchem\1\DATA\131023 NCI CURVES\PYR250.D	Calibration	3	190465	250.0000	0.9442	

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\1310
23 NCI CURVES\PYR50.D Calibration 5 24359 50.0000 0.8315

C:\msdchem\1\DATA\1310
23 NCI CURVES\PYR500.D Calibration 2 390386 500.0000 1.1418

(PCB112)

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	81282	400.0000	0.2884	6.29
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	92596	400.0000	0.3034	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	92570	400.0000	0.3015	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	83027	400.0000	0.2572	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	71872	400.0000	0.3067	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	78506	400.0000	0.2870	

TBBP

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	704570	1000.0000	704.5701	10.99
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	762895	1000.0000	762.8955	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	767526	1000.0000	767.5256	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	806894	1000.0000	806.8945	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	585883	1000.0000	585.8831	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	683807	1000.0000	683.8073	

Bifenthrin

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	15943	100.0000	0.2263	8.30
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	207118	1000.0000	0.2715	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	5597	25.0000	0.2917	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	54132	250.0000	0.2683	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	7466	50.0000	0.2549	

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\1310
23 NCI CURVES\PYR500.D Calibration 2 92740 500.0000 0.2712

Danitol (Fenpropathrin)

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	41260	100.0000	0.5856	9.57
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	456874	1000.0000	0.5989	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	10217	25.0000	0.5324	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	140017	250.0000	0.6941	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	16234	50.0000	0.5542	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	195180	500.0000	0.5709	

L-Cyhalothrin

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	12893	100.0000	0.1830	4.83
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	139416	1000.0000	0.1827	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	3676	25.0000	0.1916	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	39462	250.0000	0.1956	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	5313	50.0000	0.1814	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	58149	500.0000	0.1701	

(PCB198)

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	16701	400.0000	0.0593	4.66
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	16665	400.0000	0.0546	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	19143	400.0000	0.0624	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	19647	400.0000	0.0609	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	13810	400.0000	0.0589	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	15614	400.0000	0.0571	

Quantitative Analysis Calibration Report

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Permethrin-cis

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	937	26.7000	0.0498	20.80
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	6757	267.0000	0.0332	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	0	6.6750	0.0000	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	2133	66.7500	0.0396	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	0	13.3500	0.0000	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	3895	133.5000	0.0427	

Permethrin-trans

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	509	71.6000	0.0101	26.76
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	8519	716.0000	0.0156	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	0	17.9000	0.0000	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	2908	179.0000	0.0201	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	0	35.8000	0.0000	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	4187	358.0000	0.0171	

Cyfluthrin-1

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR100.D	Calibration	4	3127	100.0000	0.0444	11.47
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR1000.D	Calibration	1	32457	1000.0000	0.0425	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR25.D	Calibration	6	1106	25.0000	0.0576	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR250.D	Calibration	3	10021	250.0000	0.0497	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR50.D	Calibration	5	1589	50.0000	0.0542	
C:\msdchem\1\DATA\1310 23 NCI CURVES\PYR500.D	Calibration	2	17106	500.0000	0.0500	

Cyfluthrin-2

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
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Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	2924	100.0000	0.0415	23.41
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	35356	1000.0000	0.0463	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	495	25.0000	0.0258	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	10536	250.0000	0.0522	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	981	50.0000	0.0335	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	13703	500.0000	0.0401	

Cyfluthrin-3

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	2609	100.0000	0.0370	16.52
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	36133	1000.0000	0.0474	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	949	25.0000	0.0495	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	11450	250.0000	0.0568	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	1093	50.0000	0.0373	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	15971	500.0000	0.0467	

Cyfluthrin-4

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	3791	100.0000	0.0538	13.06
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	32506	1000.0000	0.0426	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	1036	25.0000	0.0540	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	10673	250.0000	0.0529	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	1761	50.0000	0.0601	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	15016	500.0000	0.0439	

Cypermethrin-1

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	2824	100.0000	0.0401	17.57

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR1000.D	Calibration	1	32317	1000.0000	0.0424
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR25.D	Calibration	6	1147	25.0000	0.0598
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR250.D	Calibration	3	9461	250.0000	0.0469
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR50.D	Calibration	5	1125	50.0000	0.0384
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR500.D	Calibration	2	14122	500.0000	0.0413

Cypermethrin-2

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	1826	100.0000	0.0259	13.11
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	23026	1000.0000	0.0302	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	437	25.0000	0.0227	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	6126	250.0000	0.0304	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	659	50.0000	0.0225	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	8778	500.0000	0.0257	

Cypermethrin-3

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	2796	100.0000	0.0397	15.04
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	37574	1000.0000	0.0493	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	940	25.0000	0.0490	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	10159	250.0000	0.0504	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	984	50.0000	0.0336	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	14712	500.0000	0.0430	

Cypermethrin-4

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	3896	100.0000	0.0553	15.08
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	28965	1000.0000	0.0380	

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR25.D	Calibration	6	979	25.0000	0.0510
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR250.D	Calibration	3	8097	250.0000	0.0401
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR50.D	Calibration	5	1234	50.0000	0.0421
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR500.D	Calibration	2	14584	500.0000	0.0427

Fenvalerate

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	27418	100.0000	0.3891	8.66
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	304380	1000.0000	0.3990	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	7130	25.0000	0.3716	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	93152	250.0000	0.4618	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	11057	50.0000	0.3775	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	127444	500.0000	0.3727	

Fluvalinate

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	7547	100.0000	0.1071	9.98
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	72859	1000.0000	0.0955	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	0	25.0000	0.0000	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	23491	250.0000	0.1165	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	3563	50.0000	0.1216	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	34426	500.0000	0.1007	

Esfenvalerate

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	22383	100.0000	0.3177	12.60
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	250308	1000.0000	0.3281	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	8227	25.0000	0.4287	

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR250.D	Calibration	3	78571	250.0000	0.3895
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR50.D	Calibration	5	9777	50.0000	0.3338
C:\msdchem\1\DATA\1310					
23 NCI CURVES\PYR500.D	Calibration	2	111866	500.0000	0.3272

Deltamethrin/Tralomethrin

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR100.D	Calibration	4	262	100.0000	0.0037	139.98
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR1000.D	Calibration	1	4920	1000.0000	0.0064	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR25.D	Calibration	6	1050	25.0000	0.0547	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR250.D	Calibration	3	423	250.0000	0.0021	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR50.D	Calibration	5	637	50.0000	0.0218	
C:\msdchem\1\DATA\1310						
23 NCI CURVES\PYR500.D	Calibration	2	319	500.0000	0.0009	

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Continuing Calibration Data

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path C:\Masshunter\Data\131023 NCI\QuantResults\O-5024 PYR.batch.bin
Analysis Time 10/24/2013 2:24 PM **Analyst Name** ryanhong
Report Time 5/29/2014 4:41 PM **Reporter Name** ryanhong
Last Calib Update 11/1/2013 4:40 PM **Batch State** Processed

Analysis Info

Acq Time
Level
Position
Sample Type Sample
Dilution 1

Sample Name PYR1000SPEX
Data File PYR1000SPEX.D
Acq Method File PYR_NCI.m
Sample Info
Comment

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
Allethrin	TBBP	19.778	0	771891	0.0000	0.0000	ng/ml
Prallethrin	TBBP	19.778	1064186	771891	1.3787	912.4943	ng/ml
Resmethrin	TBBP	20.226	642521	771891	0.8324	669.1240	ng/ml
(PCB112)	TBBP	21.629	81175	771891	0.1052	361.7364	ng/ml
Bifenthrin	TBBP	27.386	195897	771891	0.2538	936.7243	ng
Danitol (Fenpropathrin)	TBBP	27.961	485741	771891	0.6293	1052.5647	ng
L-Cyhalothrin	TBBP	30.413	147485	771891	0.1911	1055.8262	ng
(PCB198)	TBBP	30.709	16960	771891	0.0220	373.3472	ng/ml
Permethrin-cis	TBBP	32.839	4825	771891	0.0063	177.0095	ng
Permethrin-trans	TBBP	33.279	11098	771891	0.0144	897.7420	ng/ml
Cyfluthrin-1	TBBP	34.843	33505	771891	0.0434	979.0330	ng
Cyfluthrin-2	TBBP	35.181	37898	771891	0.0491	1082.1694	ng
Cyfluthrin-3	TBBP	35.409	37308	771891	0.0483	1015.6713	ng
Cyfluthrin-4	TBBP	35.570	37582	771891	0.0487	1120.1940	ng
Cypermethrin-1	TBBP	35.916	36789	771891	0.0477	1125.1668	ng
Cypermethrin-2	TBBP	36.280	29217	771891	0.0379	1292.2407	ng
Cypermethrin-3	TBBP	36.500	40263	771891	0.0522	1086.0487	ng
Cypermethrin-4	TBBP	36.660	35238	771891	0.0457	1167.5893	ng
Fenvalerate	TBBP	39.475	356048	771891	0.4613	1162.2754	ng
Esfenvalerate	TBBP	40.354	303390	771891	0.3930	1188.1614	ng
Fluvalinate	TBBP	40.464	93467	771891	0.1211	1241.1525	ng
Deltamethrin/Tralomethrin	TBBP	43.026	4962	771891		1228.1959	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\Masshunter\Data\131023 NCI\QuantResults\O-5024 PYR.batch.bin		
Analysis Time	10/25/2013 7:26 AM	Analyst Name	ryanhong
Report Time	5/29/2014 4:41 PM	Reporter Name	ryanhong
Last Calib Update	11/1/2013 4:40 PM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	PYR1000CCV
Level		Data File	PYR1000CCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
Allethrin	TBBP	19.592	234483	977217	0.2400	1101.3257	ng/ml
Prallethrin	TBBP	19.668	1189883	977217	1.2176	805.9011	ng/ml
Resmethrin	TBBP	20.099	1113414	977217	1.1394	915.8852	ng/ml
(PCB112)	TBBP	21.494	98104	977217	0.1004	345.3224	ng/ml
Bifenthrin	TBBP	27.200	202488	977217	0.2072	764.8004	ng
Danitol (Fenpropathrin)	TBBP	27.741	612144	977217	0.6264	1047.7612	ng
L-Cyhalothrin	TBBP	30.176	197728	977217	0.2023	1118.0932	ng
(PCB198)	TBBP	30.480	16583	977217	0.0170	288.3462	ng/ml
Permethrin-cis	TBBP	32.585	8465	977217	0.0087	245.2872	ng
Permethrin-trans	TBBP	33.008	11283	977217	0.0115	720.9218	ng/ml
Cyfluthrin-1	TBBP	34.564	56332	977217	0.0576	1300.1901	ng
Cyfluthrin-2	TBBP	34.885	56127	977217	0.0574	1265.9282	ng
Cyfluthrin-3	TBBP	35.130	52212	977217	0.0534	1122.7618	ng
Cyfluthrin-4	TBBP	35.282	47590	977217	0.0487	1120.4463	ng
Cypermethrin-1	TBBP	35.629	50688	977217	0.0519	1224.5124	ng
Cypermethrin-2	TBBP	35.975	37468	977217	0.0383	1308.9934	ng
Cypermethrin-3	TBBP	36.212	53137	977217	0.0544	1132.1591	ng
Cypermethrin-4	TBBP	36.356	40336	977217	0.0413	1055.6936	ng
Fenvalerate	TBBP	39.103	406889	977217	0.4164	1049.1598	ng
Esfenvalerate	TBBP	39.949	336838	977217	0.3447	1041.9794	ng
Fluvalinate	TBBP	40.050	100918	977217	0.1033	1058.5306	ng
Deltamethrin/Tralomethrin	TBBP	41.437	6373	977217		1245.8860	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\Masshunter\Data\131023 NCI\QuantResults\O-5024 PYR.batch.bin		
Analysis Time	10/26/2013 2:43 AM	Analyst Name	ryanhong
Report Time	5/29/2014 4:41 PM	Reporter Name	ryanhong
Last Calib Update	11/1/2013 4:40 PM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	PYR1000FCV
Level		Data File	PYR1000FCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
Allethrin	TBBP	19.524	292035	1431015	0.2041	936.6663	ng/ml
Prallethrin	TBBP	19.592	1404663	1431015	0.9816	649.6753	ng/ml
Resmethrin	TBBP	20.015	1292049	1431015	0.9029	725.7888	ng/ml
(PCB112)	TBBP	21.384	129636	1431015	0.0906	311.6078	ng/ml
Bifenthrin	TBBP	27.082	219616	1431015	0.1535	566.4474	ng
Danitol (Fenpropathrin)	TBBP	27.589	801838	1431015	0.5603	937.2216	ng
L-Cyhalothrin	TBBP	30.015	320028	1431015	0.2236	1235.7882	ng
(PCB198)	TBBP	30.320	27885	1431015	0.0195	331.1051	ng/ml
Permethrin-cis	TBBP	32.416	10875	1431015	0.0076	215.1983	ng
Permethrin-trans	TBBP	32.831	14836	1431015	0.0104	647.3129	ng/ml
Cyfluthrin-1	TBBP	34.378	109148	1431015	0.0763	1720.3517	ng
Cyfluthrin-2	TBBP	34.699	106205	1431015	0.0742	1635.8097	ng
Cyfluthrin-3	TBBP	34.944	100552	1431015	0.0703	1476.5670	ng
Cyfluthrin-4	TBBP	35.088	90635	1431015	0.0633	1457.1901	ng
Cypermethrin-1	TBBP	35.443	97146	1431015	0.0679	1602.6294	ng
Cypermethrin-2	TBBP	35.781	73643	1431015	0.0515	1756.9342	ng
Cypermethrin-3	TBBP	36.026	99835	1431015	0.0698	1452.5819	ng
Cypermethrin-4	TBBP	36.161	77342	1431015	0.0540	1382.3115	ng
Fenvalerate	TBBP	38.858	838919	1431015	0.5862	1477.1775	ng
Esfenvalerate	TBBP	39.695	698434	1431015	0.4881	1475.4033	ng
Fluvalinate	TBBP	39.797	185823	1431015	0.1299	1331.0039	ng
Deltamethrin/Tralomethrin	TBBP	41.158	16031	1431015		2140.0946	ng

	PYR1000 ICV			PYR1000 CCV			PYR1000 FCV		
	10/24/13 2:24 PM			10/25/13 7:26 AM			10/26/13 2:43 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Allethrin	0	0.0000	NA	1000	1101.3257	10.13	1000	936.6663	6.33
Prallethrin	1000	912.4943	8.75	1000	805.9011	19.41	1000	649.6753	35.03
Resmethrin	1000	669.1240	33.09	1000	915.8852	8.41	1000	725.7888	27.42
(PCB112)	400	361.7364	9.57	400	345.3224	13.67	400	311.6078	22.10
Bifenthrin	1000	936.7243	6.33	1000	764.8004	23.52	1000	566.4474	43.36
Danitol (Fenprothrin)	1000	1052.5647	5.26	1000	1047.7612	4.78	1000	937.2216	6.28
L-Cyhalothrin	1000	1055.8262	5.58	1000	1118.0932	11.81	1000	1235.7882	23.58
(PCB198)	400	373.3472	6.66	400	288.3462	27.91	400	331.1051	17.22
Permethrin-cis	267	177.0095	33.70	267	245.2872	8.13	267	215.1983	19.40
Permethrin-trans	716	897.7420	25.38	716	720.9218	0.69	716	647.3129	9.59
Cyfluthrin-1	1000	979.0330	2.10	1000	1300.1901	30.02	1000	1720.3517	72.04
Cyfluthrin-2	1000	1082.1694	8.22	1000	1265.9282	26.59	1000	1635.8097	63.58
Cyfluthrin-3	1000	1015.6713	1.57	1000	1122.7618	12.28	1000	1476.5670	47.66
Cyfluthrin-4	1000	1120.1940	12.02	1000	1120.4463	12.04	1000	1457.1901	45.72
Cypermethrin-1	1000	1125.1668	12.52	1000	1224.5124	22.45	1000	1602.6294	60.26
Cypermethrin-2	1000	1292.2407	29.22	1000	1308.9934	30.90	1000	1756.9342	75.69
Cypermethrin-3	1000	1086.0487	8.60	1000	1132.1591	13.22	1000	1452.5819	45.26
Cypermethrin-4	1000	1167.5893	16.76	1000	1055.6936	5.57	1000	1382.3115	38.23
Fenvalerate	1000	1162.2754	16.23	1000	1049.1598	4.92	1000	1477.1775	47.72
Fluvalinate	1000	1188.1614	18.82	1000	1041.9794	4.20	1000	1475.4033	47.54
Esfenvalerate	1000	1241.1525	24.12	1000	1058.5306	5.85	1000	1331.0039	33.10
Deltamethrin/Tralomethrin	1000	1228.1959	22.82	1000	1245.8860	24.59	1000	2140.0946	114.01
Average	-	-	14.63	-	-	14.59	-	-	40.96

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Summary of Internal Standards

TERRA FACTORY AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

	2,2',5,5' - Tetrabromobiphenyl	
	Response	Retention Time
TOX10KICV.D	553142	19.6173
TOX10KICVRR.D	836752	25.1377
B_5024.D	1470030	25.0362
BS1_5024.D	114583	23.6751
BS2_5024.D	125579	23.6582
21958MS1.D	169144	23.6497
21958MS2.D	171616	23.6413
21964.D	1453956	24.9939
21957.D	2275965	24.9516
21958.D	1905244	24.9432
21958R2.D	1829815	24.9347
21959.D	1899725	24.9178
21960.D	1927128	24.9178
21961.D	1972556	24.9009
21962.D	1561715	24.8924
21963.D	1734166	24.8755
TOX10KCCV.D	982463	24.8840
22036.D	2728323	24.8080
22037.D	2408711	24.7995
22038.D	2821018	24.7825
22039.D	2476812	24.7825
22040.D	2322072	24.7741
22041.D	2607301	24.7656
22042.D	2078019	24.7656
22043.D	2420267	24.7572
22044.D	2451852	24.7487
TOX10KFCV.D	1266400	24.7487

PHYSIS

Continuing Calibration Data

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	TOX10000 CCV			TOX10000 FCV		
	10/25/13 8:29 PM			10/26/13 3:47 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Toxaphene	10000	8427.6801	15.72	10000	8260.3746	17.40

June 02, 2014

Chris Stransky
 AMEC
 9210 Sky Park Court
 Suite 200
 San Diego, CA 92123-

Project Name: RHMP B'13
 Physis Project ID: 1307002-006

Dear Chris,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 8/12/2013. A total of 10 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventionals
Percent Solids by SM 2540B
Ammonia as N by SM 4500-NH ₃ D
Acid Volatile Sulfides (AVS) by Plumb, 1981 and TERL
Elements
Trace Metals by EPA 6020
Trace Mercury by EPA 245.7
Total Phosphorus by EPA 6020
Simultaneously Extracted Metals Analysis (AVS-SEM) by EPA 200.8
Organics
Toxaphene w/ OCPs by EPA 8270C-NCI
Synthetic Pyrethroid Pesticides by EPA 8270C-NCI
Polynuclear Aromatic Hydrocarbons by EPA 8270C
PBDE Congeners by EPA 8270C-NCI
Organochlorine Pesticides & PCB Congeners/Aroclors by EPA 8270C
Fipronil & Degradates by EPA 8270C-NCI
Subcontract
Total Organic Carbon by SM 5310 B
Total Nitrogen by SM 4500-N

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

Misty Mercier
Extension 202
714-335-5918 cell
mistymercier@physislabs.com

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and are used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use was assessed through the analysis of procedural blanks at a minimum frequency of one per batch. Physis' QM requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the procedural blanks be flagged in the project sample results with a B qualifier.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS1/MS2, BS1/BS2, LCS1/LCS2, LCM1/LCM2, CRM1/CRM2, surrogate spikes and/or replicate project sample analysis (R1/R2) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

MATRIX SPIKES: MS samples were employed to assess the effect a particular project sample matrix has on the accuracy of a measurement. It is prepared by adding a known amount of the target analyte(s) to an aliquot of the project sample. Matrix spikes indicate the bias of analytical measurements due to chemical interferences inherent in the sample matrix. If the matrix spike recovery does not fall within the specified acceptance limits, it may be an indication of sample matrix interference in the specific project sample used for the MS. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

BLANK SPIKES: BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

CERTIFIED REFERENCE MATERIALS: CRMs are pre-homogenized materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of a preparation and analytical method. CRMs are analyzed to provide evidence that the laboratory method produces results that are comparable to those obtained by an independent organization.

SURROGATES: Where CRMs are unavailable, target analyte recovery can be assessed by monitoring added surrogate compounds/elements. A surrogate is a pure analyte unlikely to be found in any project sample and most often used with organic analytical procedures. Percent recovery is calculated for each surrogate and is used to monitor method performance within each discrete sample and is indicative of the procedure's ability to recover the actual analytes of interest.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored

under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes. Physis' QM requires that all samples analyzed beyond the method recommended holding time be flagged in the sample results with an H qualifier.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
*	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified recovery and/or RPD acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore MS recovery and/or RPD acceptance limits do not apply
SL	analyte results for R1 and/or R2 were lower than 10 times the MDL, therefore RPD acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore MS recovery and/or RPD were outside the specified acceptance limits
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples



CASE NARRATIVE

QUALIFIER NOTES

In addition to the use of analyte specific Physis Qualifier Codes where applicable, the following were also noted.

ELEMENTS CRM: Five elements, Aluminum (Al), Antimony (Sb), Beryllium (Be), Chromium (Cr), and Iron (Fe) were above the specified acceptance limits in one or more CRM - RTC 016-050 and/or CRM - ERA 540. This occurred as a result of a more rigorous digestion employed by Physis, which causes a higher yield for some lithogenous elements. These values are in agreement with past internal results for CRM - RTC 016-050 and CRM - ERA 540.

ELEMENTS: A calibration point in the middle of the curve (50 PPB mix) was not used for the calibration of the instrument. This was due to the calibration solution not being spiked with internal standard.

ORGANICS TUNE: Physis uses the software supplied with its Agilent GCMS systems to tune its instruments. Moreover, with today's technology software algorithms provided by the instrument manufacturer provide a more stable system across a wider mass range than manual tuning to achieve specific tuning targets such as DFTPP. The following quote is from EPA Method 8270D Section 11.3.1.

"The analyst is always free to choose criteria that are tighter than those included in this method or to use other documented criteria provided they are used consistently throughout the initial calibration, calibration verification, and sample analyses."

The key here is that the instrument is tuned and that those tune settings are used for the subsequent analysis of the calibration curve, calibration verification, and samples. Moreover, another key reason for tuning to specific criteria is to insure that the GCMS is generating spectra that match the spectra in the NIST Library for confirming the identification of the target analyte. Physis can provide library search results for our calibration standards indicating a very high match quality with the NIST library spectra.

Physis did analyze the DFTPP tune solution with each batch (except for the first batch where the tune solution was mis-injected) and the passing tune reports have been provided indicating that using the instrument tuning software is closely matched to DFTPP tune requirements.



ORGANICS: The samples from this batch contained an unusual amount of humic acids and other compounds that interfered with the pyrethroid analysis of the "non-cleaned" extracts. Therefore pyrethroid quantitation was performed on the "cleaned up" extracts and not all the pyrethroid compounds successfully make it through the cleanup system. Therefore we are reporting the results for the blank spikes for the "cleaned up" extracts because they more closely represent what happened with the samples.

ORGANICS CALIBRATION: A calibration point in the middle of the curve (100 ng) for PCB201 was not used for the calibration of the instrument. This was an error of the analyst that has since been corrected.

Revisions 6/11/2014-

- Aroclors:
 - Updated Aroclor MDLs/RLs from 10/20 to 1/2
 - Added Aroclor 1262 and Aroclor 1268
 - After review of the data, the Technical Director made a decision to revise the data for the Aroclors
- RPDs:
 - Reviewed and updated all RPDs to 25%, per the RHMP QAPP. Revised Passes to Fails and added QA Qualifiers, where needed due to update.
- Acceptance Ranges
 - Reviewed and updated all Acceptance ranges per the RHMP QAPP. Revised Passes to Fails and added QA Qualifier, where needed due to update.
- After review of the QC, the Technical Director re-quantified and updated the results for BS1/BS2, Toxaphene and Benzo[a]pyrene.
- Added verbiage to the case narrative regarding Blank Spike fails for Organics for 006 and 008. For 008, added verbiage for Blank Spike fails for Conventionals.
- Fixed a formatting issue with the QAQC section of the report where "PASS" was incorrectly shown for B1 and R2 in the acceptance range column.

Revisions 8/20/2014-

- Analytical Report:
 - Added Time Analyzed to all analysis.
- Revised QC for Pyrethroids
 - Upon reviewing the data, we noted an error in the QC data for pyrethroids. The values have been corrected.



Performance-Based Chemistry-

The chemistry results provided in this report are derived from “performance-based” chemistry rather than the use of specific EPA published laboratory methods. This does not eliminate our responsibility to use Good Laboratory Practices. It does allow for incorporation of improvements in technology or the use of laboratory preferences for techniques that improve the efficiency and sensitivity of the laboratory and maintain or enhance the quality of the data.

“The Environmental Protection Agency (EPA) is actively working to implement the President’s program for reinventing government and reforming regulatory policy. As part of this program, EPA has been working at breaking down barriers to using new monitoring techniques. One barrier is the requirement to use specific measurement methods or technologies in complying with some of the Agency’s regulations. EPA’s Environmental Monitoring Management Council (EMMC), members of the regulated community, and Congress agree that EPA needs to change the way it specifies monitoring requirements in regulations and permits. There is broad acceptance for Agency-wide use of a nonprescriptive performance-based measurement system (PBMS)”. PBMS conveys "what" needs to be accomplished, but not prescriptively "how" to do it. EPA defines PBMS as a set of processes wherein the data needs, mandates, or limitations of a program or project are specified, and serve as criteria for selecting appropriate methods to meet those needs in a cost-effective manner. The criteria may be published in regulations, technical guidance documents, permits, work plans, or enforcement orders. Under a performance-based approach, EPA would specify:

- Questions to be answered by monitoring.
- Decisions to be supported by the data.
- Level of uncertainty acceptable for making decisions.
- Documentation to be generated to support this approach in the RCRA monitoring program.

(Taken from OSWER PBMS Implementation Plan, October 9, 1998, A Cooperative Effort Among: OSW, OERR, OUST, TIO, FFROL and CEPPO).”

The US EPA has included references to being “performance-based” in many of their newer methods. The use of performance-based methods is even more critical for programs like this study in order to allow the laboratory to adapt methods that optimize the goal of the project in terms of achieving ultra-low sensitivity and analysis of new chemicals of concern. I would also like to quote US EPA Method 8270-



“In addition, SW-846 methods, with the exception of required method use for the analysis of method-defined parameters, are intended to be guidance methods which contain general information on how to perform an analytical procedure or technique which a laboratory can use as a basic starting point for generating its own detailed Standard Operating Procedure (SOP), either for its own general use or for a specific project application.”

Performance-based chemistry was first used for NOAA’s National Status and Trends Program in the early 1980’s which is now operated under the US EPA as the National Coastal Condition Assessment Program (NCCA). The NS&T program included 3 large well-established laboratories for the analysis of samples from each of 3 regions of the United States. It was concluded at the beginning of this program that a significant improvement in the quality and comparability of the results would be achieved by allowing the participating laboratories to optimize their own individual methods. The key to this approach and any subsequent performance-based chemistry programs is the successful inclusion of an interlaboratory comparison as well as the clear detailed specification of data quality objectives (DQOs) for the project. All the Bight Survey projects from 1994 to 2013 have been performance-based and each of the surveys included interlaboratory comparisons as a key component for ensuring high quality data that is comparable between laboratories over time.

The one area that has not evolved along with the advent of performance-based chemistry is the data validation process. Today’s data validation process still relies upon collecting and evaluating laboratory analytical information and comparing it to the details of a specific EPA analytical method such as EPA 8270 for GCMS analysis or EPA 6020 for ICPMS analysis. This can occur even when the requirement in the method is out-dated and based on old technology. Data validation procedures need to be adapted to performance-based chemistry allowing for any individual laboratory to use or not use any method or any part of a method they choose as long as they can demonstrate their ability to successfully pass interlaboratory comparisons, performance evaluation samples, and meet the data quality objectives of the project QA Plan.

EPA Method Modifications-

With reference to performance-based methods, the following information is provided as a basis of comparison between the Physis methods used for this study and the associated EPA Method. Its purpose is solely to provide information and is not intended to highlight errors. Physis has successfully participated in several interlaboratory comparison studies including the Bight 13 Project demonstrating the viability of our analytical process. Physis has included the QAQC data in this report necessary to show that the results comply with the project QA Plan and indicate acceptable accuracy and precision.



1. Internal Laboratory QAQC Frequency for GCMS Analyses- Physis uses GC columns that are longer and narrower and the GC oven is programmed at a very slow rate of 2.5°C per minute both of which are not typically used by most laboratories. The purpose for this is to maximize separation of the 100's to 1000's of compounds present in environmental samples reducing co-elution with interfering compounds, reducing background noise, and enhancing the accuracy of quantitation. At the same time this process extends the run-time for each sample to ca. 90 minutes as compared to the 15-30 minutes with typical conditions. At 90 minutes per run, the maximum number of runs for any 12-hour period is 8. Each batch of samples typically includes the DFTPP tune solution and the initial calibration verification of from 1 to 4 solutions (Depending on the target parameters) for a total of 2-5 runs leaving an opening for 3-6 samples before having to redo the QA samples if the 12-hour constraint is applied. At this rate it's not economically viable to follow the 12-hour rule and complete the analyses of the samples.

Since the 12-hour criteria was established when the state-of-the-art was GCs equipped with packed columns and GCMS systems were not anywhere near as stable as the electronics of today. Physis does follow the criteria's intent by analyzing the calibration verification standards at the beginning, middle, and end of each batch of no more than 20 samples rather than every 12 hours.

2. Calibration and Quantitation- Physis bases its calibration curve on the mass of each compound rather than concentration. Using the internal standard method of quantitation, use of mass rather than concentration eliminates the extract or digestate volume term from the formula used to calculate concentrations in the samples. Therefore there is no need to measure the precise volume of the extract or digestate. For GCMS analysis, extract volumes can be quite low and small volume changes will be reflected in increased variation of the internal standard response from sample to sample due to differences in the extract volume and not due to the instability of the GCMS. Through long-term experience, Physis chemists are trained to take into consideration this change in volume when evaluating whether a change in the internal standard response is caused by a change in the GCMS sensitivity or extract volume.

The "recovery" of the Internal Standard and its variability is reported in Form VII SV-1 for reporting IS peak areas. For the sample IS compared to the ICV/CCV IS peak area, this form has a wide acceptance range at 50-200% which is considerably larger than the variation in the nominal estimate made of our extract volumes. Therefore significant deviations from



expected IS responses are clearly obvious to the analyst and would require corrective action and re-analysis. The difficulty is the fact that Form VII SV-1 does not accommodate volumes and therefore does not allow for evaluation of the sample IS as it compares to the ICV/CCV on an even basis.

3. Negative Chemical Ionization- Some target analytes are analyzed using the GCMS in the Negative Chemical Ionization Mode (NCI). This results in non-standard mass spectra that cannot be compared to the EI spectra in the NIST library.
4. Aroclor PCBs- Physis analyzes PCBs using a congener-based calibration standard composed of 52 or more different congeners representing ca. 75-80% of the PCBs discharged into the environment. Physis uses the results from the congener analysis to estimate Aroclor concentrations. To do this, Physis determines the Aroclor mixture present in the sample, sums the results for the congeners present in that Aroclor mixture then corrects the result to account for the missing mass based on a previous comparison of an Aroclor calibration standard to the congener mixture. Physis does not perform blank or matrix spikes using Aroclor mixtures since PCB spiking is done via the congener solution. Aroclor-based quantitation is inherently inaccurate and imprecise and results based on our process are as accurate if not more accurate than the Aroclor-based process since the quantitation is based on individual peaks rather than summing peaks.
5. Pyrethroid/Fipronil Surrogates- Physis spikes all samples with a surrogate solution containing TCMX, PCBo30, PCB112, and PCB198 for the Chlorinated Pesticides, Congener PCBs, Pyrethroids, and Fipronils; d8-Naphthalene, d10-Acenaphthene, d10-Phenanthrene, d12-Chrysene, and d12-Perylene for the PAHs; and FBDE-3002, FBDE-5004, and FBDE-8001 for the PBDEs. Since Pyrethroids and Fipronils are quantified using NCI, only the PCB112 and PCB198 surrogates are used as surrogates for these compounds.
6. Sample Preservation - According to the Standard Operating Procedure for Sample Logistics, sediment and tissue samples were placed in a freezer maintained at $-20 \pm 4^{\circ}\text{C}$ until preserved or processed.

ANALYTICAL

REPORT

PHYSICS

TERRA **AMERICA** **AURORA**

ENVIRONMENTAL LABORATORIES, INC.

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CA ELAP #2769

Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22078-R1 B13-8065 Grab Matrix: Sediment Sampled: 12-Aug-13 7:59 Received: 12-Aug-13 Method: EPA 8270C Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 16-Apr-14 0:00						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	31.4	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	
Sample ID: 22079-R1 B13-8049 Grab Matrix: Sediment Sampled: 12-Aug-13 16:17 Received: 12-Aug-13 Method: EPA 8270C Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 16-Apr-14 0:00						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	17.8	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	
Sample ID: 22080-R1 B13-8029 Grab Matrix: Sediment Sampled: 11-Aug-13 8:50 Received: 12-Aug-13 Method: EPA 8270C Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 16-Apr-14 0:00						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	



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CA ELAP #2769

Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1260	NA	8.7	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22081-R1**B13-8056 Grab****Matrix: Sediment****Sampled: 12-Aug-13 14:08****Received: 12-Aug-13**

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 16-Apr-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	30.6	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22082-R1**B13-8064 Grab****Matrix: Sediment****Sampled: 12-Aug-13 9:32****Received: 12-Aug-13**

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 16-Apr-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	24.6	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22083-R1**B13-8066 Grab****Matrix: Sediment****Sampled: 12-Aug-13 10:54****Received: 12-Aug-13**

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 16-Apr-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	



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CA ELAP #2769

Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	20.5	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22084-R1**B13-8020 Grab****Matrix: Sediment****Sampled: 11-Aug-13 11:27****Received: 12-Aug-13**

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 17-Apr-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	16.9	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22085-R1**B13-8050 Grab****Matrix: Sediment****Sampled: 12-Aug-13 15:21****Received: 12-Aug-13**

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 17-Apr-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	6.1	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22086-R1**B13-8069 Grab****Matrix: Sediment****Sampled: 12-Aug-13 12:33****Received: 12-Aug-13**

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 17-Apr-14 0:00



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CA ELAP #2769

Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	76.1	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22087-R1**B13-8017 Grab****Matrix: Sediment****Sampled: 11-Aug-13 14:43****Received: 12-Aug-13**

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 17-Apr-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	6.4	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22078-R1 B13-8065 Grab Matrix: Sediment Sampled: 12-Aug-13 7:59 Received: 12-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5030 Prepared: 30-Oct-13 Analyzed: 05-Nov-13 15:01						
Toxaphene	NA	ND	0.1	0.2	ng/dry g	
Method: EPA 8270C Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 16-Apr-14 6:01						
(PCB030)	NA	103			% Recovery	
(PCB112)	NA	105			% Recovery	
(PCB198)	NA	66			% Recovery	
(TCMX)	NA	103			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22079-R1**B13-8049 Grab****Matrix: Sediment****Sampled: 12-Aug-13 16:17****Received: 12-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5030

Prepared: 30-Oct-13

Analyzed: 05-Nov-13 17:08

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5125	Prepared: 27-Mar-14	Analyzed: 16-Apr-14 7:36		
(PCB030)	NA	80			% Recovery	
(PCB112)	NA	79			% Recovery	
(PCB198)	NA	77			% Recovery	
(TCMX)	NA	84			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlorthane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22080-R1**B13-8029 Grab****Matrix: Sediment****Sampled: 11-Aug-13 8:50****Received: 12-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5030

Prepared: 30-Oct-13

Analyzed: 05-Nov-13 18:12

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5125	Prepared: 27-Mar-14	Analyzed: 16-Apr-14 13:54		
(PCB030)	NA	59			% Recovery	
(PCB112)	NA	62			% Recovery	
(PCB198)	NA	75			% Recovery	
(TCMX)	NA	61			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22081-R1**B13-8056 Grab****Matrix: Sediment****Sampled: 12-Aug-13 14:08****Received: 12-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5030

Prepared: 30-Oct-13

Analyzed: 05-Nov-13 19:16

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C		Batch ID: O-5125		Prepared: 27-Mar-14	
(PCB030)	NA	69			% Recovery	Analyzed: 16-Apr-14 15:28
(PCB112)	NA	77			% Recovery	
(PCB198)	NA	67			% Recovery	
(TCMX)	NA	67			% Recovery	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22082-R1 B13-8064 Grab Matrix: Sediment Sampled: 12-Aug-13 9:32 Received: 12-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5030 Prepared: 30-Oct-13 Analyzed: 06-Nov-13 1:07						
Toxaphene	NA	ND	0.1	0.2	ng/dry g	
Method: EPA 8270C Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 16-Apr-14 17:03						
(PCB030)	NA	60			% Recovery	
(PCB112)	NA	60			% Recovery	
(PCB198)	NA	83			% Recovery	
(TCMX)	NA	62			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22083-R1

B13-8066 Grab

Matrix: Sediment

Sampled: 12-Aug-13 10:54

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5030

Prepared: 30-Oct-13

Analyzed: 06-Nov-13 2:11

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5125	Prepared: 27-Mar-14	Analyzed: 16-Apr-14 18:37		
(PCB030)	NA	85			% Recovery	
(PCB112)	NA	92			% Recovery	
(PCB198)	NA	91			% Recovery	
(TCMX)	NA	90			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22084-R1**B13-8020 Grab****Matrix: Sediment****Sampled: 11-Aug-13 11:27****Received: 12-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5030

Prepared: 30-Oct-13

Analyzed: 06-Nov-13 3:15

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C		Batch ID: O-5125		Prepared: 27-Mar-14	
(PCB030)	NA	81			% Recovery	Analyzed: 17-Apr-14 0:56
(PCB112)	NA	89			% Recovery	
(PCB198)	NA	91			% Recovery	
(TCMX)	NA	73			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22085-R1**B13-8050 Grab****Matrix: Sediment****Sampled: 12-Aug-13 15:21****Received: 12-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5030

Prepared: 30-Oct-13

Analyzed: 06-Nov-13 4:19

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C		Batch ID: O-5125		Prepared: 27-Mar-14	
(PCB030)	NA	71			% Recovery	Analyzed: 17-Apr-14 2:30
(PCB112)	NA	73			% Recovery	
(PCB198)	NA	98			% Recovery	
(TCMX)	NA	76			% Recovery	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22086-R1 B13-8069 Grab Matrix: Sediment Sampled: 12-Aug-13 12:33 Received: 12-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5030 Prepared: 30-Oct-13 Analyzed: 06-Nov-13 5:23						
Toxaphene	NA	ND	0.1	0.2	ng/dry g	
Method: EPA 8270C Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 17-Apr-14 4:05						
(PCB030)	NA	82			% Recovery	
(PCB112)	NA	84			% Recovery	
(PCB198)	NA	89			% Recovery	
(TCMX)	NA	67			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22087-R1

B13-8017 Grab

Matrix: Sediment

Sampled: 11-Aug-13 14:43

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5030

Prepared: 30-Oct-13

Analyzed: 06-Nov-13 6:27

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5125	Prepared: 27-Mar-14	Analyzed: 17-Apr-14 5:40		
(PCB030)	NA	68			% Recovery	
(PCB112)	NA	74			% Recovery	
(PCB198)	NA	84			% Recovery	
(TCMX)	NA	73			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlorthane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	



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Conventionals

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22078-R1		B13-8065 Grab	Matrix: Sediment	Sampled: 12-Aug-13 7:59	Received: 12-Aug-13	
	Method: SM 2540B	Batch ID: C-14037		Prepared: 27-Sep-13	Analyzed: 28-Sep-13 0:00	
Percent Solids	NA	44.6	0.1	0.1	% Dry Weight	
	Method: SM 4500-NH ₃ D	Batch ID: C-14040		Prepared: 27-Sep-13	Analyzed: 28-Sep-13 0:00	
Ammonia as N	NA	4.43	0.02	0.03	mg/dry kg	
	Method: Plumb, 1981 and TER	Batch ID: C-14042		Prepared: 01-Oct-13	Analyzed: 01-Oct-13 0:00	
Acid Volatile Sulfides	NA	12.14	0.05	0.1	mg/dry kg	
	Method: EPA 6020	Batch ID: E-5147		Prepared: 30-Sep-13	Analyzed: 02-Oct-13 19:16	
Total Phosphorus	NA	777.297	0.016	0.05	µg/dry g	
Sample ID: 22079-R1		B13-8049 Grab	Matrix: Sediment	Sampled: 12-Aug-13 16:17	Received: 12-Aug-13	
	Method: SM 2540B	Batch ID: C-14037		Prepared: 27-Sep-13	Analyzed: 28-Sep-13 0:00	
Percent Solids	NA	43.1	0.1	0.1	% Dry Weight	
	Method: SM 4500-NH ₃ D	Batch ID: C-14040		Prepared: 27-Sep-13	Analyzed: 28-Sep-13 0:00	
Ammonia as N	NA	13.28	0.02	0.03	mg/dry kg	
	Method: Plumb, 1981 and TER	Batch ID: C-14042		Prepared: 01-Oct-13	Analyzed: 01-Oct-13 0:00	
Acid Volatile Sulfides	NA	64.36	0.05	0.1	mg/dry kg	
	Method: EPA 6020	Batch ID: E-5147		Prepared: 30-Sep-13	Analyzed: 02-Oct-13 19:25	
Total Phosphorus	NA	592.725	0.016	0.05	µg/dry g	
Sample ID: 22080-R1		B13-8029 Grab	Matrix: Sediment	Sampled: 11-Aug-13 8:50	Received: 12-Aug-13	
	Method: SM 2540B	Batch ID: C-14037		Prepared: 27-Sep-13	Analyzed: 28-Sep-13 0:00	
Percent Solids	NA	60.6	0.1	0.1	% Dry Weight	
	Method: SM 4500-NH ₃ D	Batch ID: C-14040		Prepared: 27-Sep-13	Analyzed: 28-Sep-13 0:00	
Ammonia as N	NA	2.7	0.02	0.03	mg/dry kg	
	Method: Plumb, 1981 and TER	Batch ID: C-14042		Prepared: 01-Oct-13	Analyzed: 01-Oct-13 0:00	
Acid Volatile Sulfides	NA	2.52	0.05	0.1	mg/dry kg	
	Method: EPA 6020	Batch ID: E-5147		Prepared: 30-Sep-13	Analyzed: 02-Oct-13 19:30	
Total Phosphorus	NA	297.272	0.016	0.05	µg/dry g	
Sample ID: 22081-R1		B13-8056 Grab	Matrix: Sediment	Sampled: 12-Aug-13 14:08	Received: 12-Aug-13	
	Method: SM 2540B	Batch ID: C-14037		Prepared: 27-Sep-13	Analyzed: 28-Sep-13 0:00	
Percent Solids	NA	43.9	0.1	0.1	% Dry Weight	



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Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14040		Prepared: 27-Sep-13		Analyzed: 28-Sep-13 0:00
	NA	6.85	0.02	0.03	mg/dry kg	
Acid Volatile Sulfides	Method: Plumb, 1981 and TER	Batch ID: C-14042		Prepared: 01-Oct-13		Analyzed: 01-Oct-13 0:00
	NA	4.58	0.05	0.1	mg/dry kg	
Total Phosphorus	Method: EPA 6020	Batch ID: E-5147		Prepared: 30-Sep-13		Analyzed: 02-Oct-13 19:34
	NA	598.137	0.016	0.05	µg/dry g	
Sample ID: 22082-R1		B13-8064 Grab	Matrix: Sediment	Sampled: 12-Aug-13 9:32	Received: 12-Aug-13	
Percent Solids	Method: SM 2540B	Batch ID: C-14037		Prepared: 27-Sep-13		Analyzed: 28-Sep-13 0:00
	NA	41.3	0.1	0.1	% Dry Weight	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14040		Prepared: 27-Sep-13		Analyzed: 28-Sep-13 0:00
	NA	3.34	0.02	0.03	mg/dry kg	
Acid Volatile Sulfides	Method: Plumb, 1981 and TER	Batch ID: C-14042		Prepared: 01-Oct-13		Analyzed: 01-Oct-13 0:00
	NA	93.35	0.05	0.1	mg/dry kg	
Total Phosphorus	Method: EPA 6020	Batch ID: E-5147		Prepared: 30-Sep-13		Analyzed: 02-Oct-13 19:39
	NA	698.315	0.016	0.05	µg/dry g	
Sample ID: 22083-R1		B13-8066 Grab	Matrix: Sediment	Sampled: 12-Aug-13 10:54	Received: 12-Aug-13	
Percent Solids	Method: SM 2540B	Batch ID: C-14037		Prepared: 27-Sep-13		Analyzed: 28-Sep-13 0:00
	NA	43	0.1	0.1	% Dry Weight	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14040		Prepared: 27-Sep-13		Analyzed: 28-Sep-13 0:00
	NA	5.1	0.02	0.03	mg/dry kg	
Acid Volatile Sulfides	Method: Plumb, 1981 and TER	Batch ID: C-14042		Prepared: 01-Oct-13		Analyzed: 01-Oct-13 0:00
	NA	25.06	0.05	0.1	mg/dry kg	
Total Phosphorus	Method: EPA 6020	Batch ID: E-5147		Prepared: 30-Sep-13		Analyzed: 02-Oct-13 19:43
	NA	697.691	0.016	0.05	µg/dry g	
Sample ID: 22084-R1		B13-8020 Grab	Matrix: Sediment	Sampled: 11-Aug-13 11:27	Received: 12-Aug-13	
Percent Solids	Method: SM 2540B	Batch ID: C-14037		Prepared: 27-Sep-13		Analyzed: 28-Sep-13 0:00
	NA	28.5	0.1	0.1	% Dry Weight	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14040		Prepared: 27-Sep-13		Analyzed: 28-Sep-13 0:00
	NA	10.56	0.02	0.03	mg/dry kg	
	Method: Plumb, 1981 and TER	Batch ID: C-14042		Prepared: 01-Oct-13		Analyzed: 01-Oct-13 0:00



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Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Acid Volatile Sulfides	NA	25.78	0.05	0.1	mg/dry kg	
	Method: EPA 6020	Batch ID: E-5147		Prepared: 30-Sep-13		Analyzed: 02-Oct-13 19:48
Total Phosphorus	NA	914.355	0.016	0.05	µg/dry g	
Sample ID: 22085-R1	B13-8050 Grab	Matrix: Sediment		Sampled: 12-Aug-13 15:21		Received: 12-Aug-13
	Method: SM 2540B	Batch ID: C-14037		Prepared: 27-Sep-13		Analyzed: 28-Sep-13 0:00
Percent Solids	NA	54.3	0.1	0.1	% Dry Weight	
	Method: SM 4500-NH ₃ D	Batch ID: C-14040		Prepared: 27-Sep-13		Analyzed: 28-Sep-13 0:00
Ammonia as N	NA	4.03	0.02	0.03	mg/dry kg	
	Method: Plumb, 1981 and TER	Batch ID: C-14042		Prepared: 01-Oct-13		Analyzed: 01-Oct-13 0:00
Acid Volatile Sulfides	NA	16.54	0.05	0.1	mg/dry kg	
	Method: EPA 6020	Batch ID: E-5147		Prepared: 30-Sep-13		Analyzed: 02-Oct-13 19:53
Total Phosphorus	NA	438.461	0.016	0.05	µg/dry g	
Sample ID: 22086-R1	B13-8069 Grab	Matrix: Sediment		Sampled: 12-Aug-13 12:33		Received: 12-Aug-13
	Method: SM 2540B	Batch ID: C-14037		Prepared: 27-Sep-13		Analyzed: 28-Sep-13 0:00
Percent Solids	NA	47.2	0.1	0.1	% Dry Weight	
	Method: SM 4500-NH ₃ D	Batch ID: C-14040		Prepared: 27-Sep-13		Analyzed: 28-Sep-13 0:00
Ammonia as N	NA	2.69	0.02	0.03	mg/dry kg	
	Method: Plumb, 1981 and TER	Batch ID: C-14042		Prepared: 01-Oct-13		Analyzed: 01-Oct-13 0:00
Acid Volatile Sulfides	NA	6.13	0.05	0.1	mg/dry kg	
	Method: EPA 6020	Batch ID: E-5147		Prepared: 30-Sep-13		Analyzed: 02-Oct-13 19:57
Total Phosphorus	NA	575.584	0.016	0.05	µg/dry g	
Sample ID: 22087-R1	B13-8017 Grab	Matrix: Sediment		Sampled: 11-Aug-13 14:43		Received: 12-Aug-13
	Method: SM 2540B	Batch ID: C-14037		Prepared: 27-Sep-13		Analyzed: 28-Sep-13 0:00
Percent Solids	NA	45	0.1	0.1	% Dry Weight	
	Method: SM 4500-NH ₃ D	Batch ID: C-14040		Prepared: 27-Sep-13		Analyzed: 28-Sep-13 0:00
Ammonia as N	NA	3.51	0.02	0.03	mg/dry kg	
	Method: Plumb, 1981 and TER	Batch ID: C-14042		Prepared: 01-Oct-13		Analyzed: 01-Oct-13 0:00
Acid Volatile Sulfides	NA	16.56	0.05	0.1	mg/dry kg	
	Method: EPA 6020	Batch ID: E-5147		Prepared: 30-Sep-13		Analyzed: 02-Oct-13 20:02
Total Phosphorus	NA	434.159	0.016	0.05	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22078-R1 B13-8065 Grab Matrix: Sediment Sampled: 12-Aug-13 7:59 Received: 12-Aug-13 Method: EPA 6020 Batch ID: E-5147 Prepared: 30-Sep-13 Analyzed: 03-Oct-13 1:32						
Aluminum (Al)	NA	45137.2	1	5	µg/dry g	
Antimony (Sb)	NA	1.143	0.025	0.05	µg/dry g	
Arsenic (As)	NA	11.662	0.025	0.05	µg/dry g	
Barium (Ba)	NA	131.963	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.766	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.4652	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	82.4049	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	242.3222	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	41878.7	1	5	µg/dry g	
Lead (Pb)	NA	73.1917	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	19.02	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.47	0.025	0.05	µg/dry g	
Silver (Ag)	NA	1.12	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	355.415	0.025	0.05	µg/dry g	
Method: EPA 245.7 Batch ID: E-6030 Prepared: 08-Oct-13 Analyzed: 08-Oct-13 0:00						
Mercury (Hg)	NA	0.6447	0.00001	0.00002	µg/dry g	
Sample ID: 22079-R1 B13-8049 Grab Matrix: Sediment Sampled: 12-Aug-13 16:17 Received: 12-Aug-13 Method: EPA 6020 Batch ID: E-5147 Prepared: 30-Sep-13 Analyzed: 03-Oct-13 1:42						
Aluminum (Al)	NA	43379.8	1	5	µg/dry g	
Antimony (Sb)	NA	0.359	0.025	0.05	µg/dry g	
Arsenic (As)	NA	10.345	0.025	0.05	µg/dry g	
Barium (Ba)	NA	94.558	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.765	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1921	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	62.4005	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	173.0571	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	38323.9	1	5	µg/dry g	
Lead (Pb)	NA	37.0989	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	16.94	0.01	0.02	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	NA	0.403	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.72	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	215.676	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6030

Prepared: 08-Oct-13

Analyzed: 08-Oct-13 0:00

Mercury (Hg)	NA	0.3831	0.00001	0.00002	µg/dry g	
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Sample ID: 22080-R1**B13-8029 Grab****Matrix: Sediment****Sampled: 11-Aug-13 8:50****Received: 12-Aug-13**

Method: EPA 6020

Batch ID: E-5147

Prepared: 30-Sep-13

Analyzed: 03-Oct-13 1:46

Aluminum (Al)	NA	24650.4	1	5	µg/dry g	
Antimony (Sb)	NA	0.216	0.025	0.05	µg/dry g	
Arsenic (As)	NA	4.946	0.025	0.05	µg/dry g	
Barium (Ba)	NA	80.7	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.378	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.178	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	29.9278	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	63.6606	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	22458.1	1	5	µg/dry g	
Lead (Pb)	NA	14.0132	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	9.64	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.216	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.33	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	106.003	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6030

Prepared: 08-Oct-13

Analyzed: 08-Oct-13 0:00

Mercury (Hg)	NA	0.1205	0.00001	0.00002	µg/dry g	
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Sample ID: 22081-R1**B13-8056 Grab****Matrix: Sediment****Sampled: 12-Aug-13 14:08****Received: 12-Aug-13**

Method: EPA 6020

Batch ID: E-5147

Prepared: 30-Sep-13

Analyzed: 03-Oct-13 1:51

Aluminum (Al)	NA	43659.3	1	5	µg/dry g	
Antimony (Sb)	NA	0.447	0.025	0.05	µg/dry g	
Arsenic (As)	NA	9.354	0.025	0.05	µg/dry g	
Barium (Ba)	NA	101.028	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.781	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2358	0.0025	0.005	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	NA	63.8023	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	148.2239	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	38458.3	1	5	µg/dry g	
Lead (Pb)	NA	38.0441	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	17.18	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.419	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.81	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	225.641	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6030

Prepared: 08-Oct-13

Analyzed: 08-Oct-13 0:00

Mercury (Hg)	NA	0.4258	0.00001	0.00002	µg/dry g	
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Sample ID: 22082-R1**B13-8064 Grab****Matrix: Sediment****Sampled: 12-Aug-13 9:32****Received: 12-Aug-13**

Method: EPA 6020

Batch ID: E-5147

Prepared: 30-Sep-13

Analyzed: 03-Oct-13 1:56

Aluminum (Al)	NA	52326.3	1	5	µg/dry g	
Antimony (Sb)	NA	0.606	0.025	0.05	µg/dry g	
Arsenic (As)	NA	11.342	0.025	0.05	µg/dry g	
Barium (Ba)	NA	133.243	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.886	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.257	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	82.9471	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	201.8077	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	45772.3	1	5	µg/dry g	
Lead (Pb)	NA	58.1245	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	21.69	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.461	0.025	0.05	µg/dry g	
Silver (Ag)	NA	1.09	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	261.632	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6030

Prepared: 08-Oct-13

Analyzed: 08-Oct-13 0:00

Mercury (Hg)	NA	0.6882	0.00001	0.00002	µg/dry g	
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Sample ID: 22083-R1**B13-8066 Grab****Matrix: Sediment****Sampled: 12-Aug-13 10:54****Received: 12-Aug-13**

Method: EPA 6020

Batch ID: E-5147

Prepared: 30-Sep-13

Analyzed: 03-Oct-13 2:00

Aluminum (Al)	NA	48584.9	1	5	µg/dry g	
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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Antimony (Sb)	NA	0.683	0.025	0.05	µg/dry g	
Arsenic (As)	NA	10.776	0.025	0.05	µg/dry g	
Barium (Ba)	NA	116.845	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.837	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2505	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	76.0027	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	177.3754	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	42905.9	1	5	µg/dry g	
Lead (Pb)	NA	51.0048	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	19.77	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.396	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.99	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	241.408	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6030

Prepared: 08-Oct-13

Analyzed: 08-Oct-13 0:00

Mercury (Hg)	NA	0.6675	0.00001	0.00002	µg/dry g	
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Sample ID: 22084-R1**B13-8020 Grab****Matrix: Sediment****Sampled: 11-Aug-13 11:27****Received: 12-Aug-13**

Method: EPA 6020

Batch ID: E-5147

Prepared: 30-Sep-13

Analyzed: 03-Oct-13 2:05

Aluminum (Al)	NA	66619.2	1	5	µg/dry g	
Antimony (Sb)	NA	0.509	0.025	0.05	µg/dry g	
Arsenic (As)	NA	14.675	0.025	0.05	µg/dry g	
Barium (Ba)	NA	144.489	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	1.098	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.3494	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	92.7713	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	163.1804	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	57144.4	1	5	µg/dry g	
Lead (Pb)	NA	48.9915	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	25	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.436	0.025	0.05	µg/dry g	
Silver (Ag)	NA	1.42	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	343.393	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6030

Prepared: 08-Oct-13

Analyzed: 08-Oct-13 0:00



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Mercury (Hg)	NA	0.6289	0.00001	0.00002	µg/dry g	
Sample ID: 22085-R1 B13-8050 Grab Matrix: Sediment Sampled: 12-Aug-13 15:21 Received: 12-Aug-13 Method: EPA 6020 Batch ID: E-5147 Prepared: 30-Sep-13 Analyzed: 03-Oct-13 2:10						
Aluminum (Al)	NA	29116.8	1	5	µg/dry g	
Antimony (Sb)	NA	0.264	0.025	0.05	µg/dry g	
Arsenic (As)	NA	7.037	0.025	0.05	µg/dry g	
Barium (Ba)	NA	67.9	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.517	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1369	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	43.8016	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	110.2123	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	27412.7	1	5	µg/dry g	
Lead (Pb)	NA	27.2687	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	12.18	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.27	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.52	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	151.111	0.025	0.05	µg/dry g	
Method: EPA 245.7 Batch ID: E-6030 Prepared: 08-Oct-13 Analyzed: 08-Oct-13 0:00						
Mercury (Hg)	NA	0.3054	0.00001	0.00002	µg/dry g	
Sample ID: 22086-R1 B13-8069 Grab Matrix: Sediment Sampled: 12-Aug-13 12:33 Received: 12-Aug-13 Method: EPA 6020 Batch ID: E-5147 Prepared: 30-Sep-13 Analyzed: 03-Oct-13 2:14						
Aluminum (Al)	NA	35634.1	1	5	µg/dry g	
Antimony (Sb)	NA	0.528	0.025	0.05	µg/dry g	
Arsenic (As)	NA	9.802	0.025	0.05	µg/dry g	
Barium (Ba)	NA	90.463	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.586	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.262	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	58.7146	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	145.3565	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	32107.7	1	5	µg/dry g	
Lead (Pb)	NA	41.7091	0.0025	0.005	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Nickel (Ni)	NA	15.26	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.347	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.94	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	193.9	0.025	0.05	µg/dry g	
Method: EPA 245.7		Batch ID: E-6030		Prepared: 08-Oct-13		Analyzed: 08-Oct-13 0:00
Mercury (Hg)	NA	0.6629	0.00001	0.00002	µg/dry g	
Sample ID: 22087-R1		B13-8017 Grab		Matrix: Sediment		Sampled: 11-Aug-13 14:43
Method: EPA 6020		Batch ID: E-5147		Prepared: 30-Sep-13		Received: 12-Aug-13
Aluminum (Al)	NA	31735.7	1	5	µg/dry g	Analyzed: 03-Oct-13 2:19
Antimony (Sb)	NA	0.294	0.025	0.05	µg/dry g	
Arsenic (As)	NA	7.081	0.025	0.05	µg/dry g	
Barium (Ba)	NA	55.542	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.518	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1717	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	40.7817	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	70.065	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	26185.3	1	5	µg/dry g	
Lead (Pb)	NA	20.7852	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	11.35	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.243	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.51	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	161.12	0.025	0.05	µg/dry g	
Method: EPA 245.7		Batch ID: E-6030		Prepared: 08-Oct-13		Analyzed: 08-Oct-13 0:00
Mercury (Hg)	NA	0.2186	0.00001	0.00002	µg/dry g	



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22078-R1 B13-8065 Grab Matrix: Sediment Sampled: 12-Aug-13 7:59 Received: 12-Aug-13 Method: EPA 200.8 Batch ID: E-5154 Prepared: 08-Oct-13 Analyzed: 11-Oct-13 10:14						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	1.3506	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.225	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0247	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	2.3119	0.0015	0.003	µmol/dry g	
Sample ID: 22079-R1 B13-8049 Grab Matrix: Sediment Sampled: 12-Aug-13 16:17 Received: 12-Aug-13 Method: EPA 200.8 Batch ID: E-5154 Prepared: 08-Oct-13 Analyzed: 10-Oct-13 17:03						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.6146	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.1292	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0222	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.9573	0.0015	0.003	µmol/dry g	
Sample ID: 22080-R1 B13-8029 Grab Matrix: Sediment Sampled: 11-Aug-13 8:50 Received: 12-Aug-13 Method: EPA 200.8 Batch ID: E-5154 Prepared: 08-Oct-13 Analyzed: 10-Oct-13 17:08						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.3121	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0535	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0144	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.0376	0.0015	0.003	µmol/dry g	
Sample ID: 22081-R1 B13-8056 Grab Matrix: Sediment Sampled: 12-Aug-13 14:08 Received: 12-Aug-13 Method: EPA 200.8 Batch ID: E-5154 Prepared: 08-Oct-13 Analyzed: 10-Oct-13 17:13						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.8783	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.1432	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0255	0.0033	0.0066	µmol/dry g	



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	2.0632	0.0015	0.003	µmol/dry g	

Sample ID: 22082-R1**B13-8064 Grab****Matrix: Sediment****Sampled: 12-Aug-13 9:32****Received: 12-Aug-13**

Method: EPA 200.8

Batch ID: E-5154

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 17:17

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.6632	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.1766	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0229	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	2.3011	0.0015	0.003	µmol/dry g	

Sample ID: 22083-R1**B13-8066 Grab****Matrix: Sediment****Sampled: 12-Aug-13 10:54****Received: 12-Aug-13**

Method: EPA 200.8

Batch ID: E-5154

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 17:22

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.9635	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.1853	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0249	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	2.3386	0.0015	0.003	µmol/dry g	

Sample ID: 22084-R1**B13-8020 Grab****Matrix: Sediment****Sampled: 11-Aug-13 11:27****Received: 12-Aug-13**

Method: EPA 200.8

Batch ID: E-5154

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 17:27

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.7564	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.1709	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0343	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	3.1136	0.0015	0.003	µmol/dry g	

Sample ID: 22085-R1**B13-8050 Grab****Matrix: Sediment****Sampled: 12-Aug-13 15:21****Received: 12-Aug-13**

Method: EPA 200.8

Batch ID: E-5154

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 17:32

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.514	0.0062	0.0124	µmol/dry g	



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Lead (Pb) - SEM	NA	0.0987	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0168	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.5046	0.0015	0.003	µmol/dry g	

Sample ID: 22086-R1**B13-8069 Grab****Matrix: Sediment****Sampled: 12-Aug-13 12:33****Received: 12-Aug-13**

Method: EPA 200.8

Batch ID: E-5154

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 17:36

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	1.2806	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.1912	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0287	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	2.3197	0.0015	0.003	µmol/dry g	

Sample ID: 22087-R1**B13-8017 Grab****Matrix: Sediment****Sampled: 11-Aug-13 14:43****Received: 12-Aug-13**

Method: EPA 200.8

Batch ID: E-5154

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 17:41

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.4026	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0762	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0188	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.6787	0.0015	0.003	µmol/dry g	



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Fipronil & Degradates**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22078-R1 B13-8065 Grab Matrix: Sediment Sampled: 12-Aug-13 7:59 Received: 12-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 03-Apr-14 20:03						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22079-R1 B13-8049 Grab Matrix: Sediment Sampled: 12-Aug-13 16:17 Received: 12-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 03-Apr-14 21:08						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22080-R1 B13-8029 Grab Matrix: Sediment Sampled: 11-Aug-13 8:50 Received: 12-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 03-Apr-14 23:17						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22081-R1 B13-8056 Grab Matrix: Sediment Sampled: 12-Aug-13 14:08 Received: 12-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 04-Apr-14 0:21						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22082-R1 B13-8064 Grab Matrix: Sediment Sampled: 12-Aug-13 9:32 Received: 12-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 04-Apr-14 1:26						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	



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Fipronil & Degradates**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22083-R1 B13-8066 Grab Matrix: Sediment Sampled: 12-Aug-13 10:54 Received: 12-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 04-Apr-14 2:31						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22084-R1 B13-8020 Grab Matrix: Sediment Sampled: 11-Aug-13 11:27 Received: 12-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 04-Apr-14 6:49						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22085-R1 B13-8050 Grab Matrix: Sediment Sampled: 12-Aug-13 15:21 Received: 12-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 04-Apr-14 7:53						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22086-R1 B13-8069 Grab Matrix: Sediment Sampled: 12-Aug-13 12:33 Received: 12-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 04-Apr-14 8:58						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22087-R1 B13-8017 Grab Matrix: Sediment Sampled: 11-Aug-13 14:43 Received: 12-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 04-Apr-14 10:03						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	



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Fipronil & Degradates**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22078-R1</div> <div>B13-8065 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5125</div> </div> <div> <div>Sampled: 12-Aug-13 7:59</div> <div>Prepared: 27-Mar-14</div> </div> <div> <div>Received: 12-Aug-13</div> <div>Analyzed: 16-Apr-14 6:01</div> </div>						
PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	1.43	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.88	0.05	0.1	ng/dry g	
PCB101	NA	2.04	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	1.32	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.86	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	4.42	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	2.7	0.05	0.1	ng/dry g	
PCB151	NA	0.94	0.05	0.1	ng/dry g	
PCB153	NA	4.45	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	2.13	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	0.8	0.05	0.1	ng/dry g	
PCB177	NA	0.82	0.05	0.1	ng/dry g	
PCB180	NA	2.24	0.05	0.1	ng/dry g	
PCB183	NA	0.54	0.05	0.1	ng/dry g	
PCB187	NA	1.76	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22079-R1

B13-8049 Grab

Matrix: Sediment

Sampled: 12-Aug-13 16:17

Received: 12-Aug-13

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 16-Apr-14 7:36

PCB003	NA	ND	0.05	0.1	ng/dry g	
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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.68	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.21	0.05	0.1	ng/dry g	
PCB101	NA	0.89	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.75	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	2.8	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	1.83	0.05	0.1	ng/dry g	
PCB151	NA	0.27	0.05	0.1	ng/dry g	
PCB153	NA	2.95	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.9	0.1	0.2	ng/dry g	
PCB169	NA	0.99	0.05	0.1	ng/dry g	
PCB170	NA	0.49	0.05	0.1	ng/dry g	
PCB174	NA	0.46	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	1.04	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	0.97	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22080-R1**B13-8029 Grab****Matrix: Sediment****Sampled: 11-Aug-13 8:50****Received: 12-Aug-13**

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 16-Apr-14 13:54

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.4	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	0.57	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.34	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.33	0.05	0.1	ng/dry g	
PCB141	NA	0.4	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB149	NA	0.95	0.05	0.1	ng/dry g	J
PCB151	NA	0.07	0.05	0.1	ng/dry g	
PCB153	NA	1.54	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.4	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	0.17	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	0.61	0.05	0.1	ng/dry g	
PCB183	NA	0.19	0.05	0.1	ng/dry g	
PCB187	NA	0.4	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22081-R1**B13-8056 Grab****Matrix: Sediment****Sampled: 12-Aug-13 14:08****Received: 12-Aug-13**

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 16-Apr-14 15:28

PCB003	NA	ND	0.05	0.1	ng/dry g
PCB005	NA	ND	0.05	0.1	ng/dry g
PCB008	NA	ND	0.05	0.1	ng/dry g
PCB015	NA	ND	0.05	0.1	ng/dry g
PCB018	NA	ND	0.05	0.1	ng/dry g
PCB027	NA	ND	0.05	0.1	ng/dry g
PCB028	NA	ND	0.05	0.1	ng/dry g



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	1.08	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.57	0.05	0.1	ng/dry g	
PCB101	NA	1.57	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	1.2	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.82	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	3.8	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	2.67	0.05	0.1	ng/dry g	
PCB151	NA	0.6	0.05	0.1	ng/dry g	
PCB153	NA	4.08	0.05	0.1	ng/dry g	



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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.38	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.7	0.1	0.2	ng/dry g	
PCB169	NA	1.88	0.05	0.1	ng/dry g	
PCB170	NA	1.1	0.05	0.1	ng/dry g	
PCB174	NA	0.66	0.05	0.1	ng/dry g	
PCB177	NA	0.71	0.05	0.1	ng/dry g	
PCB180	NA	1.97	0.05	0.1	ng/dry g	
PCB183	NA	0.46	0.05	0.1	ng/dry g	
PCB187	NA	1.47	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22082-R1**B13-8064 Grab****Matrix: Sediment****Sampled: 12-Aug-13 9:32****Received: 12-Aug-13**

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 16-Apr-14 17:03

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.92	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.47	0.05	0.1	ng/dry g	
PCB101	NA	1.26	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.81	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.58	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	3.37	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	1.71	0.05	0.1	ng/dry g	
PCB151	NA	0.38	0.05	0.1	ng/dry g	
PCB153	NA	3.59	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.8	0.1	0.2	ng/dry g	
PCB169	NA	1.2	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	0.62	0.05	0.1	ng/dry g	
PCB177	NA	0.59	0.05	0.1	ng/dry g	
PCB180	NA	1.25	0.05	0.1	ng/dry g	
PCB183	NA	0.53	0.05	0.1	ng/dry g	
PCB187	NA	1.1	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	1.47	0.05	0.1	ng/dry g	

Sample ID: 22083-R1**B13-8066 Grab****Matrix: Sediment****Sampled: 12-Aug-13 10:54****Received: 12-Aug-13**

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 16-Apr-14 18:37

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	1.12	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.7	0.05	0.1	ng/dry g	
PCB101	NA	1.33	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.99	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.45	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	2.23	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	1.48	0.05	0.1	ng/dry g	
PCB151	NA	0.56	0.05	0.1	ng/dry g	
PCB153	NA	2.37	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.5	0.1	0.2	ng/dry g	
PCB169	NA	1.27	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	1.03	0.05	0.1	ng/dry g	
PCB183	NA	0.52	0.05	0.1	ng/dry g	
PCB187	NA	1.01	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22084-R1**B13-8020 Grab****Matrix: Sediment****Sampled: 11-Aug-13 11:27****Received: 12-Aug-13**

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 17-Apr-14 0:56

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.52	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.61	0.05	0.1	ng/dry g	
PCB101	NA	1.16	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.64	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	2.44	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	1.31	0.05	0.1	ng/dry g	
PCB151	NA	0.56	0.05	0.1	ng/dry g	
PCB153	NA	2.15	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.5	0.1	0.2	ng/dry g	
PCB169	NA	1.04	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	0.34	0.05	0.1	ng/dry g	
PCB177	NA	0.28	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB180	NA	0.55	0.05	0.1	ng/dry g	
PCB183	NA	0.28	0.05	0.1	ng/dry g	
PCB187	NA	0.26	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22085-R1**B13-8050 Grab****Matrix: Sediment****Sampled: 12-Aug-13 15:21****Received: 12-Aug-13**

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 17-Apr-14 2:30

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.34	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	0.55	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.46	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	0.71	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	1.47	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	0.35	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22086-R1**B13-8069 Grab****Matrix: Sediment****Sampled: 12-Aug-13 12:33****Received: 12-Aug-13**

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 17-Apr-14 4:05

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	4.46	0.05	0.1	ng/dry g	
PCB052	NA	2.96	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	0.51	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	2.33	0.05	0.1	ng/dry g	
PCB095	NA	4.58	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB097	NA	1.54	0.05	0.1	ng/dry g	
PCB099	NA	1.81	0.05	0.1	ng/dry g	
PCB101	NA	5.24	0.05	0.1	ng/dry g	
PCB105	NA	1.36	0.05	0.1	ng/dry g	
PCB110	NA	4.95	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	2.89	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	1.03	0.05	0.1	ng/dry g	
PCB137	NA	0.59	0.05	0.1	ng/dry g	
PCB138	NA	7.91	0.05	0.1	ng/dry g	
PCB141	NA	1.04	0.05	0.1	ng/dry g	
PCB149	NA	4.2	0.05	0.1	ng/dry g	
PCB151	NA	0.76	0.05	0.1	ng/dry g	
PCB153	NA	6.29	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.59	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	2.3	0.1	0.2	ng/dry g	
PCB169	NA	1.18	0.05	0.1	ng/dry g	
PCB170	NA	0.68	0.05	0.1	ng/dry g	
PCB174	NA	0.69	0.05	0.1	ng/dry g	
PCB177	NA	0.53	0.05	0.1	ng/dry g	
PCB180	NA	1.73	0.05	0.1	ng/dry g	
PCB183	NA	0.49	0.05	0.1	ng/dry g	
PCB187	NA	1.16	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	0.39	0.05	0.1	ng/dry g	

Sample ID: 22087-R1**B13-8017 Grab****Matrix: Sediment****Sampled: 11-Aug-13 14:43****Received: 12-Aug-13**

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 17-Apr-14 5:40

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.23	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	0.75	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	0.28	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.23	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	0.73	0.05	0.1	ng/dry g	
PCB151	NA	0.22	0.05	0.1	ng/dry g	
PCB153	NA	1.17	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	0.3	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	0.28	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Sample ID: 22078-R1

B13-8065 Grab

Matrix: Sediment

Sampled: 12-Aug-13 7:59

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 09-Apr-14 15:12

(DFPBDE)	NA	86			% Recovery	
(FTBDE)	NA	98			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.5	0.05	0.1	ng/dry g	
PBDE049	NA	0.26	0.05	0.1	ng/dry g	
PBDE066	NA	1.32	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	0.83	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	0.23	0.05	0.1	ng/dry g	
PBDE183	NA	0.95	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	22.04	0.05	0.1	ng/dry g	

Sample ID: 22079-R1

B13-8049 Grab

Matrix: Sediment

Sampled: 12-Aug-13 16:17

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 09-Apr-14 15:59

(DFPBDE)	NA	105			% Recovery	
(FTBDE)	NA	102			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.23	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	1.03	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	0.74	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	4.09	0.05	0.1	ng/dry g	

Sample ID: 22080-R1

B13-8029 Grab

Matrix: Sediment

Sampled: 11-Aug-13 8:50

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 09-Apr-14 17:32

(DFPBDE)	NA	97			% Recovery	
(FTBDE)	NA	101			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.2	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.81	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	0.51	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	5.9	0.05	0.1	ng/dry g	

Sample ID: 22081-R1

B13-8056 Grab

Matrix: Sediment

Sampled: 12-Aug-13 14:08

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 09-Apr-14 18:19

(DFPBDE)	NA	105			% Recovery	
(FTBDE)	NA	104			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.29	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	1	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	0.74	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	15.29	0.05	0.1	ng/dry g	

Sample ID: 22082-R1

B13-8064 Grab

Matrix: Sediment

Sampled: 12-Aug-13 9:32

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 09-Apr-14 19:06

(DFPBDE)	NA	93			% Recovery
(FTBDE)	NA	105			% Recovery
PBDE017	NA	ND	0.05	0.1	ng/dry g
PBDE028	NA	ND	0.05	0.1	ng/dry g
PBDE047	NA	0.28	0.05	0.1	ng/dry g
PBDE049	NA	ND	0.05	0.1	ng/dry g
PBDE066	NA	0.79	0.05	0.1	ng/dry g
PBDE071	NA	ND	0.05	0.1	ng/dry g
PBDE085	NA	ND	0.05	0.1	ng/dry g
PBDE099	NA	0.29	0.05	0.1	ng/dry g
PBDE100	NA	ND	0.05	0.1	ng/dry g
PBDE138	NA	ND	0.05	0.1	ng/dry g
PBDE153	NA	ND	0.05	0.1	ng/dry g
PBDE154	NA	ND	0.05	0.1	ng/dry g
PBDE183	NA	0.46	0.05	0.1	ng/dry g
PBDE190	NA	ND	0.05	0.1	ng/dry g



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE209	NA	20.16	0.05	0.1	ng/dry g	

Sample ID: 22083-R1

B13-8066 Grab

Matrix: Sediment

Sampled: 12-Aug-13 10:54

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 09-Apr-14 19:53

(DFPBDE)	NA	98			% Recovery	
(FTBDE)	NA	106			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.33	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	1.02	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	0.7	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	7.99	0.05	0.1	ng/dry g	

Sample ID: 22084-R1

B13-8020 Grab

Matrix: Sediment

Sampled: 11-Aug-13 11:27

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 09-Apr-14 21:27

(DFPBDE)	NA	98			% Recovery	
(FTBDE)	NA	98			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.4	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	1.7	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE099	NA	14.45	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	0.96	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	9.51	0.05	0.1	ng/dry g	

Sample ID: 22085-R1

B13-8050 Grab

Matrix: Sediment

Sampled: 12-Aug-13 15:21

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 09-Apr-14 22:13

(DFPBDE)	NA	103			% Recovery	
(FTBDE)	NA	104			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.19	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.84	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	0.49	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	4.98	0.05	0.1	ng/dry g	

Sample ID: 22086-R1

B13-8069 Grab

Matrix: Sediment

Sampled: 12-Aug-13 12:33

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 09-Apr-14 23:00

(DFPBDE)	NA	101			% Recovery	
(FTBDE)	NA	92			% Recovery	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.22	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.71	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	0.44	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	9.66	0.05	0.1	ng/dry g	

Sample ID: 22087-R1

B13-8017 Grab

Matrix: Sediment

Sampled: 11-Aug-13 14:43

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 09-Apr-14 23:47

(DFPBDE)	NA	105			% Recovery
(FTBDE)	NA	107			% Recovery
PBDE017	NA	ND	0.05	0.1	ng/dry g
PBDE028	NA	ND	0.05	0.1	ng/dry g
PBDE047	NA	0.24	0.05	0.1	ng/dry g
PBDE049	NA	ND	0.05	0.1	ng/dry g
PBDE066	NA	0.95	0.05	0.1	ng/dry g
PBDE071	NA	ND	0.05	0.1	ng/dry g
PBDE085	NA	ND	0.05	0.1	ng/dry g
PBDE099	NA	ND	0.05	0.1	ng/dry g
PBDE100	NA	ND	0.05	0.1	ng/dry g
PBDE138	NA	ND	0.05	0.1	ng/dry g
PBDE153	NA	ND	0.05	0.1	ng/dry g
PBDE154	NA	ND	0.05	0.1	ng/dry g
PBDE183	NA	0.58	0.05	0.1	ng/dry g



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	0.67	0.05	0.1	ng/dry g	



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22078-R1</div> <div>B13-8065 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5125</div> </div> <div> <div>Sampled: 12-Aug-13 7:59</div> <div>Prepared: 27-Mar-14</div> </div> <div> <div>Received: 12-Aug-13</div> <div>Analyzed: 16-Apr-14 6:01</div> </div>						
(d10-Acenaphthene)	NA	100			% Recovery	
(d10-Phenanthrene)	NA	91			% Recovery	
(d12-Chrysene)	NA	128			% Recovery	
(d8-Naphthalene)	NA	102			% Recovery	
1-Methylnaphthalene	NA	1.3	1	5	ng/dry g	J
1-Methylphenanthrene	NA	5.1	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	2	1	5	ng/dry g	J
2-Methylnaphthalene	NA	2.7	1	5	ng/dry g	J
Acenaphthene	NA	1.5	1	5	ng/dry g	J
Acenaphthylene	NA	9.7	1	5	ng/dry g	
Anthracene	NA	21.5	1	5	ng/dry g	
Benz[a]anthracene	NA	50	1	5	ng/dry g	
Benzo[a]pyrene	NA	99	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	109.3	1	5	ng/dry g	
Benzo[e]pyrene	NA	77.4	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	146.6	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	74.7	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	121.2	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	39.3	1	5	ng/dry g	
Dibenzothiophene	NA	3	1	5	ng/dry g	J
Fluoranthene	NA	103.1	1	5	ng/dry g	
Fluorene	NA	4.1	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	144.4	1	5	ng/dry g	
Naphthalene	NA	4.7	1	5	ng/dry g	J
Perylene	NA	19.1	1	5	ng/dry g	
Phenanthrene	NA	31.3	1	5	ng/dry g	
Pyrene	NA	120.6	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22079-R1</div> <div>B13-8049 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5125</div> </div> <div> <div>Sampled: 12-Aug-13 16:17</div> <div>Prepared: 27-Mar-14</div> </div> <div> <div>Received: 12-Aug-13</div> <div>Analyzed: 16-Apr-14 7:36</div> </div>						
(d10-Acenaphthene)	NA	72			% Recovery	
(d10-Phenanthrene)	NA	125			% Recovery	
(d12-Chrysene)	NA	98			% Recovery	
(d8-Naphthalene)	NA	78			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	2.7	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	1.1	1	5	ng/dry g	J
2-Methylnaphthalene	NA	1.3	1	5	ng/dry g	J
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	2	1	5	ng/dry g	J
Anthracene	NA	7.4	1	5	ng/dry g	
Benz[a]anthracene	NA	10.8	1	5	ng/dry g	
Benzo[a]pyrene	NA	17.3	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	17.7	1	5	ng/dry g	
Benzo[e]pyrene	NA	14.4	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	38.2	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	12.7	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	24	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	5.6	1	5	ng/dry g	
Dibenzothiophene	NA	1.5	1	5	ng/dry g	J
Fluoranthene	NA	23.7	1	5	ng/dry g	
Fluorene	NA	2.2	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	30.9	1	5	ng/dry g	
Naphthalene	NA	2.7	1	5	ng/dry g	J
Perylene	NA	4.3	1	5	ng/dry g	J
Phenanthrene	NA	13.6	1	5	ng/dry g	
Pyrene	NA	27	1	5	ng/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22080-R1</div> <div>B13-8029 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5125</div> </div> <div> <div>Sampled: 11-Aug-13 8:50</div> <div>Prepared: 27-Mar-14</div> </div> <div> <div>Received: 12-Aug-13</div> <div>Analyzed: 16-Apr-14 13:54</div> </div>						
(d10-Acenaphthene)	NA	108			% Recovery	
(d10-Phenanthrene)	NA	100			% Recovery	
(d12-Chrysene)	NA	89			% Recovery	
(d8-Naphthalene)	NA	121			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	1.8	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	1.4	1	5	ng/dry g	J
Benz[a]anthracene	NA	4.6	1	5	ng/dry g	J
Benzo[a]pyrene	NA	5.7	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	5.8	1	5	ng/dry g	
Benzo[e]pyrene	NA	4.9	1	5	ng/dry g	J
Benzo[g,h,i]perylene	NA	11.1	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	4.1	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	8	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	1.6	1	5	ng/dry g	J
Dibenzothiophene	NA	1	1	5	ng/dry g	J
Fluoranthene	NA	10	1	5	ng/dry g	
Fluorene	NA	ND	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	9.3	1	5	ng/dry g	
Naphthalene	NA	1.1	1	5	ng/dry g	J
Perylene	NA	1.5	1	5	ng/dry g	J
Phenanthrene	NA	7.5	1	5	ng/dry g	
Pyrene	NA	12	1	5	ng/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22081-R1 B13-8056 Grab Matrix: Sediment Sampled: 12-Aug-13 14:08 Received: 12-Aug-13 Method: EPA 8270C Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 16-Apr-14 15:28						
(d10-Acenaphthene)	NA	75			% Recovery	
(d10-Phenanthrene)	NA	128			% Recovery	
(d12-Chrysene)	NA	84			% Recovery	
(d8-Naphthalene)	NA	67			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	6.9	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	1.4	1	5	ng/dry g	J
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	7.5	1	5	ng/dry g	
Anthracene	NA	22	1	5	ng/dry g	
Benz[a]anthracene	NA	72.9	1	5	ng/dry g	
Benzo[a]pyrene	NA	96.4	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	83.3	1	5	ng/dry g	
Benzo[e]pyrene	NA	65.6	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	79.3	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	62.4	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	120.3	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	17.2	1	5	ng/dry g	
Dibenzothiophene	NA	2	1	5	ng/dry g	J
Fluoranthene	NA	106.5	1	5	ng/dry g	
Fluorene	NA	2.7	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	72.2	1	5	ng/dry g	
Naphthalene	NA	2.8	1	5	ng/dry g	J
Perylene	NA	20.7	1	5	ng/dry g	
Phenanthrene	NA	27.8	1	5	ng/dry g	
Pyrene	NA	117.6	1	5	ng/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22082-R1	B13-8064 Grab	Matrix: Sediment		Sampled: 12-Aug-13 9:32	Received: 12-Aug-13	
	Method: EPA 8270C	Batch ID: O-5125		Prepared: 27-Mar-14	Analyzed: 16-Apr-14 17:03	
(d10-Acenaphthene)	NA	109			% Recovery	
(d10-Phenanthrene)	NA	94			% Recovery	
(d12-Chrysene)	NA	102			% Recovery	
(d8-Naphthalene)	NA	85			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	2.4	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	1.2	1	5	ng/dry g	J
2-Methylnaphthalene	NA	1.7	1	5	ng/dry g	J
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	4.7	1	5	ng/dry g	J
Anthracene	NA	8.4	1	5	ng/dry g	
Benz[a]anthracene	NA	18.7	1	5	ng/dry g	
Benzo[a]pyrene	NA	24.8	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	25.7	1	5	ng/dry g	
Benzo[e]pyrene	NA	19.7	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	74.1	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	19.2	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	35.5	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	16.4	1	5	ng/dry g	
Dibenzothiophene	NA	1.6	1	5	ng/dry g	J
Fluoranthene	NA	36.1	1	5	ng/dry g	
Fluorene	NA	1.9	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	66	1	5	ng/dry g	
Naphthalene	NA	3.7	1	5	ng/dry g	J
Perylene	NA	5.6	1	5	ng/dry g	
Phenanthrene	NA	18.4	1	5	ng/dry g	
Pyrene	NA	44.8	1	5	ng/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22083-R1 B13-8066 Grab Matrix: Sediment Sampled: 12-Aug-13 10:54 Received: 12-Aug-13 Method: EPA 8270C Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 16-Apr-14 18:37						
(d10-Acenaphthene)	NA	70			% Recovery	
(d10-Phenanthrene)	NA	127			% Recovery	
(d12-Chrysene)	NA	73			% Recovery	
(d8-Naphthalene)	NA	70			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	3	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	1.2	1	5	ng/dry g	J
2-Methylnaphthalene	NA	1.8	1	5	ng/dry g	J
Acenaphthene	NA	1	1	5	ng/dry g	J
Acenaphthylene	NA	4.2	1	5	ng/dry g	J
Anthracene	NA	9.2	1	5	ng/dry g	
Benz[a]anthracene	NA	17.1	1	5	ng/dry g	
Benzo[a]pyrene	NA	24	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	22.8	1	5	ng/dry g	
Benzo[e]pyrene	NA	18.8	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	72.7	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	15.3	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	32.4	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	15.2	1	5	ng/dry g	
Dibenzothiophene	NA	2.2	1	5	ng/dry g	J
Fluoranthene	NA	38.7	1	5	ng/dry g	
Fluorene	NA	3.1	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	65.5	1	5	ng/dry g	
Naphthalene	NA	3.5	1	5	ng/dry g	J
Perylene	NA	5.1	1	5	ng/dry g	
Phenanthrene	NA	20.7	1	5	ng/dry g	
Pyrene	NA	47.3	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22084-R1 B13-8020 Grab Matrix: Sediment Sampled: 11-Aug-13 11:27 Received: 12-Aug-13 Method: EPA 8270C Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 17-Apr-14 0:56						
(d10-Acenaphthene)	NA	64			% Recovery	
(d10-Phenanthrene)	NA	75			% Recovery	
(d12-Chrysene)	NA	72			% Recovery	
(d8-Naphthalene)	NA	65			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	2.8	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	1	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	1.2	1	5	ng/dry g	J
2-Methylnaphthalene	NA	1.6	1	5	ng/dry g	J
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	1.4	1	5	ng/dry g	J
Benz[a]anthracene	NA	4	1	5	ng/dry g	J
Benzo[a]pyrene	NA	5.7	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	6.1	1	5	ng/dry g	
Benzo[e]pyrene	NA	5.2	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	15.7	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	4.3	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	6.6	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	1.9	1	5	ng/dry g	J
Dibenzothiophene	NA	2	1	5	ng/dry g	J
Fluoranthene	NA	14.4	1	5	ng/dry g	
Fluorene	NA	2.3	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	13.2	1	5	ng/dry g	
Naphthalene	NA	2.6	1	5	ng/dry g	J
Perylene	NA	1.4	1	5	ng/dry g	J
Phenanthrene	NA	15	1	5	ng/dry g	
Pyrene	NA	16.5	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22085-R1</div> <div>B13-8050 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5125</div> </div> <div> <div>Sampled: 12-Aug-13 15:21</div> <div>Prepared: 27-Mar-14</div> </div> <div> <div>Received: 12-Aug-13</div> <div>Analyzed: 17-Apr-14 2:30</div> </div>						
(d10-Acenaphthene)	NA	76			% Recovery	
(d10-Phenanthrene)	NA	89			% Recovery	
(d12-Chrysene)	NA	100			% Recovery	
(d8-Naphthalene)	NA	70			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	3	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	1.1	1	5	ng/dry g	J
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	1.7	1	5	ng/dry g	J
Anthracene	NA	5.9	1	5	ng/dry g	
Benz[a]anthracene	NA	9.5	1	5	ng/dry g	
Benzo[a]pyrene	NA	10.9	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	11	1	5	ng/dry g	
Benzo[e]pyrene	NA	9.1	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	25.9	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	8.5	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	23.9	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	5.1	1	5	ng/dry g	
Dibenzothiophene	NA	1.7	1	5	ng/dry g	J
Fluoranthene	NA	20.4	1	5	ng/dry g	
Fluorene	NA	2.4	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	23	1	5	ng/dry g	
Naphthalene	NA	1.9	1	5	ng/dry g	J
Perylene	NA	2.7	1	5	ng/dry g	J
Phenanthrene	NA	16.9	1	5	ng/dry g	
Pyrene	NA	23.2	1	5	ng/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22086-R1</div> <div>B13-8069 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5125</div> </div> <div> <div>Sampled: 12-Aug-13 12:33</div> <div>Prepared: 27-Mar-14</div> </div> <div> <div>Received: 12-Aug-13</div> <div>Analyzed: 17-Apr-14 4:05</div> </div>						
(d10-Acenaphthene)	NA	73			% Recovery	
(d10-Phenanthrene)	NA	94			% Recovery	
(d12-Chrysene)	NA	83			% Recovery	
(d8-Naphthalene)	NA	69			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	3.3	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	1.5	1	5	ng/dry g	J
Acenaphthene	NA	1.1	1	5	ng/dry g	J
Acenaphthylene	NA	4.4	1	5	ng/dry g	J
Anthracene	NA	9.9	1	5	ng/dry g	
Benz[a]anthracene	NA	21.4	1	5	ng/dry g	
Benzo[a]pyrene	NA	34	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	36.7	1	5	ng/dry g	
Benzo[e]pyrene	NA	26.7	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	73.9	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	26.1	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	46.1	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	16	1	5	ng/dry g	
Dibenzothiophene	NA	1.8	1	5	ng/dry g	J
Fluoranthene	NA	51.8	1	5	ng/dry g	
Fluorene	NA	2.2	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	72.3	1	5	ng/dry g	
Naphthalene	NA	2.9	1	5	ng/dry g	J
Perylene	NA	6.4	1	5	ng/dry g	
Phenanthrene	NA	18.9	1	5	ng/dry g	
Pyrene	NA	59.5	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22087-R1</div> <div>B13-8017 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5125</div> </div> <div> <div>Sampled: 11-Aug-13 14:43</div> <div>Prepared: 27-Mar-14</div> </div> <div> <div>Received: 12-Aug-13</div> <div>Analyzed: 17-Apr-14 5:40</div> </div>						
(d10-Acenaphthene)	NA	68			% Recovery	
(d10-Phenanthrene)	NA	99			% Recovery	
(d12-Chrysene)	NA	80			% Recovery	
(d8-Naphthalene)	NA	68			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	1.6	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	ND	1	5	ng/dry g	
Benz[a]anthracene	NA	2	1	5	ng/dry g	J
Benzo[a]pyrene	NA	3.5	1	5	ng/dry g	J
Benzo[b]fluoranthene	NA	2.9	1	5	ng/dry g	J
Benzo[e]pyrene	NA	3.2	1	5	ng/dry g	J
Benzo[g,h,i]perylene	NA	11.7	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	2.1	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	3.8	1	5	ng/dry g	J
Dibenz[a,h]anthracene	NA	1.3	1	5	ng/dry g	J
Dibenzothiophene	NA	1.2	1	5	ng/dry g	J
Fluoranthene	NA	8.8	1	5	ng/dry g	
Fluorene	NA	1.6	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	9	1	5	ng/dry g	
Naphthalene	NA	1.6	1	5	ng/dry g	J
Perylene	NA	ND	1	5	ng/dry g	
Phenanthrene	NA	8.8	1	5	ng/dry g	
Pyrene	NA	11.3	1	5	ng/dry g	



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CA ELAP #2769

Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Sample ID: 22078-R1

B13-8065 Grab

Matrix: Sediment

Sampled: 12-Aug-13 7:59

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 03-Apr-14 20:03

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	0.92	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22079-R1

B13-8049 Grab

Matrix: Sediment

Sampled: 12-Aug-13 16:17

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 03-Apr-14 21:08

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Resmethrin	NA	ND	0.25	0.5	ng/dry g	
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Sample ID: 22080-R1

B13-8029 Grab

Matrix: Sediment

Sampled: 11-Aug-13 8:50

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 03-Apr-14 23:17

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22081-R1

B13-8056 Grab

Matrix: Sediment

Sampled: 12-Aug-13 14:08

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 04-Apr-14 0:21

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22082-R1

B13-8064 Grab

Matrix: Sediment

Sampled: 12-Aug-13 9:32

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 04-Apr-14 1:26

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22083-R1

B13-8066 Grab

Matrix: Sediment

Sampled: 12-Aug-13 10:54

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 04-Apr-14 2:31

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22084-R1

B13-8020 Grab

Matrix: Sediment

Sampled: 11-Aug-13 11:27

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 04-Apr-14 6:49

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22085-R1

B13-8050 Grab

Matrix: Sediment

Sampled: 12-Aug-13 15:21

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 04-Apr-14 7:53

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22086-R1**B13-8069 Grab**

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5125

Sampled: 12-Aug-13 12:33

Prepared: 27-Mar-14

Received: 12-Aug-13

Analyzed: 04-Apr-14 8:58

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22087-R1**B13-8017 Grab**

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5125

Sampled: 11-Aug-13 14:43

Prepared: 27-Mar-14

Received: 12-Aug-13

Analyzed: 04-Apr-14 10:03

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

QUALITY CONTROL REPORT

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Innovative Solutions for Nature



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CA ELAP #2769

Aroclor PCBs**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22077-B1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 15-Apr-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g					
Aroclor 1221	NA	ND	1	2	ng/dry g					
Aroclor 1232	NA	ND	1	2	ng/dry g					
Aroclor 1242	NA	ND	1	2	ng/dry g					
Aroclor 1248	NA	ND	1	2	ng/dry g					
Aroclor 1254	NA	ND	1	2	ng/dry g					
Aroclor 1260	NA	ND	1	2	ng/dry g					
Aroclor 1262	NA	ND	1	2	ng/dry g					
Aroclor 1268	NA	ND	1	2	ng/dry g					

Sample ID: 22079-R2**B13-8049 Grab****Matrix: Sediment****Sampled: 12-Aug-13 16:17****Received: 12-Aug-13**

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 16-Apr-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g				0	25	PASS
Aroclor 1221	NA	ND	1	2	ng/dry g				0	25	PASS
Aroclor 1232	NA	ND	1	2	ng/dry g				0	25	PASS
Aroclor 1242	NA	ND	1	2	ng/dry g				0	25	PASS
Aroclor 1248	NA	ND	1	2	ng/dry g				0	25	PASS
Aroclor 1254	NA	ND	1	2	ng/dry g				0	25	PASS
Aroclor 1260	NA	15	1	2	ng/dry g				17	25	PASS
Aroclor 1262	NA	ND	1	2	ng/dry g				0	25	PASS
Aroclor 1268	NA	ND	1	2	ng/dry g				0	25	PASS



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CA ELAP #2769

Chlorinated Pesticides**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22077-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C-NCI		Batch ID: O-5030		Prepared: 30-Oct-13		Analyzed: 05-Nov-13 8:08		
Toxaphene	NA	ND	0.1	0.2	ng/dry g					
		Method: EPA 8270C		Batch ID: O-5125		Prepared: 27-Mar-14		Analyzed: 15-Apr-14 20:33		
(PCB030)	NA	102			% Recovery	100		102	50 - 150% PASS	
(PCB112)	NA	112			% Recovery	100		112	50 - 150% PASS	
(PCB198)	NA	94			% Recovery	100		94	50 - 150% PASS	
(TCMX)	NA	97			% Recovery	100		97	50 - 150% PASS	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g					
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g					
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g					
Aldrin	NA	ND	0.05	0.1	ng/dry g					
BHC-alpha	NA	ND	0.05	0.1	ng/dry g					
BHC-beta	NA	ND	0.05	0.1	ng/dry g					
BHC-delta	NA	ND	0.05	0.1	ng/dry g					
BHC-gamma	NA	ND	0.05	0.1	ng/dry g					
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g					
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g					
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g					
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g					
Dicofol	NA	ND	0.05	0.1	ng/dry g					
Dieldrin	NA	ND	0.05	0.1	ng/dry g					
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g					
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g					
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g					
Endrin	NA	ND	0.05	0.1	ng/dry g					
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g					

CA ELAP #2769

QUALITY CONTROL REPORT

Sample ID: 22077-BS1		QAQC Procedural Blank			Matrix: DI Water			Sampled:			Received:	
		Method: EPA 8270C-NCI			Batch ID: O-5030			Prepared: 30-Oct-13			Analyzed: 05-Nov-13 9:12	
Toxaphene	NA	10230	0.1	0.2	ng/dry g	10000	0	102	70 - 130%	PASS		
		Method: EPA 8270C			Batch ID: O-5125			Prepared: 27-Mar-14			Analyzed: 15-Apr-14 22:07	
(PCB030)	NA	111			% Recovery	100	0	111	70 - 130%	PASS		
(PCB112)	NA	118			% Recovery	100	0	118	70 - 130%	PASS		
(PCB198)	NA	98			% Recovery	100	0	98	70 - 130%	PASS		
(TCMX)	NA	106			% Recovery	100	0	106	70 - 130%	PASS		
2,4'-DDD	NA	97	0.05	0.1	ng/dry g	100	0	97	70 - 130%	PASS		
2,4'-DDE	NA	97	0.05	0.1	ng/dry g	100	0	97	70 - 130%	PASS		
2,4'-DDT	NA	114	0.05	0.1	ng/dry g	100	0	114	70 - 130%	PASS		
4,4'-DDD	NA	91	0.05	0.1	ng/dry g	100	0	91	70 - 130%	PASS		
4,4'-DDE	NA	97	0.05	0.1	ng/dry g	100	0	97	70 - 130%	PASS		
4,4'-DDMU	NA	98	0.05	0.1	ng/dry g	100	0	98	70 - 130%	PASS		
4,4'-DDT	NA	121	0.05	0.1	ng/dry g	100	0	121	70 - 130%	PASS		
Aldrin	NA	97	0.05	0.1	ng/dry g	100	0	97	70 - 130%	PASS		
BHC-alpha	NA	107	0.05	0.1	ng/dry g	100	0	107	70 - 130%	PASS		
BHC-beta	NA	92	0.05	0.1	ng/dry g	100	0	92	70 - 130%	PASS		
BHC-delta	NA	99	0.05	0.1	ng/dry g	100	0	99	70 - 130%	PASS		
BHC-gamma	NA	115	0.05	0.1	ng/dry g	100	0	115	70 - 130%	PASS		
Chlordane-alpha	NA	106	0.05	0.1	ng/dry g	100	0	106	70 - 130%	PASS		
Chlordane-gamma	NA	112	0.05	0.1	ng/dry g	100	0	112	70 - 130%	PASS		



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CA ELAP #2769

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
cis-Nonachlor	NA	97	0.05	0.1	ng/dry g	100	0	97	70 - 130%	PASS		
DCPA (Dacthal)	NA	105	0.05	0.1	ng/dry g	100	0	105	70 - 130%	PASS		
Dicofol	NA	130	0.05	0.1	ng/dry g	100	0	130	70 - 130%	PASS		
Dieldrin	NA	93	0.05	0.1	ng/dry g	100	0	93	70 - 130%	PASS		
Endosulfan sulfate	NA	99	0.05	0.1	ng/dry g	100	0	99	70 - 130%	PASS		
Endosulfan-I	NA	58	0.05	0.1	ng/dry g	100	0	58	70 - 130%	FAIL		R
Endosulfan-II	NA	79	0.05	0.1	ng/dry g	100	0	79	70 - 130%	PASS		
Endrin	NA	133	0.05	0.1	ng/dry g	100	0	133	70 - 130%	FAIL		R
Endrin aldehyde	NA	2	0.05	0.1	ng/dry g	100	0	2	70 - 130%	FAIL		R
Endrin ketone	NA	102	0.05	0.1	ng/dry g	100	0	102	70 - 130%	PASS		
Heptachlor	NA	151	0.05	0.1	ng/dry g	100	0	151	70 - 130%	FAIL		R
Heptachlor epoxide	NA	108	0.05	0.1	ng/dry g	100	0	108	70 - 130%	PASS		
Hexachlorobenzene	NA	101	0.05	0.1	ng/dry g	100	0	101	70 - 130%	PASS		
Methoxychlor	NA	120	0.05	0.1	ng/dry g	100	0	120	70 - 130%	PASS		
Mirex	NA	87	0.05	0.1	ng/dry g	100	0	87	70 - 130%	PASS		
Oxychlorane	NA	102	0.05	0.1	ng/dry g	100	0	102	70 - 130%	PASS		
Perthane	NA	110	0.05	0.1	ng/dry g	100	0	110	70 - 130%	PASS		
trans-Nonachlor	NA	109	0.05	0.1	ng/dry g	100	0	109	70 - 130%	PASS		

Sample ID: 22077-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5030

Prepared: 30-Oct-13

Analyzed: 05-Nov-13 10:16

Toxaphene	NA	9780	0.1	0.2	ng/dry g	10000	0	98	70 - 130%	PASS	4	25	PASS
Method: EPA 8270C Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 18-Apr-14 8:31													
(PCB030)	NA	107			% Recovery	100	0	107	70 - 130%	PASS	4	25	PASS
(PCB112)	NA	123			% Recovery	100	0	123	70 - 130%	PASS	4	25	PASS
(PCB198)	NA	80			% Recovery	100	0	80	70 - 130%	PASS	20	25	PASS
(TCMX)	NA	98			% Recovery	100	0	98	70 - 130%	PASS	8	25	PASS
2,4'-DDD	NA	97	0.05	0.1	ng/dry g	100	0	97	70 - 130%	PASS	0	25	PASS
2,4'-DDE	NA	104	0.05	0.1	ng/dry g	100	0	104	70 - 130%	PASS	7	25	PASS
2,4'-DDT	NA	105	0.05	0.1	ng/dry g	100	0	105	70 - 130%	PASS	8	25	PASS
4,4'-DDD	NA	87	0.05	0.1	ng/dry g	100	0	87	70 - 130%	PASS	4	25	PASS
4,4'-DDE	NA	99	0.05	0.1	ng/dry g	100	0	99	70 - 130%	PASS	2	25	PASS

PHYSIS Project ID: 1307002-006

Client: AMEC

Project: RHMP Bight '13

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CA ELAP #2769

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
4,4'-DDMU	NA	102	0.05	0.1	ng/dry g	100	0	102 70 - 130% PASS	4 25 PASS	
4,4'-DDT	NA	108	0.05	0.1	ng/dry g	100	0	108 70 - 130% PASS	11 25 PASS	
Aldrin	NA	93	0.05	0.1	ng/dry g	100	0	93 70 - 130% PASS	4 25 PASS	
BHC-alpha	NA	103	0.05	0.1	ng/dry g	100	0	103 70 - 130% PASS	4 25 PASS	
BHC-beta	NA	99	0.05	0.1	ng/dry g	100	0	99 70 - 130% PASS	7 25 PASS	
BHC-delta	NA	92	0.05	0.1	ng/dry g	100	0	92 70 - 130% PASS	7 25 PASS	
BHC-gamma	NA	103	0.05	0.1	ng/dry g	100	0	103 70 - 130% PASS	11 25 PASS	
Chlordane-alpha	NA	107	0.05	0.1	ng/dry g	100	0	107 70 - 130% PASS	1 25 PASS	
Chlordane-gamma	NA	112	0.05	0.1	ng/dry g	100	0	112 70 - 130% PASS	0 25 PASS	
cis-Nonachlor	NA	92	0.05	0.1	ng/dry g	100	0	92 70 - 130% PASS	5 25 PASS	
DCPA (Dacthal)	NA	100	0.05	0.1	ng/dry g	100	0	100 70 - 130% PASS	5 25 PASS	
Dicofol	NA	108	0.05	0.1	ng/dry g	100	0	108 70 - 130% PASS	18 25 PASS	
Dieldrin	NA	92	0.05	0.1	ng/dry g	100	0	92 70 - 130% PASS	1 25 PASS	
Endosulfan sulfate	NA	91	0.05	0.1	ng/dry g	100	0	91 70 - 130% PASS	8 25 PASS	
Endosulfan-I	NA	98	0.05	0.1	ng/dry g	100	0	98 70 - 130% PASS	51 25 FAIL	R
Endosulfan-II	NA	86	0.05	0.1	ng/dry g	100	0	86 70 - 130% PASS	8 25 PASS	
Endrin	NA	124	0.05	0.1	ng/dry g	100	0	124 70 - 130% PASS	7 25 PASS	
Endrin aldehyde	NA	76	0.05	0.1	ng/dry g	100	0	76 70 - 130% PASS	190 25 FAIL	R
Endrin ketone	NA	89	0.05	0.1	ng/dry g	100	0	89 70 - 130% PASS	14 25 PASS	
Heptachlor	NA	124	0.05	0.1	ng/dry g	100	0	124 70 - 130% PASS	20 25 PASS	
Heptachlor epoxide	NA	98	0.05	0.1	ng/dry g	100	0	98 70 - 130% PASS	10 25 PASS	
Hexachlorobenzene	NA	96	0.05	0.1	ng/dry g	100	0	96 70 - 130% PASS	5 25 PASS	
Methoxychlor	NA	103	0.05	0.1	ng/dry g	100	0	103 70 - 130% PASS	15 25 PASS	
Mirex	NA	75	0.05	0.1	ng/dry g	100	0	75 70 - 130% PASS	15 25 PASS	
Oxychlordane	NA	87	0.05	0.1	ng/dry g	100	0	87 70 - 130% PASS	16 25 PASS	
Perthane	NA	103	0.05	0.1	ng/dry g	100	0	103 70 - 130% PASS	7 25 PASS	
trans-Nonachlor	NA	105	0.05	0.1	ng/dry g	100	0	105 70 - 130% PASS	4 25 PASS	

Sample ID: 22078-MS1

B13-8065 Grab

Matrix: Sediment

Sampled: 12-Aug-13 7:59

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: 0-5030

Prepared: 30-Oct-13

Analyzed: 05-Nov-13 11:19

Toxaphene	NA	1569.6	0.1	0.2	ng/dry g	1483	0	106 50 - 150% PASS		
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CA ELAP #2769

Chlorinated Pesticides**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Sample ID: 22078-MS2		B13-8065 Grab				Matrix: Sediment		Sampled: 12-Aug-13 7:59	Received: 12-Aug-13	
		Method: EPA 8270C-NCI				Batch ID: O-5030		Prepared: 30-Oct-13	Analyzed: 05-Nov-13 12:23	
Toxaphene	NA	1358.3	0.1	0.2	ng/dry g	1492	0	91 50 - 150%	PASS	15 25 PASS
Sample ID: 22078-R2		B13-8065 Grab				Matrix: Sediment		Sampled: 12-Aug-13 7:59	Received: 12-Aug-13	
		Method: EPA 8270C-NCI				Batch ID: O-5030		Prepared: 30-Oct-13	Analyzed: 05-Nov-13 16:04	
Toxaphene	NA	ND	0.1	0.2	ng/dry g				0 25 PASS	
Sample ID: 22079-MS1		B13-8049 Grab				Matrix: Sediment		Sampled: 12-Aug-13 16:17	Received: 12-Aug-13	
		Method: EPA 8270C				Batch ID: O-5125		Prepared: 27-Mar-14	Analyzed: 16-Apr-14 1:17	
(PCB030)	NA	110			% Recovery	100	0	110 50 - 150%	PASS	
(PCB112)	NA	117			% Recovery	100	0	117 50 - 150%	PASS	
(PCB198)	NA	86			% Recovery	100	0	86 50 - 150%	PASS	
(TCMX)	NA	113			% Recovery	100	0	113 50 - 150%	PASS	
2,4'-DDD	NA	99	0.05	0.1	ng/dry g	100	0	99 50 - 150%	PASS	
2,4'-DDE	NA	104	0.05	0.1	ng/dry g	100	0	104 50 - 150%	PASS	
2,4'-DDT	NA	113	0.05	0.1	ng/dry g	100	0	113 25 - 125%	PASS	
4,4'-DDD	NA	89	0.05	0.1	ng/dry g	100	0	89 50 - 150%	PASS	
4,4'-DDE	NA	99	0.05	0.1	ng/dry g	100	0	99 50 - 150%	PASS	
4,4'-DDMU	NA	104	0.05	0.1	ng/dry g	100	0	104 50 - 150%	PASS	
4,4'-DDT	NA	121	0.05	0.1	ng/dry g	100	0	121 25 - 125%	PASS	
Aldrin	NA	79	0.05	0.1	ng/dry g	100	0	79 50 - 150%	PASS	
BHC-alpha	NA	112	0.05	0.1	ng/dry g	100	0	112 50 - 150%	PASS	
BHC-beta	NA	118	0.05	0.1	ng/dry g	100	0	118 50 - 150%	PASS	
BHC-delta	NA	102	0.05	0.1	ng/dry g	100	0	102 50 - 150%	PASS	
BHC-gamma	NA	111	0.05	0.1	ng/dry g	100	0	111 50 - 150%	PASS	
Chlordane-alpha	NA	112	0.05	0.1	ng/dry g	100	0	112 50 - 150%	PASS	
Chlordane-gamma	NA	121	0.05	0.1	ng/dry g	100	0	121 50 - 150%	PASS	
cis-Nonachlor	NA	97	0.05	0.1	ng/dry g	100	0	97 50 - 150%	PASS	
DCPA (Dacthal)	NA	105	0.05	0.1	ng/dry g	100	0	105 50 - 150%	PASS	
Dicofol	NA	137	0.05	0.1	ng/dry g	100	0	137 50 - 150%	PASS	



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Dieldrin	NA	98	0.05	0.1	ng/dry g	100	0	98	50 - 150%	PASS		
Endosulfan sulfate	NA	96	0.05	0.1	ng/dry g	100	0	96	50 - 150%	PASS		
Endosulfan-I	NA	60	0.05	0.1	ng/dry g	100	0	60	50 - 150%	PASS		
Endosulfan-II	NA	75	0.05	0.1	ng/dry g	100	0	75	50 - 150%	PASS		
Endrin	NA	133	0.05	0.1	ng/dry g	100	0	133	25 - 125%	FAIL		M
Endrin aldehyde	NA	0	0.05	0.1	ng/dry g	100	0	0	0 - 125%	PASS		
Endrin ketone	NA	93	0.05	0.1	ng/dry g	100	0	93	25 - 125%	PASS		
Heptachlor	NA	154	0.05	0.1	ng/dry g	100	0	154	50 - 150%	FAIL		M
Heptachlor epoxide	NA	108	0.05	0.1	ng/dry g	100	0	108	50 - 150%	PASS		
Hexachlorobenzene	NA	107	0.05	0.1	ng/dry g	100	0	107	50 - 150%	PASS		
Methoxychlor	NA	120	0.05	0.1	ng/dry g	100	0	120	50 - 150%	PASS		
Mirex	NA	79	0.05	0.1	ng/dry g	100	0	79	50 - 150%	PASS		
Oxychlorane	NA	94	0.05	0.1	ng/dry g	100	0	94	50 - 150%	PASS		
Perthane	NA	109	0.05	0.1	ng/dry g	100	0	109	50 - 150%	PASS		
trans-Nonachlor	NA	114	0.05	0.1	ng/dry g	100	0	114	50 - 150%	PASS		

Sample ID: 22079-MS2

B13-8049 Grab

Matrix: Sediment

Sampled: 12-Aug-13 16:17

Received: 12-Aug-13

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 16-Apr-14 2:52

(PCB030)	NA	121			% Recovery	100	0	121	50 - 150%	PASS	10	25	PASS
(PCB112)	NA	120			% Recovery	100	0	120	50 - 150%	PASS	3	25	PASS
(PCB198)	NA	84			% Recovery	100	0	84	50 - 150%	PASS	2	25	PASS
(TCMX)	NA	123			% Recovery	100	0	123	50 - 150%	PASS	8	25	PASS
2,4'-DDD	NA	104	0.05	0.1	ng/dry g	100	0	104	50 - 150%	PASS	5	25	PASS
2,4'-DDE	NA	114	0.05	0.1	ng/dry g	100	0	114	50 - 150%	PASS	9	25	PASS
2,4'-DDT	NA	114	0.05	0.1	ng/dry g	100	0	114	25 - 125%	PASS	1	25	PASS
4,4'-DDD	NA	92	0.05	0.1	ng/dry g	100	0	92	50 - 150%	PASS	3	25	PASS
4,4'-DDE	NA	107	0.05	0.1	ng/dry g	100	0	107	50 - 150%	PASS	8	25	PASS
4,4'-DDMU	NA	115	0.05	0.1	ng/dry g	100	0	115	50 - 150%	PASS	10	25	PASS
4,4'-DDT	NA	117	0.05	0.1	ng/dry g	100	0	117	25 - 125%	PASS	3	25	PASS
Aldrin	NA	72	0.05	0.1	ng/dry g	100	0	72	50 - 150%	PASS	9	25	PASS
BHC-alpha	NA	124	0.05	0.1	ng/dry g	100	0	124	50 - 150%	PASS	10	25	PASS
BHC-beta	NA	121	0.05	0.1	ng/dry g	100	0	121	50 - 150%	PASS	3	25	PASS



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
BHC-delta	NA	107	0.05	0.1	ng/dry g	100	0	107 50 - 150% PASS	5 25 PASS	
BHC-gamma	NA	119	0.05	0.1	ng/dry g	100	0	119 50 - 150% PASS	7 25 PASS	
Chlordane-alpha	NA	115	0.05	0.1	ng/dry g	100	0	115 50 - 150% PASS	3 25 PASS	
Chlordane-gamma	NA	124	0.05	0.1	ng/dry g	100	0	124 50 - 150% PASS	2 25 PASS	
cis-Nonachlor	NA	101	0.05	0.1	ng/dry g	100	0	101 50 - 150% PASS	4 25 PASS	
DCPA (Dacthal)	NA	108	0.05	0.1	ng/dry g	100	0	108 50 - 150% PASS	3 25 PASS	
Dicofol	NA	132	0.05	0.1	ng/dry g	100	0	132 50 - 150% PASS	4 25 PASS	
Dieldrin	NA	99	0.05	0.1	ng/dry g	100	0	99 50 - 150% PASS	1 25 PASS	
Endosulfan sulfate	NA	95	0.05	0.1	ng/dry g	100	0	95 50 - 150% PASS	1 25 PASS	
Endosulfan-I	NA	68	0.05	0.1	ng/dry g	100	0	68 50 - 150% PASS	12 25 PASS	
Endosulfan-II	NA	78	0.05	0.1	ng/dry g	100	0	78 50 - 150% PASS	4 25 PASS	
Endrin	NA	136	0.05	0.1	ng/dry g	100	0	136 25 - 125% FAIL	2 25 PASS	M
Endrin aldehyde	NA	2	0.05	0.1	ng/dry g	100	0	2 0 - 125% PASS	200 25 FAIL	M
Endrin ketone	NA	90	0.05	0.1	ng/dry g	100	0	90 25 - 125% PASS	3 25 PASS	
Heptachlor	NA	146	0.05	0.1	ng/dry g	100	0	146 50 - 150% PASS	5 25 PASS	
Heptachlor epoxide	NA	106	0.05	0.1	ng/dry g	100	0	106 50 - 150% PASS	2 25 PASS	
Hexachlorobenzene	NA	116	0.05	0.1	ng/dry g	100	0	116 50 - 150% PASS	8 25 PASS	
Methoxychlor	NA	113	0.05	0.1	ng/dry g	100	0	113 50 - 150% PASS	6 25 PASS	
Mirex	NA	75	0.05	0.1	ng/dry g	100	0	75 50 - 150% PASS	5 25 PASS	
Oxychlordane	NA	91	0.05	0.1	ng/dry g	100	0	91 50 - 150% PASS	3 25 PASS	
Perthane	NA	113	0.05	0.1	ng/dry g	100	0	113 50 - 150% PASS	4 25 PASS	
trans-Nonachlor	NA	121	0.05	0.1	ng/dry g	100	0	121 50 - 150% PASS	6 25 PASS	

Sample ID: 22079-R2

B13-8049 Grab

Matrix: Sediment

Sampled: 12-Aug-13 16:17

Received: 12-Aug-13

Method: EPA 8270C

Batch ID: 0-5125

Prepared: 27-Mar-14

Analyzed: 16-Apr-14 9:10

(PCB030)	NA	72			% Recovery	100	72 50 - 150% PASS	11 25 PASS	
(PCB112)	NA	72			% Recovery	100	72 50 - 150% PASS	9 25 PASS	
(PCB198)	NA	83			% Recovery	100	83 50 - 150% PASS	8 25 PASS	
(TCMX)	NA	75			% Recovery	100	75 50 - 150% PASS	11 25 PASS	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g			0 25 PASS	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g			0 25 PASS	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g			0 25 PASS	



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Aldrin	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
BHC-beta	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
BHC-delta	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Dicofol	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Dieldrin	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endrin	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Heptachlor	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Mirex	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Perthane	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	

Sample ID: 22088-CRM1

QAQC CRM - SRM 1944

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-5125

Sampled:

Prepared: 27-Mar-14

Received:

Analyzed: 16-Apr-14 4:26



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CA ELAP #2769

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
(PCB030)	NA	128			% Recovery	100		128 60 - 140% PASS		
(PCB112)	NA	121			% Recovery	100		121 60 - 140% PASS		
(PCB198)	NA	95			% Recovery	100		95 60 - 140% PASS		
(TCMX)	NA	137			% Recovery	100		137 60 - 140% PASS		
2,4'-DDD	NA	37.7	0.05	0.1	ng/dry g	38		99 60 - 140% PASS		
2,4'-DDE	NA	16.4	0.05	0.1	ng/dry g	19		86 60 - 140% PASS		
4,4'-DDD	NA	87.8	0.05	0.1	ng/dry g	108		81 60 - 140% PASS		
4,4'-DDE	NA	81.7	0.05	0.1	ng/dry g	86		95 60 - 140% PASS		
4,4'-DDT	NA	90	0.05	0.1	ng/dry g	170		53 60 - 140% FAIL		R
Chlordane-alpha	NA	16.8	0.05	0.1	ng/dry g	16.5		102 60 - 140% PASS		
Chlordane-gamma	NA	7.11	0.05	0.1	ng/dry g	19		37 60 - 140% FAIL		R
cis-Nonachlor	NA	3.66	0.05	0.1	ng/dry g	3.7		99 60 - 140% PASS		
Hexachlorobenzene	NA	6.17	0.05	0.1	ng/dry g	6		103 60 - 140% PASS		
trans-Nonachlor	NA	8.39	0.05	0.1	ng/dry g	8.2		102 60 - 140% PASS		



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CA ELAP #2769

Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
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Acid Volatile Sulfides

Method: Plumb, 1981 and TERL

Fraction: NA

22077-B1	QAQC Procedural Blank	C-14042 ND Prepared: 01-Oct-13	0.05	0.1	mg/dry kg							
		Analyzed: 01-Oct-13 0:00										
22077-BS1	QAQC Procedural Blank	C-14042 9.55 Prepared: 01-Oct-13	0.05	0.1	mg/dry kg	11.02	0	87	80 - 120% PASS			
		Analyzed: 01-Oct-13 0:00										
22077-BS2	QAQC Procedural Blank	C-14042 10.45 Prepared: 01-Oct-13	0.05	0.1	mg/dry kg	11.02	0	95	80 - 120% PASS	9	25	PASS
		Analyzed: 01-Oct-13 0:00										
22078-MS1	B13-8065	C-14042 20.19 Prepared: 01-Oct-13	0.05	0.1	mg/dry kg	10.91	11.31	81	50 - 130% PASS			
		Analyzed: 01-Oct-13 0:00										
22078-MS2	B13-8065	C-14042 18.97 Prepared: 01-Oct-13	0.05	0.1	mg/dry kg	9.84	11.31	78	50 - 130% PASS	4	25	PASS
		Analyzed: 01-Oct-13 0:00										
22078-R2	B13-8065	C-14042 10.48 Prepared: 01-Oct-13	0.05	0.1	mg/dry kg					15	25	PASS
		Analyzed: 01-Oct-13 0:00										

Ammonia as N

Method: SM 4500-NH₃ D

Fraction: NA

22077-B1	QAQC Procedural Blank	C-14040 ND Prepared: 27-Sep-13	0.02	0.03	mg/dry kg							
		Analyzed: 28-Sep-13 0:00										
22077-BS1	QAQC Procedural Blank	C-14040 5.08 Prepared: 27-Sep-13	0.02	0.03	mg/dry kg	5.38	0	94	80 - 120% PASS			
		Analyzed: 28-Sep-13 0:00										
22077-BS2	QAQC Procedural Blank	C-14040 5.31 Prepared: 27-Sep-13	0.02	0.03	mg/dry kg	5.38	0	99	80 - 120% PASS	5	25	PASS
		Analyzed: 28-Sep-13 0:00										
22078-MS1	B13-8065	C-14040 29.22 Prepared: 27-Sep-13	0.02	0.03	mg/dry kg	27.06	4.15	93	70 - 130% PASS			
		Analyzed: 28-Sep-13 0:00										
22078-MS2	B13-8065	C-14040 27.21 Prepared: 27-Sep-13	0.02	0.03	mg/dry kg	26.78	4.15	86	70 - 130% PASS	8	25	PASS
		Analyzed: 28-Sep-13 0:00										
22078-R2	B13-8065	C-14040 3.86 Prepared: 27-Sep-13	0.02	0.03	mg/dry kg					14	25	PASS
		Analyzed: 28-Sep-13 0:00										

Percent Solids

Method: SM 2540B

Fraction: NA

22078-R2	B13-8065	C-14037 44.7 Prepared: 27-Sep-13	0.1	0.1	% Dry Weight					0	25	PASS
		Analyzed: 28-Sep-13 0:00										

Total Phosphorus

Method: EPA 6020

Fraction: NA



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QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
22077-B1	QAQC Procedural Blank	E-5147 Prepared: 30-Sep-13	ND	0.016	0.05	µg/dry g						
					Analyzed: 02-Oct-13 15:01							
22077-BS1	QAQC Procedural Blank	E-5147 Prepared: 30-Sep-13	46.535	0.016	0.05	µg/dry g	50	0	93	80 - 120%	PASS	
					Analyzed: 02-Oct-13 20:25							
22077-BS2	QAQC Procedural Blank	E-5147 Prepared: 30-Sep-13	45.877	0.016	0.05	µg/dry g	50	0	92	80 - 120%	PASS	1 25 PASS
					Analyzed: 02-Oct-13 20:30							
22078-MS1	B13-8065	E-5147 Prepared: 30-Sep-13	2205.591	0.016	0.05	µg/dry g	1528	769.845	94	70 - 130%	PASS	
					Analyzed: 02-Oct-13 20:43							
22078-MS2	B13-8065	E-5147 Prepared: 30-Sep-13	2238.577	0.016	0.05	µg/dry g	1528	769.845	96	70 - 130%	PASS	2 25 PASS
					Analyzed: 02-Oct-13 20:48							
22078-R2	B13-8065	E-5147 Prepared: 30-Sep-13	762.393	0.016	0.05	µg/dry g				2	25	PASS
					Analyzed: 02-Oct-13 19:21							



Innovative Solutions for Nature

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CA ELAP #2769

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22077-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 6020

Batch ID: E-5147

Prepared: 30-Sep-13

Analyzed: 02-Oct-13 21:50

Aluminum (Al)	NA	ND	1	5	µg/dry g					
Antimony (Sb)	NA	ND	0.025	0.05	µg/dry g					
Arsenic (As)	NA	ND	0.025	0.05	µg/dry g					
Barium (Ba)	NA	ND	0.025	0.05	µg/dry g					
Beryllium (Be)	NA	ND	0.025	0.05	µg/dry g					
Cadmium (Cd)	NA	ND	0.0025	0.005	µg/dry g					
Chromium (Cr)	NA	ND	0.0025	0.005	µg/dry g					
Copper (Cu)	NA	ND	0.0025	0.005	µg/dry g					
Iron (Fe)	NA	ND	1	5	µg/dry g					
Lead (Pb)	NA	ND	0.0025	0.005	µg/dry g					
Nickel (Ni)	NA	ND	0.01	0.02	µg/dry g					
Selenium (Se)	NA	ND	0.025	0.05	µg/dry g					
Silver (Ag)	NA	ND	0.01	0.02	µg/dry g					
Zinc (Zn)	NA	ND	0.025	0.05	µg/dry g					

Method: EPA 245.7

Batch ID: E-6030

Prepared: 08-Oct-13

Analyzed: 08-Oct-13 0:00

Mercury (Hg)	NA	ND	0.00001	0.00002	µg/dry g					
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Sample ID: 22077-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 6020

Batch ID: E-5147

Prepared: 30-Sep-13

Analyzed: 03-Oct-13 2:43

Aluminum (Al)	NA	2	1	5	µg/dry g	2	0	100	80 - 120%	PASS
Antimony (Sb)	NA	1.95	0.025	0.05	µg/dry g	2	0	98	80 - 120%	PASS
Arsenic (As)	NA	1.957	0.025	0.05	µg/dry g	2	0	98	80 - 120%	PASS
Barium (Ba)	NA	1.976	0.025	0.05	µg/dry g	2	0	99	80 - 120%	PASS
Beryllium (Be)	NA	1.872	0.025	0.05	µg/dry g	2	0	94	80 - 120%	PASS
Cadmium (Cd)	NA	2.0434	0.0025	0.005	µg/dry g	2	0	102	80 - 120%	PASS
Chromium (Cr)	NA	1.9473	0.0025	0.005	µg/dry g	2	0	97	80 - 120%	PASS
Copper (Cu)	NA	2.0631	0.0025	0.005	µg/dry g	2	0	103	80 - 120%	PASS
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS
Lead (Pb)	NA	2.0548	0.0025	0.005	µg/dry g	2	0	103	80 - 120%	PASS



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Nickel (Ni)	NA	1.9	0.01	0.02	µg/dry g	2	0	95 80 - 120%	PASS	
Selenium (Se)	NA	2.092	0.025	0.05	µg/dry g	2	0	105 80 - 120%	PASS	
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	0.2	0	100 80 - 120%	PASS	
Zinc (Zn)	NA	2.02	0.025	0.05	µg/dry g	2	0	101 80 - 120%	PASS	

Method: EPA 245.7

Batch ID: E-6030

Prepared: 08-Oct-13

Analyzed: 08-Oct-13 0:00

Mercury (Hg)	NA	1.01	0.00001	0.00002	µg/dry g	1	0	101 80 - 120%	PASS	
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Sample ID: 22077-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 6020

Batch ID: E-5147

Prepared: 30-Sep-13

Analyzed: 03-Oct-13 2:47

Aluminum (Al)	NA	2	1	5	µg/dry g	2	0	100 80 - 120%	PASS	0 25 PASS
Antimony (Sb)	NA	1.924	0.025	0.05	µg/dry g	2	0	96 80 - 120%	PASS	2 25 PASS
Arsenic (As)	NA	1.968	0.025	0.05	µg/dry g	2	0	98 80 - 120%	PASS	0 25 PASS
Barium (Ba)	NA	1.959	0.025	0.05	µg/dry g	2	0	98 80 - 120%	PASS	1 25 PASS
Beryllium (Be)	NA	1.856	0.025	0.05	µg/dry g	2	0	93 80 - 120%	PASS	1 25 PASS
Cadmium (Cd)	NA	2.0339	0.0025	0.005	µg/dry g	2	0	102 80 - 120%	PASS	0 25 PASS
Chromium (Cr)	NA	1.9247	0.0025	0.005	µg/dry g	2	0	96 80 - 120%	PASS	1 25 PASS
Copper (Cu)	NA	2.0239	0.0025	0.005	µg/dry g	2	0	101 80 - 120%	PASS	2 25 PASS
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95 80 - 120%	PASS	0 25 PASS
Lead (Pb)	NA	2.0505	0.0025	0.005	µg/dry g	2	0	103 80 - 120%	PASS	0 25 PASS
Nickel (Ni)	NA	1.87	0.01	0.02	µg/dry g	2	0	94 80 - 120%	PASS	1 25 PASS
Selenium (Se)	NA	2.134	0.025	0.05	µg/dry g	2	0	107 80 - 120%	PASS	2 25 PASS
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	0.2	0	100 80 - 120%	PASS	0 25 PASS
Zinc (Zn)	NA	2.014	0.025	0.05	µg/dry g	2	0	101 80 - 120%	PASS	0 25 PASS

Method: EPA 245.7

Batch ID: E-6030

Prepared: 08-Oct-13

Analyzed: 08-Oct-13 0:00

Mercury (Hg)	NA	1.02	0.00001	0.00002	µg/dry g	1	0	102 80 - 120%	PASS	1 25 PASS
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Sample ID: 22078-MS1**B13-8065 Grab****Matrix: Sediment****Sampled: 12-Aug-13 7:59****Received: 12-Aug-13**

Method: EPA 6020

Batch ID: E-5147

Prepared: 30-Sep-13

Analyzed: 03-Oct-13 2:52

Aluminum (Al)	NA	50142.4	1	5	µg/dry g	1222	43181.7	570 75 - 125%	FAIL	SH
Antimony (Sb)	NA	58.083	0.025	0.05	µg/dry g	61.12	1.035	93 75 - 125%	PASS	
Arsenic (As)	NA	70.822	0.025	0.05	µg/dry g	61.12	11.347	97 75 - 125%	PASS	
Barium (Ba)	NA	193.24	0.025	0.05	µg/dry g	61.12	123.451	114 75 - 125%	PASS	



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Beryllium (Be)	NA	62.858	0.025	0.05	µg/dry g	61.12	0.749	102	75 - 125% PASS	
Cadmium (Cd)	NA	59.5294	0.0025	0.005	µg/dry g	61.12	0.43	97	75 - 125% PASS	
Chromium (Cr)	NA	145.8221	0.0025	0.005	µg/dry g	61.12	77.3064	112	75 - 125% PASS	
Copper (Cu)	NA	296.5396	0.0025	0.005	µg/dry g	61.12	227.1034	114	75 - 125% PASS	
Iron (Fe)	NA	46398.6	1	5	µg/dry g	1222	40987.5	443	75 - 125% FAIL	SH
Lead (Pb)	NA	129.6536	0.0025	0.005	µg/dry g	61.12	68.6604	100	75 - 125% PASS	
Nickel (Ni)	NA	76.82	0.01	0.02	µg/dry g	61.12	18.63	95	75 - 125% PASS	
Selenium (Se)	NA	71.322	0.025	0.05	µg/dry g	61.12	0.437	116	75 - 125% PASS	
Silver (Ag)	NA	6.86	0.01	0.02	µg/dry g	6.11	1.12	94	75 - 125% PASS	
Zinc (Zn)	NA	392.832	0.025	0.05	µg/dry g	61.12	329.694	103	75 - 125% PASS	

Method: EPA 245.7

Batch ID: E-6030

Prepared: 08-Oct-13

Analyzed: 08-Oct-13 0:00

Mercury (Hg)	NA	1.00368	0.00001	0.00002	µg/dry g	0.306	0.62005	125	75 - 125% PASS	
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Sample ID: 22078-MS2**B13-8065 Grab****Matrix: Sediment****Sampled: 12-Aug-13 7:59****Received: 12-Aug-13**

Method: EPA 6020

Batch ID: E-5147

Prepared: 30-Sep-13

Analyzed: 03-Oct-13 2:57

Aluminum (Al)	NA	46204.1	1	5	µg/dry g	1222	43181.7	247	75 - 125% FAIL	79	25	FAIL	SH
Antimony (Sb)	NA	57.002	0.025	0.05	µg/dry g	61.12	1.035	92	75 - 125% PASS	1	25	PASS	
Arsenic (As)	NA	71.721	0.025	0.05	µg/dry g	61.12	11.347	99	75 - 125% PASS	2	25	PASS	
Barium (Ba)	NA	185.377	0.025	0.05	µg/dry g	61.12	123.451	101	75 - 125% PASS	12	25	PASS	
Beryllium (Be)	NA	61.667	0.025	0.05	µg/dry g	61.12	0.749	100	75 - 125% PASS	2	25	PASS	
Cadmium (Cd)	NA	59.9807	0.0025	0.005	µg/dry g	61.12	0.43	97	75 - 125% PASS	0	25	PASS	
Chromium (Cr)	NA	144.6343	0.0025	0.005	µg/dry g	61.12	77.3064	110	75 - 125% PASS	2	25	PASS	
Copper (Cu)	NA	295.6756	0.0025	0.005	µg/dry g	61.12	227.1034	112	75 - 125% PASS	2	25	PASS	
Iron (Fe)	NA	43047.7	1	5	µg/dry g	1222	40987.5	169	75 - 125% FAIL	90	25	FAIL	SH
Lead (Pb)	NA	126.9346	0.0025	0.005	µg/dry g	61.12	68.6604	95	75 - 125% PASS	5	25	PASS	
Nickel (Ni)	NA	77.45	0.01	0.02	µg/dry g	61.12	18.63	96	75 - 125% PASS	1	25	PASS	
Selenium (Se)	NA	72.588	0.025	0.05	µg/dry g	61.12	0.437	118	75 - 125% PASS	2	25	PASS	
Silver (Ag)	NA	6.91	0.01	0.02	µg/dry g	6.11	1.12	95	75 - 125% PASS	1	25	PASS	
Zinc (Zn)	NA	386.822	0.025	0.05	µg/dry g	61.12	329.694	93	75 - 125% PASS	10	25	PASS	

Method: EPA 245.7

Batch ID: E-6030

Prepared: 08-Oct-13

Analyzed: 08-Oct-13 0:00

Mercury (Hg)	NA	1.0098	0.00001	0.00002	µg/dry g	0.306	0.62005	127	75 - 125% FAIL	2	25	PASS	M
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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22078-R2		B13-8065 Grab		Matrix: Sediment		Sampled: 12-Aug-13 7:59		Received: 12-Aug-13		
		Method: EPA 6020		Batch ID: E-5147		Prepared: 30-Sep-13		Analyzed: 03-Oct-13 1:37		
Aluminum (Al)	NA	41226.1	1	5	µg/dry g			9	25	PASS
Antimony (Sb)	NA	0.926	0.025	0.05	µg/dry g			21	25	PASS
Arsenic (As)	NA	11.032	0.025	0.05	µg/dry g			6	25	PASS
Barium (Ba)	NA	114.94	0.025	0.05	µg/dry g			14	25	PASS
Beryllium (Be)	NA	0.733	0.025	0.05	µg/dry g			4	25	PASS
Cadmium (Cd)	NA	0.3948	0.0025	0.005	µg/dry g			16	25	PASS
Chromium (Cr)	NA	72.208	0.0025	0.005	µg/dry g			13	25	PASS
Copper (Cu)	NA	211.8845	0.0025	0.005	µg/dry g			13	25	PASS
Iron (Fe)	NA	40096.3	1	5	µg/dry g			4	25	PASS
Lead (Pb)	NA	64.1291	0.0025	0.005	µg/dry g			13	25	PASS
Nickel (Ni)	NA	18.24	0.01	0.02	µg/dry g			4	25	PASS
Selenium (Se)	NA	0.404	0.025	0.05	µg/dry g			15	25	PASS
Silver (Ag)	NA	1.11	0.01	0.02	µg/dry g			1	25	PASS
Zinc (Zn)	NA	303.974	0.025	0.05	µg/dry g			16	25	PASS
		Method: EPA 245.7		Batch ID: E-6030		Prepared: 08-Oct-13		Analyzed: 08-Oct-13 0:00		
Mercury (Hg)	NA	0.5954	0.00001	0.00002	µg/dry g			8	25	PASS

Sample ID: 22089-CRM1		QAQC CRM - RTC 016-050		Matrix: Sediment		Sampled:		Received:		
		Method: EPA 6020		Batch ID: E-5147		Prepared: 30-Sep-13		Analyzed: 03-Oct-13 2:28		
Aluminum (Al)	NA	32993.3	1	5	µg/dry g	8920	370	80 - 120%	FAIL	*
Arsenic (As)	NA	8.645	0.025	0.05	µg/dry g	7.76	111	80 - 120%	PASS	
Beryllium (Be)	NA	0.981	0.025	0.05	µg/dry g	0.49	200	80 - 120%	FAIL	*
Cadmium (Cd)	NA	0.2981	0.0025	0.005	µg/dry g	0.47	63	80 - 120%	FAIL	R
Chromium (Cr)	NA	46.2913	0.0025	0.005	µg/dry g	14.5	319	80 - 120%	FAIL	*
Copper (Cu)	NA	16.7668	0.0025	0.005	µg/dry g	15.5	108	80 - 120%	PASS	
Iron (Fe)	NA	20652.6	1	5	µg/dry g	16800	123	80 - 120%	FAIL	*
Lead (Pb)	NA	16.3259	0.0025	0.005	µg/dry g	14.01	117	80 - 120%	PASS	
Nickel (Ni)	NA	20.1	0.01	0.02	µg/dry g	16.7	120	80 - 120%	PASS	
Zinc (Zn)	NA	75.525	0.025	0.05	µg/dry g	69.7	108	80 - 120%	PASS	



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
<div> <div>Method: EPA 245.7</div> <div>Batch ID: E-6030</div> <div>Prepared: 08-Oct-13</div> <div>Analyzed: 08-Oct-13 0:00</div> </div>										
Mercury (Hg)	NA	0.1757	0.00001	0.00002	µg/dry g	0.158		111 80 - 120% PASS		
<div> <div>Sample ID: 22090-CRM1</div> <div>QAQC CRM - ERA 540</div> <div>Method: EPA 6020</div> <div>Matrix: Sediment</div> <div>Batch ID: E-5147</div> <div>Sampled: 30-Sep-13</div> <div>Received: 03-Oct-13 2:33</div> </div>										
Aluminum (Al)	NA	17626.8	1	5	µg/dry g	9060		195 80 - 120% FAIL		*
Antimony (Sb)	NA	179.106	0.025	0.05	µg/dry g	106		169 80 - 120% FAIL		*
Arsenic (As)	NA	177.709	0.025	0.05	µg/dry g	182		98 80 - 120% PASS		
Beryllium (Be)	NA	95.194	0.025	0.05	µg/dry g	98.3		97 80 - 120% PASS		
Cadmium (Cd)	NA	60.4273	0.0025	0.005	µg/dry g	60.4		100 80 - 120% PASS		
Chromium (Cr)	NA	139.5961	0.0025	0.005	µg/dry g	125		112 80 - 120% PASS		
Copper (Cu)	NA	80.3757	0.0025	0.005	µg/dry g	80.1		100 80 - 120% PASS		
Iron (Fe)	NA	18275.5	1	5	µg/dry g	12900		142 80 - 120% FAIL		*
Lead (Pb)	NA	132.8459	0.0025	0.005	µg/dry g	136		98 80 - 120% PASS		
Nickel (Ni)	NA	124.3	0.01	0.02	µg/dry g	128		97 80 - 120% PASS		
Selenium (Se)	NA	100.959	0.025	0.05	µg/dry g	85.9		118 80 - 120% PASS		
Silver (Ag)	NA	61.38	0.01	0.02	µg/dry g	61.3		100 80 - 120% PASS		
Zinc (Zn)	NA	197.536	0.025	0.05	µg/dry g	204		97 80 - 120% PASS		
<div> <div>Method: EPA 245.7</div> <div>Batch ID: E-6030</div> <div>Prepared: 08-Oct-13</div> <div>Analyzed: 08-Oct-13 0:00</div> </div>										
Mercury (Hg)	NA	9.8861	0.00001	0.00002	µg/dry g	9.25		107 80 - 120% PASS		



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CA ELAP #2769

Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22077-B1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 200.8

Batch ID: E-5154

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 13:42

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g					
Copper (Cu) - SEM	NA	ND	0.0062	0.0124	µmol/dry g					
Lead (Pb) - SEM	NA	ND	0.0002	0.0004	µmol/dry g					
Nickel (Ni) - SEM	NA	ND	0.0033	0.0066	µmol/dry g					
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g					
Zinc (Zn) - SEM	NA	ND	0.0015	0.003	µmol/dry g					

Sample ID: 22077-BS1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 200.8

Batch ID: E-5154

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 17:51

Cadmium (Cd) - SEM	NA	0.0186	0.0018	0.0036	µmol/dry g	0.0178	0	104	75 - 130%	PASS
Copper (Cu) - SEM	NA	0.0319	0.0062	0.0124	µmol/dry g	0.0315	0	101	70 - 130%	PASS
Lead (Pb) - SEM	NA	0.01	0.0002	0.0004	µmol/dry g	0.0097	0	103	65 - 135%	PASS
Nickel (Ni) - SEM	NA	0.0341	0.0033	0.0066	µmol/dry g	0.0341	0	100	70 - 130%	PASS
Silver (Ag) - SEM	NA	0.0018	0.0047	0.0094	µmol/dry g	0.0019	0	95	50 - 155%	PASS
Zinc (Zn) - SEM	NA	0.0316	0.0015	0.003	µmol/dry g	0.0306	0	103	50 - 150%	PASS

Sample ID: 22077-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 200.8

Batch ID: E-5154

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 17:55

Cadmium (Cd) - SEM	NA	0.0186	0.0018	0.0036	µmol/dry g	0.0178	0	104	75 - 130%	PASS	0	25	PASS
Copper (Cu) - SEM	NA	0.0318	0.0062	0.0124	µmol/dry g	0.0315	0	101	70 - 130%	PASS	0	25	PASS
Lead (Pb) - SEM	NA	0.01	0.0002	0.0004	µmol/dry g	0.0097	0	103	65 - 135%	PASS	0	25	PASS
Nickel (Ni) - SEM	NA	0.0342	0.0033	0.0066	µmol/dry g	0.0341	0	100	70 - 130%	PASS	0	25	PASS
Silver (Ag) - SEM	NA	0.0018	0.0047	0.0094	µmol/dry g	0.0019	0	95	50 - 155%	PASS	0	25	PASS
Zinc (Zn) - SEM	NA	0.0319	0.0015	0.003	µmol/dry g	0.0306	0	104	50 - 150%	PASS	1	25	PASS

Sample ID: 22078-MS1**B13-8065 Grab****Matrix: Sediment****Sampled: 12-Aug-13 7:59****Received: 12-Aug-13**

Method: EPA 200.8

Batch ID: E-5154

Prepared: 08-Oct-13

Analyzed: 11-Oct-13 10:28

Cadmium (Cd) - SEM	NA	1.0892	0.0018	0.0036	µmol/dry g	1.0483	0	104	75 - 130%	PASS			
Copper (Cu) - SEM	NA	3.1886	0.0062	0.0124	µmol/dry g	1.8546	1.3094	101	70 - 130%	PASS			
Lead (Pb) - SEM	NA	0.7844	0.0002	0.0004	µmol/dry g	0.5687	0.2229	99	65 - 135%	PASS			



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Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Nickel (Ni) - SEM	NA	2.0978	0.0033	0.0066	µmol/dry g	2.0078	0.0245	103	70 - 130% PASS	
Silver (Ag) - SEM	NA	0.1081	0.0047	0.0094	µmol/dry g	0.1092	0	99	50 - 155% PASS	
Zinc (Zn) - SEM	NA	4.117	0.0015	0.003	µmol/dry g	1.8024	2.3907	96	50 - 150% PASS	

Sample ID: 22078-MS2**B13-8065 Grab****Matrix: Sediment****Sampled: 12-Aug-13 7:59****Received: 12-Aug-13**

Method: EPA 200.8

Batch ID: E-5154

Prepared: 08-Oct-13

Analyzed: 11-Oct-13 10:33

Cadmium (Cd) - SEM	NA	1.105	0.0018	0.0036	µmol/dry g	1.0483	0	105	75 - 130% PASS	1	25	PASS
Copper (Cu) - SEM	NA	3.2147	0.0062	0.0124	µmol/dry g	1.8546	1.3094	103	70 - 130% PASS	2	25	PASS
Lead (Pb) - SEM	NA	0.7834	0.0002	0.0004	µmol/dry g	0.5687	0.2229	99	65 - 135% PASS	0	25	PASS
Nickel (Ni) - SEM	NA	2.0969	0.0033	0.0066	µmol/dry g	2.0078	0.0245	103	70 - 130% PASS	0	25	PASS
Silver (Ag) - SEM	NA	0.1105	0.0047	0.0094	µmol/dry g	0.1092	0	101	50 - 155% PASS	2	25	PASS
Zinc (Zn) - SEM	NA	4.189	0.0015	0.003	µmol/dry g	1.8024	2.3907	100	50 - 150% PASS	4	25	PASS

Sample ID: 22078-R2**B13-8065 Grab****Matrix: Sediment****Sampled: 12-Aug-13 7:59****Received: 12-Aug-13**

Method: EPA 200.8

Batch ID: E-5154

Prepared: 08-Oct-13

Analyzed: 11-Oct-13 10:18

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g					0	25	PASS
Copper (Cu) - SEM	NA	1.2682	0.0062	0.0124	µmol/dry g					6	25	PASS
Lead (Pb) - SEM	NA	0.2207	0.0002	0.0004	µmol/dry g					2	25	PASS
Nickel (Ni) - SEM	NA	0.0242	0.0033	0.0066	µmol/dry g					2	25	PASS
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g					0	25	PASS
Zinc (Zn) - SEM	NA	2.4696	0.0015	0.003	µmol/dry g					7	25	PASS



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CA ELAP #2769

Fipronil & Degradates

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Sample ID: 22077-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C-NCI		Batch ID: O-5125		Prepared: 27-Mar-14		Analyzed: 03-Apr-14 13:36		
Fipronil	NA	ND	0.25	0.5	ng/dry g					
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g					
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g					
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g					
Sample ID: 22077-BS1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C-NCI		Batch ID: O-5125		Prepared: 27-Mar-14		Analyzed: 03-Apr-14 14:40		
Fipronil	NA	1634.01	0.25	0.5	ng/dry g	1000	0	163	50 - 150% FAIL	*
Fipronil Desulfinyl	NA	1219.34	0.25	0.5	ng/dry g	1000	0	122	50 - 150% PASS	
Fipronil Sulfide	NA	1117.05	0.25	0.5	ng/dry g	1000	0	112	50 - 150% PASS	
Fipronil Sulfone	NA	1222.93	0.25	0.5	ng/dry g	1000	0	122	50 - 150% PASS	
Sample ID: 22077-BS2		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C-NCI		Batch ID: O-5125		Prepared: 27-Mar-14		Analyzed: 03-Apr-14 15:45		
Fipronil	NA	1695.71	0.25	0.5	ng/dry g	1000	0	170	50 - 150% FAIL	4 25 PASS *
Fipronil Desulfinyl	NA	1176.03	0.25	0.5	ng/dry g	1000	0	118	50 - 150% PASS	3 25 PASS
Fipronil Sulfide	NA	1080.33	0.25	0.5	ng/dry g	1000	0	108	50 - 150% PASS	4 25 PASS
Fipronil Sulfone	NA	1249.23	0.25	0.5	ng/dry g	1000	0	125	50 - 150% PASS	2 25 PASS
Sample ID: 22079-MS1		B13-8049 Grab		Matrix: Sediment		Sampled: 12-Aug-13 16:17		Received: 12-Aug-13		
		Method: EPA 8270C-NCI		Batch ID: O-5125		Prepared: 27-Mar-14		Analyzed: 03-Apr-14 16:50		
Fipronil	NA	310.54	0.25	0.5	ng/dry g	210.1	0	148	50 - 150% PASS	
Fipronil Desulfinyl	NA	266.5	0.25	0.5	ng/dry g	210.1	0	127	50 - 150% PASS	
Fipronil Sulfide	NA	240.06	0.25	0.5	ng/dry g	210.1	0	114	50 - 150% PASS	
Fipronil Sulfone	NA	206.95	0.25	0.5	ng/dry g	210.1	0	99	50 - 150% PASS	
Sample ID: 22079-MS2		B13-8049 Grab		Matrix: Sediment		Sampled: 12-Aug-13 16:17		Received: 12-Aug-13		
		Method: EPA 8270C-NCI		Batch ID: O-5125		Prepared: 27-Mar-14		Analyzed: 03-Apr-14 17:54		
Fipronil	NA	294.26	0.25	0.5	ng/dry g	199.2	0	148	50 - 150% PASS	0 25 PASS
Fipronil Desulfinyl	NA	235.85	0.25	0.5	ng/dry g	199.2	0	118	50 - 150% PASS	7 25 PASS



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Fipronil & Degradates

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Fipronil Sulfide	NA	222.4	0.25	0.5	ng/dry g	199.2	0	112	50 - 150% PASS	2	25 PASS	
Fipronil Sulfone	NA	180.45	0.25	0.5	ng/dry g	199.2	0	91	50 - 150% PASS	8	25 PASS	

Sample ID: 22079-R2

B13-8049 Grab

Matrix: Sediment

Sampled: 12-Aug-13 16:17

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 03-Apr-14 22:12

Fipronil	NA	ND	0.25	0.5	ng/dry g					0	25 PASS	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g					0	25 PASS	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g					0	25 PASS	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g					0	25 PASS	



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22077-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-5125		Prepared: 27-Mar-14		Analyzed: 15-Apr-14 20:33		
PCB003	NA	ND	0.05	0.1	ng/dry g					
PCB005	NA	ND	0.05	0.1	ng/dry g					
PCB008	NA	ND	0.05	0.1	ng/dry g					
PCB015	NA	ND	0.05	0.1	ng/dry g					
PCB018	NA	ND	0.05	0.1	ng/dry g					
PCB027	NA	ND	0.05	0.1	ng/dry g					
PCB028	NA	ND	0.05	0.1	ng/dry g					
PCB029	NA	ND	0.05	0.1	ng/dry g					
PCB031	NA	ND	0.05	0.1	ng/dry g					
PCB033	NA	ND	0.05	0.1	ng/dry g					
PCB037	NA	ND	0.05	0.1	ng/dry g					
PCB044	NA	ND	0.05	0.1	ng/dry g					
PCB049	NA	ND	0.05	0.1	ng/dry g					
PCB052	NA	ND	0.05	0.1	ng/dry g					
PCB056(060)	NA	ND	0.1	0.2	ng/dry g					
PCB066	NA	ND	0.05	0.1	ng/dry g					
PCB070	NA	ND	0.05	0.1	ng/dry g					
PCB074	NA	ND	0.05	0.1	ng/dry g					
PCB077	NA	ND	0.05	0.1	ng/dry g					
PCB081	NA	ND	0.05	0.1	ng/dry g					
PCB087	NA	ND	0.05	0.1	ng/dry g					
PCB095	NA	ND	0.05	0.1	ng/dry g					
PCB097	NA	ND	0.05	0.1	ng/dry g					
PCB099	NA	ND	0.05	0.1	ng/dry g					
PCB101	NA	ND	0.05	0.1	ng/dry g					
PCB105	NA	ND	0.05	0.1	ng/dry g					
PCB110	NA	ND	0.05	0.1	ng/dry g					
PCB114	NA	ND	0.05	0.1	ng/dry g					
PCB118	NA	ND	0.05	0.1	ng/dry g					



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB119	NA	ND	0.05	0.1	ng/dry g					
PCB123	NA	ND	0.05	0.1	ng/dry g					
PCB126	NA	ND	0.05	0.1	ng/dry g					
PCB128	NA	ND	0.05	0.1	ng/dry g					
PCB137	NA	ND	0.05	0.1	ng/dry g					
PCB138	NA	ND	0.05	0.1	ng/dry g					
PCB141	NA	ND	0.05	0.1	ng/dry g					
PCB149	NA	ND	0.05	0.1	ng/dry g					
PCB151	NA	ND	0.05	0.1	ng/dry g					
PCB153	NA	ND	0.05	0.1	ng/dry g					
PCB156	NA	ND	0.05	0.1	ng/dry g					
PCB157	NA	ND	0.05	0.1	ng/dry g					
PCB158	NA	ND	0.05	0.1	ng/dry g					
PCB167	NA	ND	0.05	0.1	ng/dry g					
PCB168+132	NA	ND	0.1	0.2	ng/dry g					
PCB169	NA	ND	0.05	0.1	ng/dry g					
PCB170	NA	ND	0.05	0.1	ng/dry g					
PCB174	NA	ND	0.05	0.1	ng/dry g					
PCB177	NA	ND	0.05	0.1	ng/dry g					
PCB180	NA	ND	0.05	0.1	ng/dry g					
PCB183	NA	ND	0.05	0.1	ng/dry g					
PCB187	NA	ND	0.05	0.1	ng/dry g					
PCB189	NA	ND	0.05	0.1	ng/dry g					
PCB194	NA	ND	0.05	0.1	ng/dry g					
PCB195	NA	ND	0.05	0.1	ng/dry g					
PCB199(200)	NA	ND	0.1	0.2	ng/dry g					
PCB201	NA	ND	0.05	0.1	ng/dry g					
PCB203	NA	ND	0.05	0.1	ng/dry g					
PCB206	NA	ND	0.05	0.1	ng/dry g					
PCB209	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 22077-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

PHYSIS Project ID: 1307002-006

Client: AMEC

Project: RHMP Bight '13

qcb - 21 of 47



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PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
		LIMITS						LIMITS		
Method: EPA 8270C Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 15-Apr-14 22:07										
PCB003	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130%	PASS
PCB005	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS
PCB008	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130%	PASS
PCB015	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS
PCB018	NA	25	0.05	0.1	ng/dry g	20	0	125	70 - 130%	PASS
PCB027	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130%	PASS
PCB028	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130%	PASS
PCB029	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS
PCB031	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130%	PASS
PCB033	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130%	PASS
PCB037	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130%	PASS
PCB044	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130%	PASS
PCB049	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130%	PASS
PCB052	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130%	PASS
PCB056(060)	NA	22	0.1	0.2	ng/dry g	20	0	110	70 - 130%	PASS
PCB066	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130%	PASS
PCB070	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130%	PASS
PCB074	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130%	PASS
PCB077	NA	25	0.05	0.1	ng/dry g	20	0	125	70 - 130%	PASS
PCB081	NA	25	0.05	0.1	ng/dry g	20	0	125	70 - 130%	PASS
PCB087	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130%	PASS
PCB095	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130%	PASS
PCB097	NA	20	0.05	0.1	ng/dry g	20	0	100	70 - 130%	PASS
PCB099	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130%	PASS
PCB101	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130%	PASS
PCB105	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130%	PASS
PCB110	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130%	PASS
PCB114	NA	27	0.05	0.1	ng/dry g	20	0	135	70 - 130%	FAIL R
PCB118	NA	27	0.05	0.1	ng/dry g	20	0	135	70 - 130%	FAIL R
PCB119	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130%	PASS



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB123	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130% PASS	
PCB126	NA	26	0.05	0.1	ng/dry g	20	0	130	70 - 130% PASS	
PCB128	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB137	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB138	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB141	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS	
PCB149	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130% PASS	
PCB151	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB153	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB156	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB157	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB158	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB167	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB168+132	NA	46	0.1	0.2	ng/dry g	40	0	115	70 - 130% PASS	
PCB169	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130% PASS	
PCB170	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130% PASS	
PCB174	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS	
PCB177	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130% PASS	
PCB180	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB183	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130% PASS	
PCB187	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB189	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB194	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130% PASS	
PCB195	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS	
PCB199(200)	NA	24	0.1	0.2	ng/dry g	20	0	120	70 - 130% PASS	
PCB201	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS	
PCB203	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS	
PCB206	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB209	NA	18	0.05	0.1	ng/dry g	20	0	90	70 - 130% PASS	

Sample ID: 22077-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 18-Apr-14 8:31



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY			PRECISION			QA CODE
								%	LIMITS		%	LIMITS		
PCB003	NA	19	0.05	0.1	ng/dry g	20	0	95	70 - 130%	PASS	10	25	PASS	
PCB005	NA	20	0.05	0.1	ng/dry g	20	0	100	70 - 130%	PASS	10	25	PASS	
PCB008	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130%	PASS	0	25	PASS	
PCB015	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS	0	25	PASS	
PCB018	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS	13	25	PASS	
PCB027	NA	20	0.05	0.1	ng/dry g	20	0	100	70 - 130%	PASS	5	25	PASS	
PCB028	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130%	PASS	4	25	PASS	
PCB029	NA	20	0.05	0.1	ng/dry g	20	0	100	70 - 130%	PASS	10	25	PASS	
PCB031	NA	19	0.05	0.1	ng/dry g	20	0	95	70 - 130%	PASS	19	25	PASS	
PCB033	NA	19	0.05	0.1	ng/dry g	20	0	95	70 - 130%	PASS	10	25	PASS	
PCB037	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130%	PASS	0	25	PASS	
PCB044	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS	9	25	PASS	
PCB049	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS	9	25	PASS	
PCB052	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130%	PASS	4	25	PASS	
PCB056(060)	NA	19	0.1	0.2	ng/dry g	20	0	95	70 - 130%	PASS	15	25	PASS	
PCB066	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130%	PASS	9	25	PASS	
PCB070	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130%	PASS	4	25	PASS	
PCB074	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130%	PASS	4	25	PASS	
PCB077	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130%	PASS	17	25	PASS	
PCB081	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS	13	25	PASS	
PCB087	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS	9	25	PASS	
PCB095	NA	19	0.05	0.1	ng/dry g	20	0	95	70 - 130%	PASS	10	25	PASS	
PCB097	NA	19	0.05	0.1	ng/dry g	20	0	95	70 - 130%	PASS	5	25	PASS	
PCB099	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS	9	25	PASS	
PCB101	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130%	PASS	4	25	PASS	
PCB105	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS	4	25	PASS	
PCB110	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS	9	25	PASS	
PCB114	NA	20	0.05	0.1	ng/dry g	20	0	100	70 - 130%	PASS	30	25	FAIL	R
PCB118	NA	20	0.05	0.1	ng/dry g	20	0	100	70 - 130%	PASS	30	25	FAIL	R
PCB119	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS	9	25	PASS	
PCB123	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130%	PASS	9	25	PASS	



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY			PRECISION			QA CODE
								%	LIMITS		%	LIMITS		
PCB126	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130% PASS		12	25	PASS	
PCB128	NA	17	0.05	0.1	ng/dry g	20	0	85	70 - 130% PASS		34	25	FAIL	R
PCB137	NA	19	0.05	0.1	ng/dry g	20	0	95	70 - 130% PASS		23	25	PASS	
PCB138	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS		13	25	PASS	
PCB141	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS		0	25	PASS	
PCB149	NA	20	0.05	0.1	ng/dry g	20	0	100	70 - 130% PASS		14	25	PASS	
PCB151	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS		13	25	PASS	
PCB153	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130% PASS		9	25	PASS	
PCB156	NA	20	0.05	0.1	ng/dry g	20	0	100	70 - 130% PASS		18	25	PASS	
PCB157	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS		13	25	PASS	
PCB158	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130% PASS		4	25	PASS	
PCB167	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS		13	25	PASS	
PCB168+132	NA	40	0.1	0.2	ng/dry g	40	0	100	70 - 130% PASS		14	25	PASS	
PCB169	NA	17	0.05	0.1	ng/dry g	20	0	85	70 - 130% PASS		30	25	FAIL	R
PCB170	NA	19	0.05	0.1	ng/dry g	20	0	95	70 - 130% PASS		19	25	PASS	
PCB174	NA	20	0.05	0.1	ng/dry g	20	0	100	70 - 130% PASS		5	25	PASS	
PCB177	NA	20	0.05	0.1	ng/dry g	20	0	100	70 - 130% PASS		14	25	PASS	
PCB180	NA	20	0.05	0.1	ng/dry g	20	0	100	70 - 130% PASS		18	25	PASS	
PCB183	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130% PASS		4	25	PASS	
PCB187	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS		13	25	PASS	
PCB189	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130% PASS		4	25	PASS	
PCB194	NA	18	0.05	0.1	ng/dry g	20	0	90	70 - 130% PASS		20	25	PASS	
PCB195	NA	20	0.05	0.1	ng/dry g	20	0	100	70 - 130% PASS		5	25	PASS	
PCB199(200)	NA	18	0.1	0.2	ng/dry g	20	0	90	70 - 130% PASS		29	25	FAIL	R
PCB201	NA	20	0.05	0.1	ng/dry g	20	0	100	70 - 130% PASS		5	25	PASS	
PCB203	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS		0	25	PASS	
PCB206	NA	18	0.05	0.1	ng/dry g	20	0	90	70 - 130% PASS		29	25	FAIL	R
PCB209	NA	13	0.05	0.1	ng/dry g	20	0	65	70 - 130% FAIL		32	25	FAIL	R

Sample ID: 22079-MS1

B13-8049 Grab

Matrix: Sediment

Sampled: 12-Aug-13 16:17

Received: 12-Aug-13

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 16-Apr-14 1:17

PCB003	NA	18	0.05	0.1	ng/dry g	20	0	90	50 - 150% PASS
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PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB005	NA	22	0.05	0.1	ng/dry g	20	0	110	50 - 150% PASS	
PCB008	NA	21	0.05	0.1	ng/dry g	20	0	105	50 - 150% PASS	
PCB015	NA	22	0.05	0.1	ng/dry g	20	0	110	50 - 150% PASS	
PCB018	NA	23	0.05	0.1	ng/dry g	20	0	115	50 - 150% PASS	
PCB027	NA	20	0.05	0.1	ng/dry g	20	0	100	50 - 150% PASS	
PCB028	NA	24	0.05	0.1	ng/dry g	20	0	120	50 - 150% PASS	
PCB029	NA	21	0.05	0.1	ng/dry g	20	0	105	50 - 150% PASS	
PCB031	NA	20	0.05	0.1	ng/dry g	20	0	100	50 - 150% PASS	
PCB033	NA	19	0.05	0.1	ng/dry g	20	0	95	50 - 150% PASS	
PCB037	NA	24	0.05	0.1	ng/dry g	20	0	120	50 - 150% PASS	
PCB044	NA	22	0.05	0.1	ng/dry g	20	0	110	50 - 150% PASS	
PCB049	NA	23	0.05	0.1	ng/dry g	20	0	115	50 - 150% PASS	
PCB052	NA	22	0.05	0.1	ng/dry g	20	0	110	50 - 150% PASS	
PCB056(060)	NA	20	0.1	0.2	ng/dry g	20	0	100	50 - 150% PASS	
PCB066	NA	21	0.05	0.1	ng/dry g	20	0	105	50 - 150% PASS	
PCB070	NA	23	0.05	0.1	ng/dry g	20	0	115	50 - 150% PASS	
PCB074	NA	23	0.05	0.1	ng/dry g	20	0	115	50 - 150% PASS	
PCB077	NA	22	0.05	0.1	ng/dry g	20	0	110	50 - 150% PASS	
PCB081	NA	22	0.05	0.1	ng/dry g	20	0	110	50 - 150% PASS	
PCB087	NA	21	0.05	0.1	ng/dry g	20	0	105	50 - 150% PASS	
PCB095	NA	19	0.05	0.1	ng/dry g	20	0.61	92	50 - 150% PASS	
PCB097	NA	19	0.05	0.1	ng/dry g	20	0	95	50 - 150% PASS	
PCB099	NA	23	0.05	0.1	ng/dry g	20	0.28	114	50 - 150% PASS	
PCB101	NA	24	0.05	0.1	ng/dry g	20	0.78	116	50 - 150% PASS	
PCB105	NA	20	0.05	0.1	ng/dry g	20	0	100	50 - 150% PASS	
PCB110	NA	22	0.05	0.1	ng/dry g	20	0.65	107	50 - 150% PASS	
PCB114	NA	20	0.05	0.1	ng/dry g	20	0	100	50 - 150% PASS	
PCB118	NA	21	0.05	0.1	ng/dry g	20	0	105	50 - 150% PASS	
PCB119	NA	22	0.05	0.1	ng/dry g	20	0	110	50 - 150% PASS	
PCB123	NA	20	0.05	0.1	ng/dry g	20	0	100	50 - 150% PASS	
PCB126	NA	23	0.05	0.1	ng/dry g	20	0	115	50 - 150% PASS	



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB128	NA	18	0.05	0.1	ng/dry g	20	0	90	50 - 150% PASS	
PCB137	NA	20	0.05	0.1	ng/dry g	20	0	100	50 - 150% PASS	
PCB138	NA	21	0.05	0.1	ng/dry g	20	2.86	91	50 - 150% PASS	
PCB141	NA	18	0.05	0.1	ng/dry g	20	0	90	50 - 150% PASS	
PCB149	NA	19	0.05	0.1	ng/dry g	20	1.53	87	50 - 150% PASS	
PCB151	NA	20	0.05	0.1	ng/dry g	20	0.27	99	50 - 150% PASS	
PCB153	NA	21	0.05	0.1	ng/dry g	20	2.61	92	50 - 150% PASS	
PCB156	NA	21	0.05	0.1	ng/dry g	20	0	105	50 - 150% PASS	
PCB157	NA	19	0.05	0.1	ng/dry g	20	0	95	50 - 150% PASS	
PCB158	NA	21	0.05	0.1	ng/dry g	20	0.13	104	50 - 150% PASS	
PCB167	NA	22	0.05	0.1	ng/dry g	20	0	110	50 - 150% PASS	
PCB168+132	NA	40	0.1	0.2	ng/dry g	40	0.9	98	50 - 150% PASS	
PCB169	NA	20	0.05	0.1	ng/dry g	20	0.92	95	50 - 150% PASS	
PCB170	NA	19	0.05	0.1	ng/dry g	20	0.43	93	50 - 150% PASS	
PCB174	NA	20	0.05	0.1	ng/dry g	20	0.39	98	50 - 150% PASS	
PCB177	NA	21	0.05	0.1	ng/dry g	20	0.06	105	50 - 150% PASS	
PCB180	NA	22	0.05	0.1	ng/dry g	20	0.92	105	50 - 150% PASS	
PCB183	NA	21	0.05	0.1	ng/dry g	20	0.11	104	50 - 150% PASS	
PCB187	NA	21	0.05	0.1	ng/dry g	20	0.8	101	50 - 150% PASS	
PCB189	NA	20	0.05	0.1	ng/dry g	20	0	100	50 - 150% PASS	
PCB194	NA	20	0.05	0.1	ng/dry g	20	0	100	50 - 150% PASS	
PCB195	NA	18	0.05	0.1	ng/dry g	20	0	90	50 - 150% PASS	
PCB199(200)	NA	17	0.1	0.2	ng/dry g	20	0	85	50 - 150% PASS	
PCB201	NA	19	0.05	0.1	ng/dry g	20	0	95	50 - 150% PASS	
PCB203	NA	19	0.05	0.1	ng/dry g	20	0	95	50 - 150% PASS	
PCB206	NA	20	0.05	0.1	ng/dry g	20	0	100	50 - 150% PASS	
PCB209	NA	14	0.05	0.1	ng/dry g	20	0	70	50 - 150% PASS	

Sample ID: 22079-MS2

B13-8049 Grab

Matrix: Sediment

Sampled: 12-Aug-13 16:17

Received: 12-Aug-13

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 16-Apr-14 2:52

PCB003	NA	24	0.05	0.1	ng/dry g	20	0	120	50 - 150% PASS	29	25	FAIL	R
PCB005	NA	24	0.05	0.1	ng/dry g	20	0	120	50 - 150% PASS	9	25	PASS	



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PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY			PRECISION			QA CODE
								%	LIMITS		%	LIMITS		
PCB008	NA	24	0.05	0.1	ng/dry g	20	0	120	50 - 150%	PASS	13	25	PASS	
PCB015	NA	24	0.05	0.1	ng/dry g	20	0	120	50 - 150%	PASS	9	25	PASS	
PCB018	NA	30	0.05	0.1	ng/dry g	20	0	150	50 - 150%	PASS	26	25	FAIL	R
PCB027	NA	24	0.05	0.1	ng/dry g	20	0	120	50 - 150%	PASS	18	25	PASS	
PCB028	NA	24	0.05	0.1	ng/dry g	20	0	120	50 - 150%	PASS	0	25	PASS	
PCB029	NA	22	0.05	0.1	ng/dry g	20	0	110	50 - 150%	PASS	5	25	PASS	
PCB031	NA	24	0.05	0.1	ng/dry g	20	0	120	50 - 150%	PASS	18	25	PASS	
PCB033	NA	23	0.05	0.1	ng/dry g	20	0	115	50 - 150%	PASS	19	25	PASS	
PCB037	NA	24	0.05	0.1	ng/dry g	20	0	120	50 - 150%	PASS	0	25	PASS	
PCB044	NA	24	0.05	0.1	ng/dry g	20	0	120	50 - 150%	PASS	9	25	PASS	
PCB049	NA	24	0.05	0.1	ng/dry g	20	0	120	50 - 150%	PASS	4	25	PASS	
PCB052	NA	21	0.05	0.1	ng/dry g	20	0	105	50 - 150%	PASS	5	25	PASS	
PCB056(060)	NA	18	0.1	0.2	ng/dry g	20	0	90	50 - 150%	PASS	11	25	PASS	
PCB066	NA	21	0.05	0.1	ng/dry g	20	0	105	50 - 150%	PASS	0	25	PASS	
PCB070	NA	23	0.05	0.1	ng/dry g	20	0	115	50 - 150%	PASS	0	25	PASS	
PCB074	NA	23	0.05	0.1	ng/dry g	20	0	115	50 - 150%	PASS	0	25	PASS	
PCB077	NA	20	0.05	0.1	ng/dry g	20	0	100	50 - 150%	PASS	10	25	PASS	
PCB081	NA	22	0.05	0.1	ng/dry g	20	0	110	50 - 150%	PASS	0	25	PASS	
PCB087	NA	21	0.05	0.1	ng/dry g	20	0	105	50 - 150%	PASS	0	25	PASS	
PCB095	NA	20	0.05	0.1	ng/dry g	20	0.61	97	50 - 150%	PASS	5	25	PASS	
PCB097	NA	17	0.05	0.1	ng/dry g	20	0	85	50 - 150%	PASS	11	25	PASS	
PCB099	NA	22	0.05	0.1	ng/dry g	20	0.28	109	50 - 150%	PASS	4	25	PASS	
PCB101	NA	23	0.05	0.1	ng/dry g	20	0.78	111	50 - 150%	PASS	4	25	PASS	
PCB105	NA	24	0.05	0.1	ng/dry g	20	0	120	50 - 150%	PASS	18	25	PASS	
PCB110	NA	21	0.05	0.1	ng/dry g	20	0.65	102	50 - 150%	PASS	5	25	PASS	
PCB114	NA	18	0.05	0.1	ng/dry g	20	0	90	50 - 150%	PASS	11	25	PASS	
PCB118	NA	19	0.05	0.1	ng/dry g	20	0	95	50 - 150%	PASS	10	25	PASS	
PCB119	NA	21	0.05	0.1	ng/dry g	20	0	105	50 - 150%	PASS	5	25	PASS	
PCB123	NA	19	0.05	0.1	ng/dry g	20	0	95	50 - 150%	PASS	5	25	PASS	
PCB126	NA	23	0.05	0.1	ng/dry g	20	0	115	50 - 150%	PASS	0	25	PASS	
PCB128	NA	24	0.05	0.1	ng/dry g	20	0	120	50 - 150%	PASS	29	25	FAIL	R



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PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
PCB137	NA	19	0.05	0.1	ng/dry g	20	0	95	50 - 150% PASS	5	25	PASS
PCB138	NA	23	0.05	0.1	ng/dry g	20	2.86	101	50 - 150% PASS	10	25	PASS
PCB141	NA	21	0.05	0.1	ng/dry g	20	0	105	50 - 150% PASS	15	25	PASS
PCB149	NA	20	0.05	0.1	ng/dry g	20	1.53	92	50 - 150% PASS	6	25	PASS
PCB151	NA	21	0.05	0.1	ng/dry g	20	0.27	104	50 - 150% PASS	5	25	PASS
PCB153	NA	23	0.05	0.1	ng/dry g	20	2.61	102	50 - 150% PASS	10	25	PASS
PCB156	NA	21	0.05	0.1	ng/dry g	20	0	105	50 - 150% PASS	0	25	PASS
PCB157	NA	21	0.05	0.1	ng/dry g	20	0	105	50 - 150% PASS	10	25	PASS
PCB158	NA	23	0.05	0.1	ng/dry g	20	0.13	114	50 - 150% PASS	9	25	PASS
PCB167	NA	21	0.05	0.1	ng/dry g	20	0	105	50 - 150% PASS	5	25	PASS
PCB168+132	NA	47	0.1	0.2	ng/dry g	40	0.9	115	50 - 150% PASS	16	25	PASS
PCB169	NA	19	0.05	0.1	ng/dry g	20	0.92	90	50 - 150% PASS	5	25	PASS
PCB170	NA	21	0.05	0.1	ng/dry g	20	0.43	103	50 - 150% PASS	10	25	PASS
PCB174	NA	19	0.05	0.1	ng/dry g	20	0.39	93	50 - 150% PASS	5	25	PASS
PCB177	NA	21	0.05	0.1	ng/dry g	20	0.06	105	50 - 150% PASS	0	25	PASS
PCB180	NA	21	0.05	0.1	ng/dry g	20	0.92	100	50 - 150% PASS	5	25	PASS
PCB183	NA	23	0.05	0.1	ng/dry g	20	0.11	114	50 - 150% PASS	9	25	PASS
PCB187	NA	24	0.05	0.1	ng/dry g	20	0.8	116	50 - 150% PASS	14	25	PASS
PCB189	NA	15	0.05	0.1	ng/dry g	20	0	75	50 - 150% PASS	29	25	FAIL R
PCB194	NA	18	0.05	0.1	ng/dry g	20	0	90	50 - 150% PASS	11	25	PASS
PCB195	NA	16	0.05	0.1	ng/dry g	20	0	80	50 - 150% PASS	12	25	PASS
PCB199(200)	NA	23	0.1	0.2	ng/dry g	20	0	115	50 - 150% PASS	30	25	FAIL R
PCB201	NA	19	0.05	0.1	ng/dry g	20	0	95	50 - 150% PASS	0	25	PASS
PCB203	NA	16	0.05	0.1	ng/dry g	20	0	80	50 - 150% PASS	17	25	PASS
PCB206	NA	18	0.05	0.1	ng/dry g	20	0	90	50 - 150% PASS	11	25	PASS
PCB209	NA	13	0.05	0.1	ng/dry g	20	0	65	50 - 150% PASS	7	25	PASS

Sample ID: 22079-R2

B13-8049 Grab

Matrix: Sediment

Sampled: 12-Aug-13 16:17

Received: 12-Aug-13

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 16-Apr-14 9:10

PCB003	NA	ND	0.05	0.1	ng/dry g					0	25	PASS
PCB005	NA	ND	0.05	0.1	ng/dry g					0	25	PASS
PCB008	NA	ND	0.05	0.1	ng/dry g					0	25	PASS



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB015	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB018	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB027	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB028	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB029	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB031	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB033	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB037	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB044	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB049	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB052	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g				0 25 PASS	
PCB066	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB070	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB074	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB077	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB081	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB087	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB095	NA	0.53	0.05	0.1	ng/dry g				25 25 PASS	
PCB097	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB099	NA	0.34	0.05	0.1	ng/dry g				47 25 FAIL	SL
PCB101	NA	0.67	0.05	0.1	ng/dry g				28 25 FAIL	SL
PCB105	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB110	NA	0.55	0.05	0.1	ng/dry g				31 25 FAIL	R
PCB114	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB118	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB119	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB123	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB126	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB128	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB137	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	



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PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB138	NA	2.92	0.05	0.1	ng/dry g				4 25 PASS	
PCB141	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB149	NA	1.23	0.05	0.1	ng/dry g				39 25 FAIL	R
PCB151	NA	0.28	0.05	0.1	ng/dry g				4 25 PASS	
PCB153	NA	2.28	0.05	0.1	ng/dry g				26 25 FAIL	SL
PCB156	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB157	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB158	NA	0.26	0.05	0.1	ng/dry g				135 25 FAIL	SL
PCB167	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB168+132	NA	0.9	0.1	0.2	ng/dry g				0 25 PASS	
PCB169	NA	0.86	0.05	0.1	ng/dry g				14 25 PASS	
PCB170	NA	0.37	0.05	0.1	ng/dry g				28 25 FAIL	SL
PCB174	NA	0.33	0.05	0.1	ng/dry g				33 25 FAIL	SL
PCB177	NA	0.12	0.05	0.1	ng/dry g				82 25 FAIL	SL
PCB180	NA	0.8	0.05	0.1	ng/dry g				26 25 FAIL	SL
PCB183	NA	0.21	0.05	0.1	ng/dry g				123 25 FAIL	SL
PCB187	NA	0.63	0.05	0.1	ng/dry g				43 25 FAIL	R
PCB189	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB194	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB195	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g				0 25 PASS	
PCB201	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB203	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB206	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB209	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	

Sample ID: 22088-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 16-Apr-14 4:26

PCB008	NA	22.7	0.05	0.1	ng/dry g	22.3	102	60 - 140%	PASS	
PCB018	NA	53.5	0.05	0.1	ng/dry g	51	105	60 - 140%	PASS	
PCB028	NA	80.3	0.05	0.1	ng/dry g	80.8	99	60 - 140%	PASS	
PCB031	NA	77.7	0.05	0.1	ng/dry g	78.7	99	60 - 140%	PASS	



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB044	NA	49	0.05	0.1	ng/dry g	60.2		81 60 - 140% PASS		
PCB049	NA	46.7	0.05	0.1	ng/dry g	53		88 60 - 140% PASS		
PCB052	NA	81	0.05	0.1	ng/dry g	79.4		102 60 - 140% PASS		
PCB066	NA	55.9	0.05	0.1	ng/dry g	71.9		78 60 - 140% PASS		
PCB087	NA	28.8	0.05	0.1	ng/dry g	29.9		96 60 - 140% PASS		
PCB095	NA	47.1	0.05	0.1	ng/dry g	65		72 60 - 140% PASS		
PCB099	NA	27.2	0.05	0.1	ng/dry g	37.5		73 60 - 140% PASS		
PCB101	NA	66.8	0.05	0.1	ng/dry g	73.4		91 60 - 140% PASS		
PCB105	NA	18.6	0.05	0.1	ng/dry g	24.5		76 60 - 140% PASS		
PCB110	NA	48.5	0.05	0.1	ng/dry g	63.5		76 60 - 140% PASS		
PCB118	NA	27.8	0.05	0.1	ng/dry g	58		48 60 - 140% FAIL		R
PCB128	NA	8.67	0.05	0.1	ng/dry g	8.5		102 60 - 140% PASS		
PCB138	NA	56.6	0.05	0.1	ng/dry g	62.1		91 60 - 140% PASS		
PCB149	NA	46	0.05	0.1	ng/dry g	49.7		93 60 - 140% PASS		
PCB151	NA	17.7	0.05	0.1	ng/dry g	16.9		105 60 - 140% PASS		
PCB153	NA	54	0.05	0.1	ng/dry g	74		73 60 - 140% PASS		
PCB156	NA	4.99	0.05	0.1	ng/dry g	6.5		77 60 - 140% PASS		
PCB170	NA	22	0.05	0.1	ng/dry g	22.6		97 60 - 140% PASS		
PCB180	NA	43.3	0.05	0.1	ng/dry g	44.3		98 60 - 140% PASS		
PCB183	NA	12.6	0.05	0.1	ng/dry g	12.2		103 60 - 140% PASS		
PCB187	NA	25.8	0.05	0.1	ng/dry g	25.1		103 60 - 140% PASS		
PCB194	NA	11.1	0.05	0.1	ng/dry g	11.2		99 60 - 140% PASS		
PCB195	NA	3.61	0.05	0.1	ng/dry g	3.8		95 60 - 140% PASS		
PCB206	NA	9.35	0.05	0.1	ng/dry g	9.2		102 60 - 140% PASS		
PCB209	NA	6.52	0.05	0.1	ng/dry g	6.8		96 60 - 140% PASS		



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22077-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 09-Apr-14 10:31

(DFPBDE)	NA	105			% Recovery	100		105	50 - 150%	PASS	
(FTBDE)	NA	117			% Recovery	100		117	50 - 150%	PASS	
PBDE017	NA	ND	0.05	0.1	ng/dry g						
PBDE028	NA	ND	0.05	0.1	ng/dry g						
PBDE047	NA	ND	0.05	0.1	ng/dry g						
PBDE049	NA	ND	0.05	0.1	ng/dry g						
PBDE066	NA	ND	0.05	0.1	ng/dry g						
PBDE071	NA	ND	0.05	0.1	ng/dry g						
PBDE085	NA	ND	0.05	0.1	ng/dry g						
PBDE099	NA	ND	0.05	0.1	ng/dry g						
PBDE100	NA	ND	0.05	0.1	ng/dry g						
PBDE138	NA	ND	0.05	0.1	ng/dry g						
PBDE153	NA	ND	0.05	0.1	ng/dry g						
PBDE154	NA	ND	0.05	0.1	ng/dry g						
PBDE183	NA	ND	0.05	0.1	ng/dry g						
PBDE190	NA	ND	0.05	0.1	ng/dry g						
PBDE209	NA	ND	0.05	0.1	ng/dry g						

Sample ID: 22077-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 09-Apr-14 11:18

(DFPBDE)	NA	99			% Recovery	100	0	99	70 - 130%	PASS	
(FTBDE)	NA	105			% Recovery	100	0	105	70 - 130%	PASS	
PBDE017	NA	15	0.05	0.1	ng/dry g	20	0	75	70 - 130%	PASS	
PBDE028	NA	18	0.05	0.1	ng/dry g	20	0	90	70 - 130%	PASS	
PBDE047	NA	15	0.05	0.1	ng/dry g	20	0	75	70 - 130%	PASS	
PBDE049	NA	11	0.05	0.1	ng/dry g	20	0	55	70 - 130%	FAIL	R
PBDE066	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130%	PASS	
PBDE071	NA	13	0.05	0.1	ng/dry g	20	0	65	70 - 130%	FAIL	R
PBDE085	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PBDE099	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130% PASS	
PBDE100	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS	
PBDE138	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130% PASS	
PBDE153	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130% PASS	
PBDE154	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130% PASS	
PBDE183	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS	
PBDE190	NA	20	0.05	0.1	ng/dry g	20	0	100	70 - 130% PASS	
PBDE209	NA	78	0.05	0.1	ng/dry g	100	0	78	70 - 130% PASS	

Sample ID: 22077-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 09-Apr-14 12:05

(DFPBDE)	NA	142			% Recovery	100	0	142	70 - 130% FAIL	36	25	FAIL	R
(FTBDE)	NA	111			% Recovery	100	0	111	70 - 130% PASS	6	25	PASS	
PBDE017	NA	11	0.05	0.1	ng/dry g	20	0	55	70 - 130% FAIL	31	25	FAIL	R
PBDE028	NA	18	0.05	0.1	ng/dry g	20	0	90	70 - 130% PASS	0	25	PASS	
PBDE047	NA	15	0.05	0.1	ng/dry g	20	0	75	70 - 130% PASS	0	25	PASS	
PBDE049	NA	16	0.05	0.1	ng/dry g	20	0	80	70 - 130% PASS	37	25	FAIL	R
PBDE066	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	13	25	PASS	
PBDE071	NA	15	0.05	0.1	ng/dry g	20	0	75	70 - 130% PASS	14	25	PASS	
PBDE085	NA	20	0.05	0.1	ng/dry g	20	0	100	70 - 130% PASS	10	25	PASS	
PBDE099	NA	28	0.05	0.1	ng/dry g	20	0	140	70 - 130% FAIL	24	25	PASS	R
PBDE100	NA	27	0.05	0.1	ng/dry g	20	0	135	70 - 130% FAIL	25	25	PASS	R
PBDE138	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130% PASS	4	25	PASS	
PBDE153	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS	9	25	PASS	
PBDE154	NA	19	0.05	0.1	ng/dry g	20	0	95	70 - 130% PASS	15	25	PASS	
PBDE183	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS	0	25	PASS	
PBDE190	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130% PASS	14	25	PASS	
PBDE209	NA	105	0.05	0.1	ng/dry g	100	0	105	70 - 130% PASS	30	25	FAIL	R

Sample ID: 22079-MS1

B13-8049 Grab

Matrix: Sediment

Sampled: 12-Aug-13 16:17

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 09-Apr-14 12:52

(DFPBDE)	NA	101			% Recovery	100	0	101	70 - 130% PASS				
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PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
(FTBDE)	NA	107			% Recovery	100	0	107	70 - 130% PASS	
PBDE017	NA	15	0.05	0.1	ng/dry g	20	0	75	70 - 130% PASS	
PBDE028	NA	18	0.05	0.1	ng/dry g	20	0	90	70 - 130% PASS	
PBDE047	NA	15	0.05	0.1	ng/dry g	20	0.26	74	70 - 130% PASS	
PBDE049	NA	11	0.05	0.1	ng/dry g	20	0	55	70 - 130% FAIL	M
PBDE066	NA	20	0.05	0.1	ng/dry g	20	1.02	95	70 - 130% PASS	
PBDE071	NA	14	0.05	0.1	ng/dry g	20	0	70	70 - 130% PASS	
PBDE085	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS	
PBDE099	NA	20	0.05	0.1	ng/dry g	20	0	100	70 - 130% PASS	
PBDE100	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS	
PBDE138	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130% PASS	
PBDE153	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130% PASS	
PBDE154	NA	19	0.05	0.1	ng/dry g	20	0	95	70 - 130% PASS	
PBDE183	NA	20	0.05	0.1	ng/dry g	20	0.67	97	70 - 130% PASS	
PBDE190	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS	
PBDE209	NA	94	0.05	0.1	ng/dry g	100	4.45	90	70 - 130% PASS	

Sample ID: 22079-MS2

B13-8049 Grab

Matrix: Sediment

Sampled: 12-Aug-13 16:17

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 09-Apr-14 13:38

(DFPBDE)	NA	103			% Recovery	100	0	103	70 - 130% PASS	2	25	PASS	
(FTBDE)	NA	98			% Recovery	100	0	98	70 - 130% PASS	9	25	PASS	
PBDE017	NA	14	0.05	0.1	ng/dry g	20	0	70	70 - 130% PASS	7	25	PASS	
PBDE028	NA	17	0.05	0.1	ng/dry g	20	0	85	70 - 130% PASS	6	25	PASS	
PBDE047	NA	16	0.05	0.1	ng/dry g	20	0.26	79	70 - 130% PASS	7	25	PASS	
PBDE049	NA	11	0.05	0.1	ng/dry g	20	0	55	70 - 130% FAIL	0	25	PASS	M
PBDE066	NA	19	0.05	0.1	ng/dry g	20	1.02	90	70 - 130% PASS	5	25	PASS	
PBDE071	NA	13	0.05	0.1	ng/dry g	20	0	65	70 - 130% FAIL	7	25	PASS	M
PBDE085	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130% PASS	5	25	PASS	
PBDE099	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130% PASS	10	25	PASS	
PBDE100	NA	20	0.05	0.1	ng/dry g	20	0	100	70 - 130% PASS	5	25	PASS	
PBDE138	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130% PASS	0	25	PASS	
PBDE153	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130% PASS	0	25	PASS	



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PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PBDE154	NA	20	0.05	0.1	ng/dry g	20	0	100 70 - 130% PASS	5 25 PASS	
PBDE183	NA	19	0.05	0.1	ng/dry g	20	0.67	92 70 - 130% PASS	5 25 PASS	
PBDE190	NA	19	0.05	0.1	ng/dry g	20	0	95 70 - 130% PASS	10 25 PASS	
PBDE209	NA	89	0.05	0.1	ng/dry g	100	4.45	85 70 - 130% PASS	6 25 PASS	

Sample ID: 22079-R2

B13-8049 Grab

Matrix: Sediment

Sampled: 12-Aug-13 16:17

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 09-Apr-14 16:46

(DFPBDE)	NA	100			% Recovery	100	100	50 - 150% PASS	5 25 PASS	
(FTBDE)	NA	104			% Recovery	100	104	50 - 150% PASS	2 25 PASS	
PBDE017	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE028	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE047	NA	0.28	0.05	0.1	ng/dry g				20 25 PASS	
PBDE049	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE066	NA	1.01	0.05	0.1	ng/dry g				2 25 PASS	
PBDE071	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE085	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE099	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE100	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE138	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE153	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE154	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE183	NA	0.59	0.05	0.1	ng/dry g				23 25 PASS	
PBDE190	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE209	NA	4.81	0.05	0.1	ng/dry g				16 25 PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22077-B1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5125		Prepared: 27-Mar-14		Analyzed: 15-Apr-14 20:33	
(d10-Acenaphthene)	NA	73			% Recovery	100	73	50 - 150% PASS		
(d10-Phenanthrene)	NA	84			% Recovery	100	84	50 - 150% PASS		
(d12-Chrysene)	NA	79			% Recovery	100	79	50 - 150% PASS		
(d8-Naphthalene)	NA	70			% Recovery	100	70	25 - 125% PASS		
1-Methylnaphthalene	NA	ND	1	5	ng/dry g					
1-Methylphenanthrene	NA	ND	1	5	ng/dry g					
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g					
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g					
2-Methylnaphthalene	NA	ND	1	5	ng/dry g					
Acenaphthene	NA	ND	1	5	ng/dry g					
Acenaphthylene	NA	ND	1	5	ng/dry g					
Anthracene	NA	ND	1	5	ng/dry g					
Benz[a]anthracene	NA	ND	1	5	ng/dry g					
Benzo[a]pyrene	NA	ND	1	5	ng/dry g					
Benzo[b]fluoranthene	NA	ND	1	5	ng/dry g					
Benzo[e]pyrene	NA	ND	1	5	ng/dry g					
Benzo[g,h,i]perylene	NA	ND	1	5	ng/dry g					
Benzo[k]fluoranthene	NA	ND	1	5	ng/dry g					
Biphenyl	NA	ND	1	5	ng/dry g					
Chrysene	NA	ND	1	5	ng/dry g					
Dibenz[a,h]anthracene	NA	ND	1	5	ng/dry g					
Dibenzothiophene	NA	ND	1	5	ng/dry g					
Fluoranthene	NA	ND	1	5	ng/dry g					
Fluorene	NA	ND	1	5	ng/dry g					
Indeno[1,2,3-c,d]pyrene	NA	ND	1	5	ng/dry g					
Naphthalene	NA	ND	1	5	ng/dry g					
Perylene	NA	ND	1	5	ng/dry g					
Phenanthrene	NA	ND	1	5	ng/dry g					
Pyrene	NA	ND	1	5	ng/dry g					



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
		LIMITS								LIMITS
Sample ID: 22077-BS1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-5125		Prepared: 27-Mar-14		Analyzed: 15-Apr-14 22:07		
(d10-Acenaphthene)	NA	74			% Recovery	100	0	74	70 - 130%	PASS
(d10-Phenanthrene)	NA	74			% Recovery	100	0	74	70 - 130%	PASS
(d12-Chrysene)	NA	114			% Recovery	100	0	114	70 - 130%	PASS
(d8-Naphthalene)	NA	125			% Recovery	100	0	125	70 - 130%	PASS
1-Methylnaphthalene	NA	106	1	5	ng/dry g	100	0	106	70 - 130%	PASS
1-Methylphenanthrene	NA	124	1	5	ng/dry g	100	0	124	70 - 130%	PASS
2,3,5-Trimethylnaphthalene	NA	124	1	5	ng/dry g	100	0	124	70 - 130%	PASS
2,6-Dimethylnaphthalene	NA	113	1	5	ng/dry g	100	0	113	70 - 130%	PASS
2-Methylnaphthalene	NA	107	1	5	ng/dry g	100	0	107	70 - 130%	PASS
Acenaphthene	NA	111	1	5	ng/dry g	100	0	111	70 - 130%	PASS
Acenaphthylene	NA	109	1	5	ng/dry g	100	0	109	70 - 130%	PASS
Anthracene	NA	96	1	5	ng/dry g	100	0	96	70 - 130%	PASS
Benz[a]anthracene	NA	102	1	5	ng/dry g	100	0	102	70 - 130%	PASS
Benzo[a]pyrene	NA	76	1	5	ng/dry g	100	0	76	70 - 130%	PASS
Benzo[b]fluoranthene	NA	91	1	5	ng/dry g	100	0	91	70 - 130%	PASS
Benzo[e]pyrene	NA	94	1	5	ng/dry g	100	0	94	70 - 130%	PASS
Benzo[g,h,i]perylene	NA	100	1	5	ng/dry g	100	0	100	70 - 130%	PASS
Benzo[k]fluoranthene	NA	95	1	5	ng/dry g	100	0	95	70 - 130%	PASS
Biphenyl	NA	114	1	5	ng/dry g	100	0	114	70 - 130%	PASS
Chrysene	NA	112	1	5	ng/dry g	100	0	112	70 - 130%	PASS
Dibenz[a,h]anthracene	NA	94	1	5	ng/dry g	100	0	94	70 - 130%	PASS
Dibenzothiophene	NA	124	1	5	ng/dry g	100	0	124	70 - 130%	PASS
Fluoranthene	NA	131	1	5	ng/dry g	100	0	131	70 - 130%	FAIL
Fluorene	NA	121	1	5	ng/dry g	100	0	121	70 - 130%	PASS
Indeno[1,2,3-c,d]pyrene	NA	93	1	5	ng/dry g	100	0	93	70 - 130%	PASS
Naphthalene	NA	97	1	5	ng/dry g	100	0	97	70 - 130%	PASS
Perylene	NA	74	1	5	ng/dry g	100	0	74	70 - 130%	PASS
Phenanthrene	NA	140	1	5	ng/dry g	100	0	140	70 - 130%	FAIL
Pyrene	NA	130	1	5	ng/dry g	100	0	130	70 - 130%	PASS



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Sample ID: 22077-BS2		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5125		Prepared: 27-Mar-14		Analyzed: 18-Apr-14 8:31	
(d10-Acenaphthene)	NA	70			% Recovery	100	0	70	70 - 130% PASS	6 25 PASS
(d10-Phenanthrene)	NA	125			% Recovery	100	0	125	70 - 130% PASS	51 25 FAIL R
(d12-Chrysene)	NA	106			% Recovery	100	0	106	70 - 130% PASS	7 25 PASS
(d8-Naphthalene)	NA	113			% Recovery	100	0	113	70 - 130% PASS	10 25 PASS
1-Methylnaphthalene	NA	95	1	5	ng/dry g	100	0	95	70 - 130% PASS	11 25 PASS
1-Methylphenanthrene	NA	97	1	5	ng/dry g	100	0	97	70 - 130% PASS	24 25 PASS
2,3,5-Trimethylnaphthalene	NA	102	1	5	ng/dry g	100	0	102	70 - 130% PASS	19 25 PASS
2,6-Dimethylnaphthalene	NA	95	1	5	ng/dry g	100	0	95	70 - 130% PASS	17 25 PASS
2-Methylnaphthalene	NA	87	1	5	ng/dry g	100	0	87	70 - 130% PASS	21 25 PASS
Acenaphthene	NA	86	1	5	ng/dry g	100	0	86	70 - 130% PASS	25 25 PASS
Acenaphthylene	NA	81	1	5	ng/dry g	100	0	81	70 - 130% PASS	29 25 FAIL R
Anthracene	NA	88	1	5	ng/dry g	100	0	88	70 - 130% PASS	9 25 PASS
Benz[a]anthracene	NA	84	1	5	ng/dry g	100	0	84	70 - 130% PASS	19 25 PASS
Benzo[a]pyrene	NA	73	1	5	ng/dry g	100	0	73	70 - 130% PASS	4 25 PASS
Benzo[b]fluoranthene	NA	102	1	5	ng/dry g	100	0	102	70 - 130% PASS	11 25 PASS
Benzo[e]pyrene	NA	97	1	5	ng/dry g	100	0	97	70 - 130% PASS	3 25 PASS
Benzo[g,h,i]perylene	NA	112	1	5	ng/dry g	100	0	112	70 - 130% PASS	11 25 PASS
Benzo[k]fluoranthene	NA	88	1	5	ng/dry g	100	0	88	70 - 130% PASS	8 25 PASS
Biphenyl	NA	97	1	5	ng/dry g	100	0	97	70 - 130% PASS	16 25 PASS
Chrysene	NA	95	1	5	ng/dry g	100	0	95	70 - 130% PASS	16 25 PASS
Dibenz[a,h]anthracene	NA	101	1	5	ng/dry g	100	0	101	70 - 130% PASS	7 25 PASS
Dibenzothiophene	NA	100	1	5	ng/dry g	100	0	100	70 - 130% PASS	21 25 PASS
Fluoranthene	NA	102	1	5	ng/dry g	100	0	102	70 - 130% PASS	25 25 PASS
Fluorene	NA	105	1	5	ng/dry g	100	0	105	70 - 130% PASS	14 25 PASS
Indeno[1,2,3-c,d]pyrene	NA	88	1	5	ng/dry g	100	0	88	70 - 130% PASS	6 25 PASS
Naphthalene	NA	84	1	5	ng/dry g	100	0	84	70 - 130% PASS	14 25 PASS
Perylene	NA	81	1	5	ng/dry g	100	0	81	70 - 130% PASS	9 25 PASS
Phenanthrene	NA	115	1	5	ng/dry g	100	0	115	70 - 130% PASS	20 25 PASS
Pyrene	NA	109	1	5	ng/dry g	100	0	109	70 - 130% PASS	18 25 PASS



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22079-MS1		B13-8049 Grab		Matrix: Sediment		Sampled: 12-Aug-13 16:17		Received: 12-Aug-13		
		Method: EPA 8270C		Batch ID: O-5125		Prepared: 27-Mar-14		Analyzed: 16-Apr-14 1:17		
(d10-Acenaphthene)	NA	91			% Recovery	100	0	91	50 - 150%	PASS
(d10-Phenanthrene)	NA	115			% Recovery	100	0	115	50 - 150%	PASS
(d12-Chrysene)	NA	80			% Recovery	100	0	80	50 - 150%	PASS
(d8-Naphthalene)	NA	123			% Recovery	100	0	123	25 - 125%	PASS
1-Methylnaphthalene	NA	109	1	5	ng/dry g	100	0	109	50 - 150%	PASS
1-Methylphenanthrene	NA	120	1	5	ng/dry g	100	2.6	117	50 - 150%	PASS
2,3,5-Trimethylnaphthalene	NA	121	1	5	ng/dry g	100	0	121	50 - 150%	PASS
2,6-Dimethylnaphthalene	NA	113	1	5	ng/dry g	100	0.5	112	50 - 150%	PASS
2-Methylnaphthalene	NA	109	1	5	ng/dry g	100	1.2	108	50 - 150%	PASS
Acenaphthene	NA	109	1	5	ng/dry g	100	0	109	50 - 150%	PASS
Acenaphthylene	NA	117	1	5	ng/dry g	100	1.9	115	50 - 150%	PASS
Anthracene	NA	104	1	5	ng/dry g	100	6.6	97	50 - 150%	PASS
Benz[a]anthracene	NA	89	1	5	ng/dry g	100	11.4	78	50 - 150%	PASS
Benzo[a]pyrene	NA	72	1	5	ng/dry g	100	17.5	55	50 - 150%	PASS
Benzo[b]fluoranthene	NA	77	1	5	ng/dry g	100	17.7	59	50 - 150%	PASS
Benzo[e]pyrene	NA	71	1	5	ng/dry g	100	14.4	57	50 - 150%	PASS
Benzo[g,h,i]perylene	NA	122	1	5	ng/dry g	100	35.8	86	50 - 150%	PASS
Benzo[k]fluoranthene	NA	76	1	5	ng/dry g	100	13	63	50 - 150%	PASS
Biphenyl	NA	113	1	5	ng/dry g	100	0	113	50 - 150%	PASS
Chrysene	NA	105	1	5	ng/dry g	100	23.8	81	50 - 150%	PASS
Dibenz[a,h]anthracene	NA	103	1	5	ng/dry g	100	5.7	97	50 - 150%	PASS
Dibenzothiophene	NA	116	1	5	ng/dry g	100	1.5	114	50 - 150%	PASS
Fluoranthene	NA	124	1	5	ng/dry g	100	24.1	100	50 - 150%	PASS
Fluorene	NA	119	1	5	ng/dry g	100	2	117	50 - 150%	PASS
Indeno[1,2,3-c,d]pyrene	NA	119	1	5	ng/dry g	100	29.5	89	50 - 150%	PASS
Naphthalene	NA	103	1	5	ng/dry g	100	2.4	101	25 - 125%	PASS
Perylene	NA	52	1	5	ng/dry g	100	4.2	48	50 - 150%	FAIL
Phenanthrene	NA	135	1	5	ng/dry g	100	13.6	121	50 - 150%	PASS
Pyrene	NA	124	1	5	ng/dry g	100	27.4	97	50 - 150%	PASS



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE				
Sample ID: 22079-MS2		B13-8049 Grab			Matrix: Sediment		Sampled: 12-Aug-13 16:17		Received: 12-Aug-13					
		Method: EPA 8270C			Batch ID: O-5125		Prepared: 27-Mar-14		Analyzed: 16-Apr-14 2:52					
(d10-Acenaphthene)	NA	114			% Recovery	100	0	114	50 - 150%	PASS	22	25	PASS	
(d10-Phenanthrene)	NA	104			% Recovery	100	0	104	50 - 150%	PASS	10	25	PASS	
(d12-Chrysene)	NA	88			% Recovery	100	0	88	50 - 150%	PASS	10	25	PASS	
(d8-Naphthalene)	NA	106			% Recovery	100	0	106	25 - 125%	PASS	15	25	PASS	
1-Methylnaphthalene	NA	99	1	5	ng/dry g	100	0	99	50 - 150%	PASS	10	25	PASS	
1-Methylphenanthrene	NA	103	1	5	ng/dry g	100	2.6	100	50 - 150%	PASS	16	25	PASS	
2,3,5-Trimethylnaphthalene	NA	124	1	5	ng/dry g	100	0	124	50 - 150%	PASS	2	25	PASS	
2,6-Dimethylnaphthalene	NA	106	1	5	ng/dry g	100	0.5	105	50 - 150%	PASS	6	25	PASS	
2-Methylnaphthalene	NA	98	1	5	ng/dry g	100	1.2	97	50 - 150%	PASS	11	25	PASS	
Acenaphthene	NA	103	1	5	ng/dry g	100	0	103	50 - 150%	PASS	6	25	PASS	
Acenaphthylene	NA	110	1	5	ng/dry g	100	1.9	108	50 - 150%	PASS	6	25	PASS	
Anthracene	NA	101	1	5	ng/dry g	100	6.6	94	50 - 150%	PASS	3	25	PASS	
Benz[a]anthracene	NA	67	1	5	ng/dry g	100	11.4	56	50 - 150%	PASS	33	25	FAIL	M
Benzo[a]pyrene	NA	80	1	5	ng/dry g	100	17.5	62	50 - 150%	PASS	14	25	PASS	
Benzo[b]fluoranthene	NA	76	1	5	ng/dry g	100	17.7	58	50 - 150%	PASS	2	25	PASS	
Benzo[e]pyrene	NA	70	1	5	ng/dry g	100	14.4	56	50 - 150%	PASS	2	25	PASS	
Benzo[g,h,i]perylene	NA	124	1	5	ng/dry g	100	35.8	88	50 - 150%	PASS	2	25	PASS	
Benzo[k]fluoranthene	NA	84	1	5	ng/dry g	100	13	71	50 - 150%	PASS	12	25	PASS	
Biphenyl	NA	103	1	5	ng/dry g	100	0	103	50 - 150%	PASS	9	25	PASS	
Chrysene	NA	77	1	5	ng/dry g	100	23.8	53	50 - 150%	PASS	42	25	FAIL	M
Dibenz[a,h]anthracene	NA	101	1	5	ng/dry g	100	5.7	95	50 - 150%	PASS	2	25	PASS	
Dibenzothiophene	NA	109	1	5	ng/dry g	100	1.5	108	50 - 150%	PASS	5	25	PASS	
Fluoranthene	NA	116	1	5	ng/dry g	100	24.1	92	50 - 150%	PASS	8	25	PASS	
Fluorene	NA	119	1	5	ng/dry g	100	2	117	50 - 150%	PASS	0	25	PASS	
Indeno[1,2,3-c,d]pyrene	NA	121	1	5	ng/dry g	100	29.5	92	50 - 150%	PASS	2	25	PASS	
Naphthalene	NA	90	1	5	ng/dry g	100	2.4	88	25 - 125%	PASS	14	25	PASS	
Perylene	NA	76	1	5	ng/dry g	100	4.2	72	50 - 150%	PASS	40	25	FAIL	M
Phenanthrene	NA	124	1	5	ng/dry g	100	13.6	110	50 - 150%	PASS	10	25	PASS	
Pyrene	NA	116	1	5	ng/dry g	100	27.4	89	50 - 150%	PASS	9	25	PASS	



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22079-R2		B13-8049 Grab		Matrix: Sediment		Sampled: 12-Aug-13 16:17		Received: 12-Aug-13		
		Method: EPA 8270C		Batch ID: O-5125		Prepared: 27-Mar-14		Analyzed: 16-Apr-14 9:10		
(d10-Acenaphthene)	NA	75			% Recovery	100	75	50 - 150% PASS	4 25	PASS
(d10-Phenanthrene)	NA	126			% Recovery	100	126	50 - 150% PASS	1 25	PASS
(d12-Chrysene)	NA	102			% Recovery	100	102	50 - 150% PASS	4 25	PASS
(d8-Naphthalene)	NA	131			% Recovery	100	131	25 - 125% FAIL	51 25	FAIL R
1-Methylnaphthalene	NA	ND	1	5	ng/dry g				0 25	PASS
1-Methylphenanthrene	NA	2.5	1	5	ng/dry g				8 25	PASS J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g				0 25	PASS
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g				10 25	PASS
2-Methylnaphthalene	NA	1	1	5	ng/dry g				26 25	FAIL SL
Acenaphthene	NA	ND	1	5	ng/dry g				0 25	PASS
Acenaphthylene	NA	1.8	1	5	ng/dry g				11 25	PASS J
Anthracene	NA	5.7	1	5	ng/dry g				26 25	FAIL SL
Benz[a]anthracene	NA	11.9	1	5	ng/dry g				10 25	PASS
Benzo[a]pyrene	NA	17.7	1	5	ng/dry g				2 25	PASS
Benzo[b]fluoranthene	NA	17.7	1	5	ng/dry g				0 25	PASS
Benzo[e]pyrene	NA	14.4	1	5	ng/dry g				0 25	PASS
Benzo[g,h,i]perylene	NA	33.4	1	5	ng/dry g				13 25	PASS
Benzo[k]fluoranthene	NA	13.2	1	5	ng/dry g				4 25	PASS
Biphenyl	NA	ND	1	5	ng/dry g				0 25	PASS
Chrysene	NA	23.7	1	5	ng/dry g				1 25	PASS
Dibenz[a,h]anthracene	NA	5.8	1	5	ng/dry g				4 25	PASS
Dibenzothiophene	NA	1.5	1	5	ng/dry g				0 25	PASS J
Fluoranthene	NA	24.4	1	5	ng/dry g				3 25	PASS
Fluorene	NA	1.8	1	5	ng/dry g				20 25	PASS J
Indeno[1,2,3-c,d]pyrene	NA	28.2	1	5	ng/dry g				9 25	PASS
Naphthalene	NA	2.1	1	5	ng/dry g				25 25	PASS J
Perylene	NA	4.1	1	5	ng/dry g				5 25	PASS J
Phenanthrene	NA	13.7	1	5	ng/dry g				1 25	PASS
Pyrene	NA	27.7	1	5	ng/dry g				3 25	PASS



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22088-CRM1		QAQC CRM - SRM 1944		Matrix: Sediment		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-5125		Prepared: 27-Mar-14		Analyzed: 16-Apr-14 4:26		
(d10-Acenaphthene)	NA	77			% Recovery	100	77	60 - 140%	PASS	
(d10-Phenanthrene)	NA	95			% Recovery	100	95	60 - 140%	PASS	
(d12-Chrysene)	NA	100			% Recovery	100	100	60 - 140%	PASS	
(d8-Naphthalene)	NA	98			% Recovery	100	98	60 - 140%	PASS	
1-Methylnaphthalene	NA	405	1	5	ng/dry g	470	86	60 - 140%	PASS	
1-Methylphenanthrene	NA	1216	1	5	ng/dry g	1700	72	60 - 140%	PASS	
2,6-Dimethylnaphthalene	NA	680	1	5	ng/dry g	790	86	60 - 140%	PASS	
2-Methylnaphthalene	NA	653	1	5	ng/dry g	740	88	60 - 140%	PASS	
Acenaphthene	NA	490	1	5	ng/dry g	390	126	60 - 140%	PASS	
Anthracene	NA	1476	1	5	ng/dry g	1130	131	60 - 140%	PASS	
Benz[a]anthracene	NA	4353	1	5	ng/dry g	4720	92	60 - 140%	PASS	
Benzo[a]pyrene	NA	4004	1	5	ng/dry g	4300	93	60 - 140%	PASS	
Benzo[b]fluoranthene	NA	3283	1	5	ng/dry g	3870	85	60 - 140%	PASS	
Benzo[e]pyrene	NA	3253	1	5	ng/dry g	3280	99	60 - 140%	PASS	
Benzo[g,h,i]perylene	NA	2856	1	5	ng/dry g	2840	101	60 - 140%	PASS	
Benzo[k]fluoranthene	NA	2111	1	5	ng/dry g	2300	92	60 - 140%	PASS	
Biphenyl	NA	254	1	5	ng/dry g	250	102	60 - 140%	PASS	
Chrysene	NA	4112	1	5	ng/dry g	4860	85	60 - 140%	PASS	
Dibenz[a,h]anthracene	NA	487	1	5	ng/dry g	424	115	60 - 140%	PASS	
Dibenzothiophene	NA	631	1	5	ng/dry g	500	126	60 - 140%	PASS	
Fluoranthene	NA	6650	1	5	ng/dry g	8920	75	60 - 140%	PASS	
Fluorene	NA	768	1	5	ng/dry g	480	160	60 - 140%	FAIL	R
Indeno[1,2,3-c,d]pyrene	NA	2752	1	5	ng/dry g	2780	99	60 - 140%	PASS	
Naphthalene	NA	1189	1	5	ng/dry g	1280	93	60 - 140%	PASS	
Perylene	NA	923	1	5	ng/dry g	1170	79	60 - 140%	PASS	
Phenanthrene	NA	5119	1	5	ng/dry g	5270	97	60 - 140%	PASS	
Pyrene	NA	8639	1	5	ng/dry g	9700	89	60 - 140%	PASS	



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CA ELAP #2769

Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22077-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 03-Apr-14 13:36

Allethrin	NA	ND	0.25	0.5	ng/dry g					
Bifenthrin	NA	ND	0.25	0.5	ng/dry g					
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g					
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g					
Cypermethrin	NA	ND	0.25	0.5	ng/dry g					
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g					
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g					
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g					
Fenvalerate	NA	ND	0.25	0.5	ng/dry g					
Fluvalinate	NA	ND	0.25	0.5	ng/dry g					
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g					
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g					
Prallethrin	NA	ND	0.25	0.5	ng/dry g					
Resmethrin	NA	ND	0.25	0.5	ng/dry g					

Sample ID: 22077-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 03-Apr-14 14:40

Allethrin	NA	1667.67	0.25	0.5	ng/dry g	1000	0	167	70 - 130%	FAIL	*
Bifenthrin	NA	1885.95	0.25	0.5	ng/dry g	1000	0	189	70 - 130%	FAIL	*
Cyfluthrin	NA	1167.08	0.25	0.5	ng/dry g	1000	0	117	70 - 130%	PASS	
Cyhalothrin, Total Lambda	NA	1544.61	0.25	0.5	ng/dry g	1000	0	154	70 - 130%	FAIL	*
Cypermethrin	NA	1142.51	0.25	0.5	ng/dry g	1000	0	114	70 - 130%	PASS	
Danitol (Fenpropathrin)	NA	2500.8	0.25	0.5	ng/dry g	1000	0	250	70 - 130%	FAIL	*
Deltamethrin/Tralomethrin	NA	2510.32	0.25	0.5	ng/dry g	2000	0	126	70 - 130%	PASS	
Esfenvalerate	NA	1384.49	0.25	0.5	ng/dry g	1000	0	138	70 - 130%	FAIL	*
Fenvalerate	NA	1314.37	0.25	0.5	ng/dry g	1000	0	131	70 - 130%	FAIL	*
Fluvalinate	NA	1181.02	0.25	0.5	ng/dry g	1000	0	118	70 - 130%	PASS	
Permethrin, cis-	NA	356.5	0.25	0.5	ng/dry g	267	0	134	70 - 130%	FAIL	*
Permethrin, trans-	NA	907.07	0.25	0.5	ng/dry g	716	0	127	70 - 130%	PASS	



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Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Prallethrin	NA	2189.46	0.25	0.5	ng/dry g	1000	0	219 70 - 130% FAIL		*
Resmethrin	NA	2697.77	0.25	0.5	ng/dry g	1000	0	270 70 - 130% FAIL		*

Sample ID: 22077-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 03-Apr-14 15:45

Allethrin	NA	1991.5	0.25	0.5	ng/dry g	1000	0	199 70 - 130% FAIL	17 30 PASS	*
Bifenthrin	NA	2175.41	0.25	0.5	ng/dry g	1000	0	218 70 - 130% FAIL	14 30 PASS	*
Cyfluthrin	NA	1177.42	0.25	0.5	ng/dry g	1000	0	118 70 - 130% PASS	1 30 PASS	
Cyhalothrin, Total Lambda	NA	1606.74	0.25	0.5	ng/dry g	1000	0	161 70 - 130% FAIL	4 30 PASS	*
Cypermethrin	NA	1164.4	0.25	0.5	ng/dry g	1000	0	116 70 - 130% PASS	2 30 PASS	
Danitol (Fenpropathrin)	NA	2772.91	0.25	0.5	ng/dry g	1000	0	277 70 - 130% FAIL	10 30 PASS	*
Deltamethrin/Tralomethrin	NA	2485.44	0.25	0.5	ng/dry g	2000	0	124 70 - 130% PASS	2 30 PASS	
Esfenvalerate	NA	1407.95	0.25	0.5	ng/dry g	1000	0	141 70 - 130% FAIL	2 30 PASS	*
Fenvalerate	NA	1338.62	0.25	0.5	ng/dry g	1000	0	134 70 - 130% FAIL	2 30 PASS	*
Fluvalinate	NA	1184.11	0.25	0.5	ng/dry g	1000	0	118 70 - 130% PASS	0 30 PASS	
Permethrin, cis-	NA	393.06	0.25	0.5	ng/dry g	267	0	147 70 - 130% FAIL	9 30 PASS	*
Permethrin, trans-	NA	945.62	0.25	0.5	ng/dry g	716	0	132 70 - 130% FAIL	4 30 PASS	*
Prallethrin	NA	2488.61	0.25	0.5	ng/dry g	1000	0	249 70 - 130% FAIL	13 30 PASS	*
Resmethrin	NA	2574.5	0.25	0.5	ng/dry g	1000	0	257 70 - 130% FAIL	5 30 PASS	*

Sample ID: 22079-MS1

B13-8049 Grab

Matrix: Sediment

Sampled: 12-Aug-13 16:17

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 03-Apr-14 16:50

Allethrin	NA	488.51	0.25	0.5	ng/dry g	210.1	0	233 70 - 130% FAIL		*
Bifenthrin	NA	520.89	0.25	0.5	ng/dry g	210.1	0	248 70 - 130% FAIL		*
Cyfluthrin	NA	257.96	0.25	0.5	ng/dry g	210.1	0	123 70 - 130% PASS		
Cyhalothrin, Total Lambda	NA	300.44	0.25	0.5	ng/dry g	210.1	0	143 70 - 130% FAIL		*
Cypermethrin	NA	255.98	0.25	0.5	ng/dry g	210.1	0	122 70 - 130% PASS		
Danitol (Fenpropathrin)	NA	582.99	0.25	0.5	ng/dry g	210.1	0	277 70 - 130% FAIL		*
Deltamethrin/Tralomethrin	NA	189.97	0.25	0.5	ng/dry g	420.2	0	45 70 - 130% FAIL		M
Esfenvalerate	NA	248.85	0.25	0.5	ng/dry g	210.1	0	118 70 - 130% PASS		
Fenvalerate	NA	295.25	0.25	0.5	ng/dry g	210.1	0	141 70 - 130% FAIL		*
Fluvalinate	NA	193.68	0.25	0.5	ng/dry g	210.1	0	92 70 - 130% PASS		



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CA ELAP #2769

Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Permethrin, cis-	NA	106.64	0.25	0.5	ng/dry g	56.1	0	190	70 - 130% FAIL	*
Permethrin, trans-	NA	261.81	0.25	0.5	ng/dry g	150.43	0	174	70 - 130% FAIL	*
Prallethrin	NA	536.74	0.25	0.5	ng/dry g	210.1	0	255	70 - 130% FAIL	*
Resmethrin	NA	11.56	0.25	0.5	ng/dry g	210.1	0	6	70 - 130% FAIL	M

Sample ID: 22079-MS2

B13-8049 Grab

Matrix: Sediment

Sampled: 12-Aug-13 16:17

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 03-Apr-14 17:54

Allethrin	NA	574.33	0.25	0.5	ng/dry g	199.2	0	288	70 - 130% FAIL	21	30	PASS	*
Bifenthrin	NA	790.62	0.25	0.5	ng/dry g	199.2	0	397	70 - 130% FAIL	46	30	FAIL	*
Cyfluthrin	NA	283.85	0.25	0.5	ng/dry g	199.2	0	142	70 - 130% FAIL	14	30	PASS	R
Cyhalothrin, Total Lambda	NA	331.44	0.25	0.5	ng/dry g	199.2	0	166	70 - 130% FAIL	15	30	PASS	*
Cypermethrin	NA	283.44	0.25	0.5	ng/dry g	199.2	0	142	70 - 130% FAIL	15	30	PASS	R
Danitol (Fenpropathrin)	NA	782.59	0.25	0.5	ng/dry g	199.2	0	393	70 - 130% FAIL	35	30	FAIL	*
Deltamethrin/Tralomethrin	NA	170.23	0.25	0.5	ng/dry g	398.4	0	43	70 - 130% FAIL	5	30	PASS	M
Esfenvalerate	NA	257.03	0.25	0.5	ng/dry g	199.2	0	129	70 - 130% PASS	9	30	PASS	
Fenvalerate	NA	318.37	0.25	0.5	ng/dry g	199.2	0	160	70 - 130% FAIL	13	30	PASS	*
Fluvalinate	NA	187.55	0.25	0.5	ng/dry g	199.2	0	94	70 - 130% PASS	2	30	PASS	
Permethrin, cis-	NA	127.43	0.25	0.5	ng/dry g	53.19	0	240	70 - 130% FAIL	23	30	PASS	*
Permethrin, trans-	NA	327.06	0.25	0.5	ng/dry g	142.63	0	229	70 - 130% FAIL	27	30	PASS	*
Prallethrin	NA	810.37	0.25	0.5	ng/dry g	199.2	0	407	70 - 130% FAIL	46	30	FAIL	*
Resmethrin	NA	13.01	0.25	0.5	ng/dry g	199.2	0	7	70 - 130% FAIL	15	30	PASS	M

Sample ID: 22079-R2

B13-8049 Grab

Matrix: Sediment

Sampled: 12-Aug-13 16:17

Received: 12-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 03-Apr-14 22:12

Allethrin	NA	ND	0.25	0.5	ng/dry g					0	25	PASS	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g					0	25	PASS	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g					0	25	PASS	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g					0	25	PASS	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g					0	25	PASS	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g					0	25	PASS	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g					0	25	PASS	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g					0	25	PASS	



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Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Fenvalerate	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Prallethrin	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Resmethrin	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	

PHYSIS

CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8065	8/12/13	0759	General Chemistry	Grab	8 oz Glass	None	1
B13-8065			Metals	Grab	8 oz Glass	None	1
B13-8065			PBDE	Grab	8 oz Glass	None	1
B13-8065			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8065			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TH

Relinquished By: (BUMP)

Date/Time: 8/12/13 1845

Received By: [Signature]

Date/Time: 8/12/13 18:45

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
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To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8049	8/12/13	1617	General Chemistry	Grab	8 oz Glass	None	1
B13-8049			Metals	Grab	8 oz Glass	None	1
B13-8049			PBDE	Grab	8 oz Glass	None	1
B13-8049			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8049			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TH

Relinquished By: (BURNS)

Date/Time:

8/12/13 1845

Received By:

(Signature)

Date/Time:

8/12/13 18:45

Relinquished By:

Date/Time:

Received By:

Date/Time:

Analysis Request and Chain of Custody**RHMP**

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SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8029	8/11/13	0850	General Chemistry	Grab	8 oz Glass	None	1
B13-8029			Metals	Grab	8 oz Glass	None	1
B13-8029			PBDE	Grab	8 oz Glass	None	1
B13-8029			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8029			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JS

Relinquished By: Chris Stransky

Date/Time: 8/14/13 1845

Received By: Adam J. Jell

Date/Time: 8/12/13 1845

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

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SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8056	8/12/13	1408	General Chemistry	Grab	8 oz Glass	None	1
B13-8056			Metals	Grab	8 oz Glass	None	1
B13-8056			PBDE	Grab	8 oz Glass	None	1
B13-8056			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8056			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TH

Relinquished By: (BURNS)

Date/Time: 8/12/13 1845

Received By: Shane C. Ideo

Date/Time: 8/12/13 1845

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

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To:

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SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8064	8/12/13	0932	General Chemistry	Grab	8 oz Glass	None	1
B13-8064			Metals	Grab	8 oz Glass	None	1
B13-8064			PBDE	Grab	8 oz Glass	None	1
B13-8064			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8064			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TH

Relinquished By: [Signature] Date/Time: 8/12/13 1845 Received By: [Signature] Date/Time: 8/12/13 1845

Relinquished By: _____ Date/Time: _____ Received By: _____ Date/Time: _____

pg 6 of 11

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

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To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8066	8/12/13	1054	General Chemistry	Grab	8 oz Glass	None	1
B13-8066			Metals	Grab	8 oz Glass	None	1
B13-8066			PBDE	Grab	8 oz Glass	None	1
B13-8066			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8066			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TS

Relinquished By: L (Buavis) Date/Time: 8/12/13 1245 Received By: Adam J. Deo Date/Time: 8/12/13 18:45

Relinquished By: _____ Date/Time: _____ Received By: _____ Date/Time: _____

Analysis Request and Chain of Custody

RHMP
Bight '13

Pg 7 of 11

From:

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To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8020	8/11/13	1127	General Chemistry	Grab	8 oz Glass	None	1
B13-8020			Metals	Grab	8 oz Glass	None	1
B13-8020			PBDE	Grab	8 oz Glass	None	1
B13-8020			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8020			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: SR

Relinquished By: L. (Burns) Date/Time: 8/12/13 1845 Received By: Adam C. Jones Date/Time: 8/12/13 1845

Relinquished By: _____ Date/Time: _____ Received By: _____ Date/Time: _____

p68 of 11

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8050	8/12/13	1521	General Chemistry	Grab	8 oz Glass	None	1
B13-8050			Metals	Grab	8 oz Glass	None	1
B13-8050			PBDE	Grab	8 oz Glass	None	1
B13-8050			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8050			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TH

Relinquished By: L (BURNS) Date/Time: 8/12/13 1845 Received By: Adam Deel Date/Time: 8/12/13 1845

Relinquished By: _____ Date/Time: _____ Received By: _____ Date/Time: _____

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Mistry Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8069	8/12/13	1233	General Chemistry	Grab	8 oz Glass	None	1
B13-8069			Metals	Grab	8 oz Glass	None	1
B13-8069			PBDE	Grab	8 oz Glass	None	1
B13-8069			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8069			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TH

Relinquished By: (Signature) Date/Time: 8/12/13 1845 Received By: (Signature) Date/Time: 8/12/13 1845

Relinquished By: _____ Date/Time: _____ Received By: _____ Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8017	8/11/13	1443	General Chemistry	Grab	8 oz Glass	None	1
B13-8017			Metals	Grab	8 oz Glass	None	1
B13-8017			PBDE	Grab	8 oz Glass	None	1
B13-8017			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8017			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.Sampler's Initials: CRRelinquished By: L (Burns)Date/Time: 8/12/13 1845Received By: James J. LeeDate/Time: 8/12/13 1845

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Table 4-2.
Chemical Analyses of Sediment Samples

Analyte	Analysis Method	Sediment Target Reporting Limits ^{a,b}	Units
Total Solids	SM 2540 B ^c	0.1	%
Total Organic Carbon	9060	0.01	%
Grain Size	SM2560	0.1	%
Aluminum	6020/6010B ^d	5.0	mg/kg
Antimony	6020/6010B ^d	0.05	mg/kg
Arsenic	6020/6010B ^d	0.05	mg/kg
Barium	6020/6010B ^d	0.05	mg/kg
Beryllium	6020/6010B ^d	0.05	mg/kg
Cadmium	6020/6010B ^d	0.01	mg/kg
Chromium	6020/6010B ^d	0.05	mg/kg
Copper	6020/6010B ^d	0.01	mg/kg
Iron	6020/6010B ^d	5.0	mg/kg
Lead	6020/6010B ^d	0.01	mg/kg
Mercury	6020/6010B ^d	0.02	mg/kg
Nickel	6020/6010B ^d	0.02	mg/kg
Selenium	6020/6010B ^d	0.05	mg/kg
Silver	6020/6010B ^d	0.02	mg/kg
Zinc	6020/6010B ^d	0.05	mg/kg
Total Nitrogen	TKN / SM 4500-NO ³ E(M) / SM 4500-NO ³ B(M)	4.0	mg/kg
Total Phosphorus	SM 4500-P B/E(M)	4.0	mg/kg
Ammonia	SM 4500-NH ³	0.2	mg/kg
Acid Volatile Sulfides	Plumb 1981 and TERL	0.1	mg/kg
Simultaneous Extracted Metals	EPA 200.8	0.0004-0.0124	μmol/g
PAHs ^e	EPA 8270C ^d	5.0	μg/kg
Chlorinated Pesticides ^f	EPA 8270C ^d	0.5-50	μg/kg
Pyrethroid Pesticides	EPA 8270 C NCI	0.5-10	μg/kg
PCB Congeners ^g	EPA 8270C ^d	0.2	μg/kg
PBDEs ^h	EPA 8270 C NCI	0.1	μg/kg
Alkylphenols^{i,j}	GC/MS SIM	0.02-0.6	mg/kg
Perfluorinated Compounds^{k,l}	EPA 537M	5.0	μg/kg

Notes:

^a Sediment minimum detection limits are on a dry-weight basis.

^b Reporting limits provided by Physis Environmental Laboratories.

^c Standard Methods for the Examination of Water and Wastewater, 19th Ed. American Public Health Association, 1995.

^d USEPA 1986-1996, SW-846. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 3rd Ed.

^e Includes Acenaphthene, Acenaphthylene, Anthracene, Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[e]pyrene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Biphenyl, Chrysene, Dibenzo[a,h]anthracene, Di benzo[thiophene, Fluoranthene, Fluorene, Indeno[1,2,3-c,d]pyrene, Naphthalene, Perylene, Phenanthrene, Pyrene, 2,6-Dimethylnaphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene, 1-Methylphenanthrene, 2,3,5-Trimethylnaphthalene, and 1,6,7-Trimethylnaphthalene.

^f Includes cis-chlordane, trans-chlordane, o,p'-DDT, p,p'-DDT, o,p'-DDD, p,p'-DDD, o,p'-DDE, p,p'-DDE, p,p'-DDMU, aldrin, BHC-alpha, BHC-beta, BHC-gamma, cis-nonachlor, trans-nonachlor, oxychlordane, DCPA (Dacthal), dicofol, dieldrin, toxaphene, endosulfan sulfate, endosulfan-I, endosulfan-II, endrin, endrin aldehyde, endrin ketone, heptachlor, heptachlor epoxides, methoxychlor, mirex, and perthane.

^g Includes congeners: PCB-3, 5, 8, 15, 18, 27-29, 31, 33, 37, 44, 49, 52, 56, 60, 66, 70, 74, 77, 81, 87, 95, 97, 99, 101, 105, 110, 114, 118-119, 123, 126, 128, 137-138, 141, 149, 151, 153, 156-158, 167-170, 174, 177, 180, 183, 187, 189, 194-195, 200-201, 203, 206, and 209.

^h Includes BDE-17, 28, 47, 49, 66, 85, 99, 100, 138, 153, 154, 183, and 209.

ⁱ Collected only at stations B13-8163, B13-8040, B13-8077; transferred to SCCWRP for analysis.

^j Includes nonylphenol, nonylphenol diethoxylate, nonylphenol monoethoxylate, 4-tert-octylphenol, and bisphenol A.

^k Includes perfluorooctanoic acid and perfluorooctane sulfonate.

μg/kg - micrograms per kilogram (parts per billion) SM - Standard Methods
mg/kg - milligrams per kilogram (parts per million) SOP - standard operating procedure
N/A - not applicable

SAMPLE RECEIPT SUMMARY

CLIENT: AMEC Date Received: 8/12/13 Received By: AI Inspected By: RGH

COURIER

☒ PHYSIS ☐ CLIENT ☐ FEDEX ☐ UPS
start 15:30 end 20:15 ☐ OTHER: see notes

COOLER

☒ COOLER ☐ BOX total #
☐ OTHER: 2

TEMPERATURE

°C ☒ WET ICE ☐ BLUE ICE
☐ DRY ICE ☐ NONE

SAMPLE INTEGRITY UPON RECEIPT

1. COC(s) included and completely filled out..... **YES**
2. All sample containers arrived intact..... **NO; see notes below**
3. All samples listed on COC(s) are present..... **YES**
4. Information on containers consistent with information on COC(s)..... **YES**
5. Correct containers and volume for all analyses indicated..... **YES**
6. All samples received within method holding time..... **YES**
7. Correct preservation used for all analyses indicated..... **YES**

NOTES

Temperatures: 3.2°C or -2.1°C.

SID B13-8029 the General Chemistry Jar was received broken. The bottom was cracked off, appears to be lack of head space. The majority of the sample was still in the jar, so the rest of the sample was transferred into a new 8oz jar.

PHYSIS

LEVEL 3

DELIVERABLES

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Conventionals

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Summary of Initial Calibration Data and

ICV/CCV

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1307002-006 AMEC RHMP General Chemistry Calibration Data							
Analysis	Method	Batch ID	Co-efficient	Equation	Slope	ICV/True Value	CCV/True Value
Acid Volatile Sulfides	Plumb, 1981	C-14042	0.9998	0.196x-0.001702	NA	NA	NA
Percent Solids	SM2540 B	C-14037	NA	NA	NA	NA	NA
Ammonia	SM 4500-NH3 D	C-14038	NA	NA	-57.4	.236/.25	.247/.25

(EPA 6020 – High Metals)

PHYSIS

Instrument Blank

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PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name 0MIX_2130931L.D
File Path D:\DATA\2130930H.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 11:46
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.000	ug/g	---	30.00	5.170E-05	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	---	8.89	1.533E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	580,413.01	1.15	100.0	Analog	0.30	3

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Initial Calibration Data

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Batch Folder: D:\DATA\2130930H.b\

 Analysis File: 2130930H.batch.xml

 DA Date-Time: 6/2/2014 2:22:14 PM

 Calibration Title:

 Calibration Method: External Calibration

 VIS Interpolation Fit:

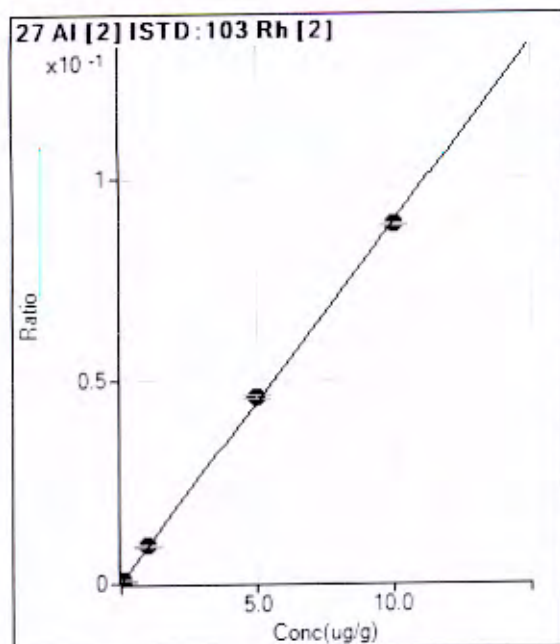
 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX_2130931LD	0 ppb mix	10/2/2013 11:46:36 AM
2	1MIX_2130931LD	1 ppb mix	10/2/2013 11:51:17 AM
3	5MIX_2130931LD	5 ppb mix	10/2/2013 11:55:59 AM
4	10MIX_2130931LD	10 ppb mix	10/2/2013 12:00:41 PM
5	50MIX_2130931LD	50 ppb mix	10/2/2013 1:17:16 PM
6	100MIX_2130931LD	100 ppb mix	10/2/2013 1:22:04 PM
7	500MIX_2130931LD	500 ppb mix	10/2/2013 1:26:45 PM
8	1000MIX_2130931LD	1000 ppb mix	10/2/2013 1:31:12 PM
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

Calibration for CCV3.D



$$y = 0.0089 * x + 5.1701E-005$$

$$R = 0.9998$$

$$DL = 0.005779$$

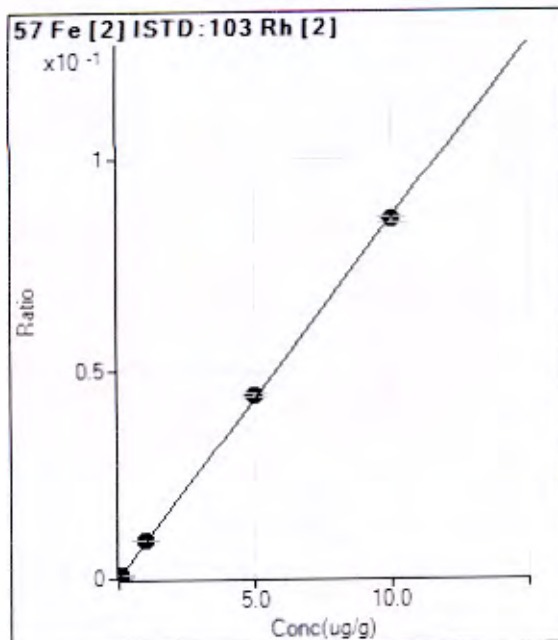
$$BEC = 0.005802$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	30.00	0.0001	P	33.2
2	<input type="checkbox"/>	0.010	0.011	86.67	0.0001	P	20.3
3	<input type="checkbox"/>	0.050	0.064	356.69	0.0006	P	22.3
4	<input type="checkbox"/>	0.100	0.096	523.36	0.0009	P	6.5
5	<input type="checkbox"/>	0.500		2.22		P	
6	<input type="checkbox"/>	1.000	1.029	5351.00	0.0092	P	3.7
7	<input type="checkbox"/>	5.000	5.155	24065.45	0.0460	P	1.6
8	<input type="checkbox"/>	10.00	9.920	44305.68	0.0885	P	0.7
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.0086 * x + 1.5329E-005$$

$$R = 0.9999$$

$$DL = 0.001181$$

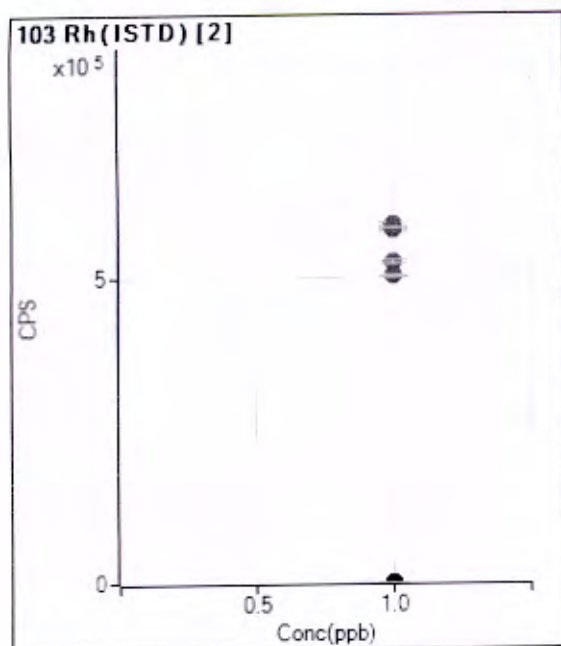
$$BEC = 0.001782$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	8.89	0.0000	P	22.1
2	<input type="checkbox"/>	0.010	0.011	65.56	0.0001	P	38.3
3	<input type="checkbox"/>	0.050	0.050	255.57	0.0004	P	28.2
4	<input type="checkbox"/>	0.100	0.114	573.37	0.0010	P	4.7
5	<input type="checkbox"/>	0.500		13.33		P	
6	<input type="checkbox"/>	1.000	1.053	5268.77	0.0091	P	2.5
7	<input type="checkbox"/>	5.000	5.116	23039.00	0.0440	P	2.4
8	<input type="checkbox"/>	10.00	9.937	42824.27	0.0855	P	1.4
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for CCV3.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		580413.01		A	1.2
2	<input type="checkbox"/>	1.000		584685.11		A	1.2
3	<input type="checkbox"/>	1.000		576642.37		A	0.6
4	<input type="checkbox"/>	1.000		576107.97		A	0.9
5	<input type="checkbox"/>	1.000		3.33		P	100.1
6	<input type="checkbox"/>	1.000		580423.67		A	0.1
7	<input type="checkbox"/>	1.000		523312.75		A	1.0
8	<input type="checkbox"/>	1.000		500915.89		A	0.6
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					
19	<input type="checkbox"/>	1.000					
20	<input type="checkbox"/>	1.000					

PHYSIS

Continuing Calibration Data

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ICPMS 7700x DATA REPORT

File Name CCV1.D
File Path D:\DATA\2130930H.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 23:20
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.102	ug/g	4.47	4,626.35	9.143E-03	Pulse	0.30	3
Fe	57	103	2	0.100	ug/g	4.23	4,351.82	8.596E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	506,171.16	1.16	87.2	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV2.D
File Path D:\DATA\2130930H.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/3/2013 1:13
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.100	ug/g	1.66	4,259.56	8.976E-03	Pulse	0.30	3
Fe	57	103	2	0.096	ug/g	2.33	3,941.71	8.306E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	474,534.49	0.34	81.8	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV3.D
File Path D:\DATA\2130930H.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/3/2013 3:11
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.135	ug/g	3.96	932.29	1.213E-02	Pulse	0.30	3
Fe	57	103	2	0.123	ug/g	12.20	812.28	1.057E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	76,733.60	17.71	13.2	Pulse	0.30	3

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Instrument Run Log

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	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse1			1.000							
2	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse2			1.000							
3	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse10			1.000							
4	C:\CPM\H1\METHOD S\Physis.m	Sample	3101	Rinse11			1.000							
5	C:\CPM\H1\METHOD S\Physis.m	Sample	3101	21955	QAQC Procedural Blank B1	21955,NA,R1,9/25/2013,E-5145	10.00							
6	C:\CPM\H1\METHOD S\Physis.m	Sample	3102	22035	QAQC Procedural Blank B1	22035,NA,B1,9/25/2013,E-5145	10.00							
7	C:\CPM\H1\METHOD S\Physis.m	Sample	3103	22077	QAQC Procedural Blank B1	22077,NA,B1,9/30/2013,E-5147	10.00							
8	C:\CPM\H1\METHOD S\Physis.m	Sample	3104	21957	B13-5235 Oceanside	21957,NA,R1,9/25/2013,E-5145	968.0							
9	C:\CPM\H1\METHOD S\Physis.m	Sample	3105	21957/2	B13-5235 Oceanside Cup	21957,NA,R2,9/25/2013,E-5145	871.0							
10	C:\CPM\H1\METHOD S\Physis.m	Sample	3106	21958	B13-5236 Oceanside	21958,NA,R1,9/25/2013,E-5145	536.0							
11	C:\CPM\H1\METHOD S\Physis.m	Sample	3107	21959	B13-5235 Oceanside	21959,NA,R1,9/25/2013,E-5145	591.0							
12	C:\CPM\H1\METHOD S\Physis.m	Sample	3108	21960	B13-5267 Dana Point	21960,NA,R1,9/25/2013,E-5145	545.0							
13	C:\CPM\H1\METHOD S\Physis.m	Sample	3109	21961	B13-5265 Dana Point	21961,NA,R1,9/25/2013,E-5145	439.0							
14	C:\CPM\H1\METHOD S\Physis.m	Sample	3110	21962	B13-5253 Dana Point	21962,NA,R1,9/25/2013,E-5145	385.0							
15	C:\CPM\H1\METHOD S\Physis.m	Sample	3111	21963	B13-5250 Dana Point	21963,NA,R1,9/25/2013,E-5145	537.0							
16	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R12			1.000							
17	C:\CPM\H1\METHOD S\Physis.m	Sample	3112	21965cm	QAQC CRM - RTC 015-0501	21965,NA,CRM1,9/25/2013,E-5145	947.0							
18	C:\CPM\H1\METHOD S\Physis.m	Sample	3201	21955cm	QAQC CRM - ERA 5401	21968,NA,CRM1,9/25/2013,E-5145	1.010E+03							
19	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R13			1.000							
20	C:\CPM\H1\METHOD S\Physis.m	Sample	3202	21956bs1	QAQC Procedural Blank B51	21956,NA,R51,9/25/2013,E-5145	1.000							
21	C:\CPM\H1\METHOD S\Physis.m	Sample	3203	21956bs2	QAQC Procedural Blank B52	21956,NA,B52,9/25/2013,E-5145	1.000							
22	C:\CPM\H1\METHOD S\Physis.m	Sample	3204	21957ms	B13-5233 Oceanside MS	21957,NA,MS1,9/25/2013,E-5145	1.000							
23	C:\CPM\H1\METHOD S\Physis.m	Sample	3205	21957msd	B13-5233 Oceanside MSD	21957,NA,MS2,9/25/2013,E-5145	1.000							
24	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R14			1.000							
25	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R15			1.000							
26	C:\CPM\H1\METHOD S\Physis.m	Sample	1108	CCV1			1.000E-01							
27	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R16			1.000							
28	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R17			1.000							
29	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R18			1.000							
30	C:\CPM\H1\METHOD S\Physis.m	Sample	3206	22036	B13-5145 Grab	22036,NA,R1,9/25/2013,E-5145	558.0							
31	C:\CPM\H1\METHOD S\Physis.m	Sample	3207	22036/2	B13-5145 Grab Dup	22036,NA,R2,9/25/2013,E-5145	517.0							
32	C:\CPM\H1\METHOD S\Physis.m	Sample	3208	22037	B13-5153 Grab	22037,NA,R1,9/25/2013,E-5145	588.0							
33	C:\CPM\H1\METHOD S\Physis.m	Sample	3209	22038	B13-5150 Grab	22038,NA,R1,9/25/2013,E-5145	724.0							
34	C:\CPM\H1\METHOD S\Physis.m	Sample	3210	22039	B13-5159 Grab	22039,NA,R1,9/25/2013,E-5145	591.0							
35	C:\CPM\H1\METHOD S\Physis.m	Sample	3211	22040	B13-5157 Grab	22040,NA,R1,9/25/2013,E-5145	566.0							
36	C:\CPM\H1\METHOD S\Physis.m	Sample	3212	22041	B13-5155 Grab	22041,NA,R1,9/25/2013,E-5145	709.0							
37	C:\CPM\H1\METHOD S\Physis.m	Sample	3301	22042	B13-5152 Grab	22042,NA,R1,9/25/2013,E-5145	265.0							
38	C:\CPM\H1\METHOD S\Physis.m	Sample	3302	22043	B13-5151 Grab	22043,NA,R1,9/25/2013,E-5145	704.0							
39	C:\CPM\H1\METHOD S\Physis.m	Sample	3303	22044	B13-5145 Grab	22044,NA,R1,9/25/2013,E-5145	653.0							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
40	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R19			1.000							
41	C:\CPM\H1\METHOD S\Physis.m	Sample	3304	22046cm	QAQC CRM - RTO 016-0501	22046.NA.CRM1.9/25/2013.E-5146	1.027E+03							
42	C:\CPM\H1\METHOD S\Physis.m	Sample	3305	22047cm	QAQC CRM - ERA 5401	22047.NA.CRM1.9/25/2013.E-5146	919.0							
43	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R20			1.000							
44	C:\CPM\H1\METHOD S\Physis.m	Sample	3202	22035bs1	QAQC Procedural Blank BS1	22035.NA.BS1.9/25/2013.E-5146	1.000							
45	C:\CPM\H1\METHOD S\Physis.m	Sample	3203	22035bs2	QAQC Procedural Blank BS2	22035.NA.BS2.9/25/2013.E-5146	1.000							
46	C:\CPM\H1\METHOD S\Physis.m	Sample	3308	22036ms	B13-8145 Grab MS	22036.NA.MS1.9/25/2013.E-5146	1.000							
47	C:\CPM\H1\METHOD S\Physis.m	Sample	3309	22036msd	B13-8145 Grab MSD	22036.NA.MS2.9/25/2013.E-5146	1.000							
48	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R21			1.000							
49	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R22			1.000							
50	C:\CPM\H1\METHOD S\Physis.m	Sample	1106	CCV2			1.000E+01							
51	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R23			1.000							
52	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R24			1.000							
53	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R25			1.000							
54	C:\CPM\H1\METHOD S\Physis.m	Sample	3310	22078	B13-8065 Grab	22078.NA.R1.9/30/2013.E-5147	511.0							
55	C:\CPM\H1\METHOD S\Physis.m	Sample	3311	22078/2	B13-8065 Grab Dup	22078.NA.R2.9/30/2013.E-5147	570.0							
56	C:\CPM\H1\METHOD S\Physis.m	Sample	3312	22079	B13-8040 Grab	22079.NA.R1.9/30/2013.E-5147	523.0							
57	C:\CPM\H1\METHOD S\Physis.m	Sample	3401	22080	B13-8029 Grab	22080.NA.R1.9/30/2013.E-5147	502.0							
58	C:\CPM\H1\METHOD S\Physis.m	Sample	3402	22081	B13-8058 Grab	22081.NA.R1.9/30/2013.E-5147	652.0							
59	C:\CPM\H1\METHOD S\Physis.m	Sample	3403	22082	B13-8064 Grab	22082.NA.R1.9/30/2013.E-5147	504.0							
60	C:\CPM\H1\METHOD S\Physis.m	Sample	3404	22083	B13-8056 Grab	22083.NA.R1.9/30/2013.E-5147	738.0							
61	C:\CPM\H1\METHOD S\Physis.m	Sample	3405	22084	B13-8020 Grab	22084.NA.R1.9/30/2013.E-5147	1.108E+03							
62	C:\CPM\H1\METHOD S\Physis.m	Sample	3406	22085	B13-8050 Grab	22085.NA.R1.9/30/2013.E-5147	630.0							
63	C:\CPM\H1\METHOD S\Physis.m	Sample	3407	22086	B13-8069 Grab	22086.NA.R1.9/30/2013.E-5147	608.0							
64	C:\CPM\H1\METHOD S\Physis.m	Sample	3408	22087	B13-8017 Grab	22087.NA.R1.9/30/2013.E-5147	672.0							
65	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R26			1.000							
66	C:\CPM\H1\METHOD S\Physis.m	Sample	3409	22089cm	QAQC CRM - RTO 016-0501	22089.NA.CRM1.9/30/2013.E-5147	1.025E+03							
67	C:\CPM\H1\METHOD S\Physis.m	Sample	3410	22090cm	QAQC CRM - ERA 5401	22090.NA.CRM1.9/30/2013.E-5147	1.035E+03							
68	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R27			1.000							
69	C:\CPM\H1\METHOD S\Physis.m	Sample	3202	22077bs1	QAQC Procedural Blank BS1	22077.NA.BS1.9/30/2013.E-5147	1.000							
70	C:\CPM\H1\METHOD S\Physis.m	Sample	3203	22077bs2	QAQC Procedural Blank BS2	22077.NA.BS2.9/30/2013.E-5147	1.000							
71	C:\CPM\H1\METHOD S\Physis.m	Sample	3501	22078ms	B13-8065 Grab MS	22078.NA.MS1.9/30/2013.E-5147	1.000							
72	C:\CPM\H1\METHOD S\Physis.m	Sample	3502	22078msd	B13-8065 Grab MSD	22078.NA.MS2.9/30/2013.E-5147	1.000							
73	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R28			1.000							
74	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R29			1.000							
75	C:\CPM\H1\METHOD S\Physis.m	Sample	1106	CCV3			1.000E+01							
76	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R30			1.000							
77	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R31			1.000							
78	C:\CPM\H1\METHOD S\Physis.m	Sample	1	R32			1.000							
79		Keyword		StandBy										

Elements –

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PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name 0MIX.D
File Path D:\DATA\2130931L.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 11:46
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.000	ug/g	---	64.45	4.823E-05	Pulse	0.30	3
P	31	103	2		ug/g	---	65.56	1.132E-04	Pulse	0.30	3
Cr	52	103	2	0.000	ug/g	---	84.45	1.453E-04	Pulse	0.30	3
Ni	60	103	2	0.000	ug/g	---	14.44	2.499E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	---	166.68	2.873E-04	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	---	40.00	6.885E-05	Pulse	0.30	3
As	75	103	2	0.000	ug/g	---	3.33	5.783E-06	Pulse	0.30	3
Se	78	103	1	0.000	ug/g	---	10.00	7.551E-05	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	---	33.34	5.720E-05	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	---	14.44	2.487E-05	Pulse	0.30	3
Sb	121	169	2	0.000	ug/g	---	15.56	2.013E-05	Pulse	0.30	3
Ba	137	169	2	0.000	ug/g	---	4.44	5.734E-06	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	---	86.67	1.124E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	132,392.97	0.53	100.0	Pulse	0.30	3
2	Rh	103	580,413.01	1.15	100.0	Analog	0.30	3
3	Rh	103	1,336,160.38	0.69	100.0	Analog	0.30	3
2	Tm	169	770,246.09	2.04	100.0	Analog	0.30	3

PHYSIS

Initial Calibration Data

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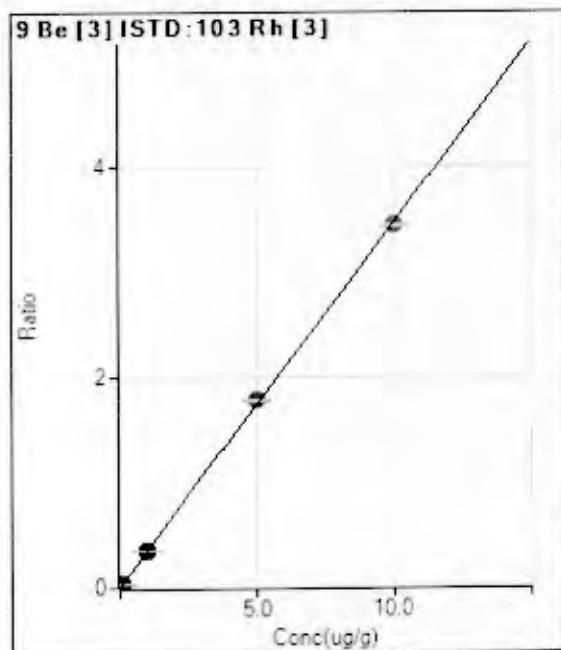
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Calibration for GCV3.D

Batch Folder: D:\DATA\2130931L.b*
 Analysis File: 2130931L.batch.xml
 DA Date-Time: 4/8/2014 1:35:39 PM
 Calibration Title:
 Calibration Method: External Calibration
 VIS Interpolation Fit:
 Tune Step: #1 h2.u
 #2 he.u
 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX.D	0 ppb mix	10/2/2013 11:46:36 AM
2	1MIX.D	1 ppb mix	10/2/2013 11:51:17 AM
3	5MIX.D	5 ppb mix	10/2/2013 11:55:59 AM
4	10MIX.D	10 ppb mix	10/2/2013 12:00:41 PM
5			
6	100MIX.D	100 ppb mix	10/2/2013 1:22:04 PM
7	500MIX.D	500 ppb mix	10/2/2013 1:26:45 PM
8	1000MIX.D	1000 ppb mix	10/2/2013 1:31:12 PM
9	1P.D	1 ppm P	10/2/2013 1:45:30 PM
10	2P.D	2 ppm P	10/2/2013 1:50:12 PM
11	5P.D	5 ppm P	10/2/2013 1:54:55 PM
12	10P.D	10 ppm P	10/2/2013 1:59:37 PM
13			
14			
15			
16			
17			
18			

Calibration for CCV3.D



$$y = 0.3467 * x + 4.8232E-005$$

$$R = 0.9999$$

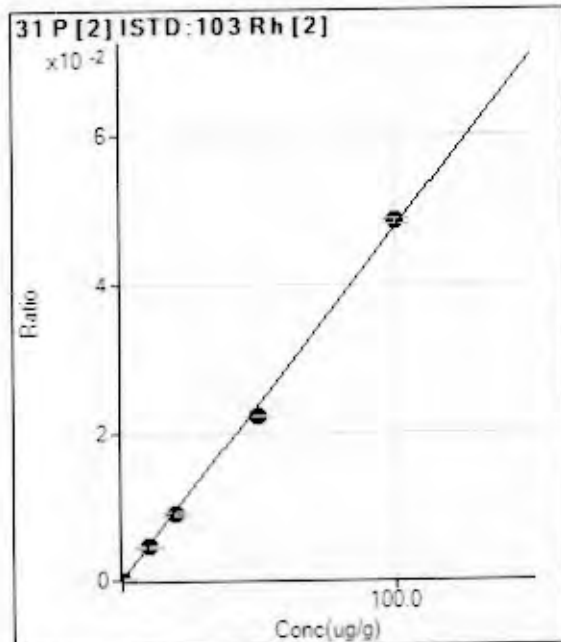
$$DL = 5.377E-05$$

$$BEC = 0.0001391$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	64.45	0.0000	P	12.9
2	<input type="checkbox"/>	0.010	0.011	4980.88	0.0037	P	1.7
3	<input type="checkbox"/>	0.050	0.052	23701.46	0.0181	P	0.6
4	<input type="checkbox"/>	0.100	0.105	47594.15	0.0363	P	0.5
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.022	427074.83	0.3542	P	0.7
7	<input type="checkbox"/>	5.000	5.093	2006348.10	1.7657	A	0.5
8	<input type="checkbox"/>	10.00	9.951	3850909.81	3.4497	A	0.4
9	<input type="checkbox"/>			188.90	0.0002	P	21.5
10	<input type="checkbox"/>			161.12	0.0001	P	3.8
11	<input type="checkbox"/>			147.78	0.0001	P	1.7
12	<input type="checkbox"/>			147.79	0.0001	P	18.8
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 4.7339E-004 * x + 1.1324E-004$$

$$R = 0.9991$$

$$DL = 0.2436$$

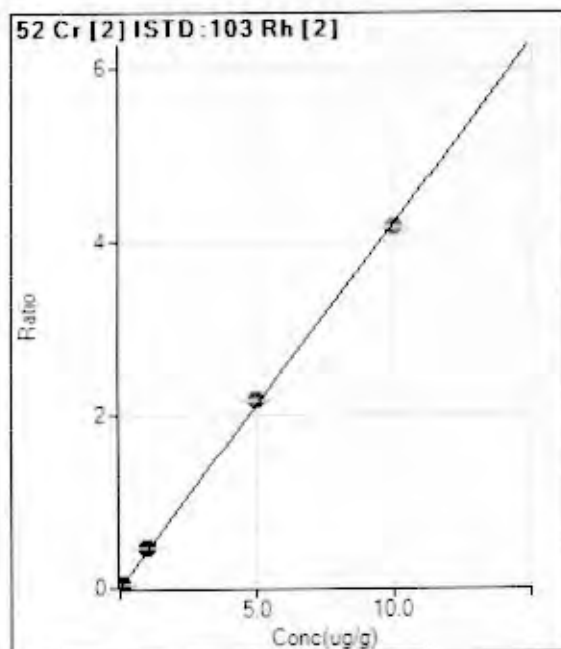
$$BEC = 0.2392$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	65.56	0.0001	P	34.0
2	<input type="checkbox"/>			65.56	0.0001	P	39.4
3	<input type="checkbox"/>			82.23	0.0001	P	12.9
4	<input type="checkbox"/>			72.23	0.0001	P	16.5
5	<input type="checkbox"/>						
6	<input type="checkbox"/>			106.67	0.0002	P	17.3
7	<input type="checkbox"/>			101.12	0.0002	P	30.2
8	<input type="checkbox"/>			65.56	0.0001	P	20.8
9	<input type="checkbox"/>	10.00	9.263	2201.3	0.0045	P	3.9
10	<input type="checkbox"/>	20.00	18.818	4474.0	0.0090	P	4.4
11	<input type="checkbox"/>	50.00	46.736	10964.	0.0222	P	0.2
12	<input type="checkbox"/>	100.0	101.942	24442.	0.0484	P	1.5
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.4213 * x + 1.4530E-004$$

$$R = 0.9998$$

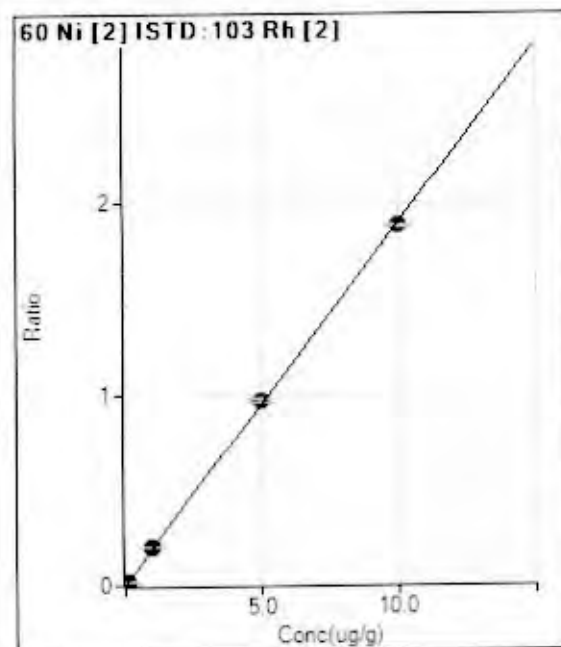
$$DL = 0.0001825$$

$$BEC = 0.0003449$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	84.45	0.0001	P	17.6
2	<input type="checkbox"/>	0.010	0.011	2779.21	0.0048	P	5.4
3	<input type="checkbox"/>	0.050	0.054	13296.53	0.0231	P	1.3
4	<input type="checkbox"/>	0.100	0.109	26529.20	0.0461	P	0.7
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.091	266790.30	0.4597	P	0.9
7	<input type="checkbox"/>	5.000	5.146	1134541.63	2.1681	A	1.1
8	<input type="checkbox"/>	10.00	9.918	2093048.49	4.1785	A	0.5
9	<input type="checkbox"/>			81.11	0.0002	P	26.9
10	<input type="checkbox"/>			128.89	0.0003	P	11.2
11	<input type="checkbox"/>			168.90	0.0003	P	11.3
12	<input type="checkbox"/>			180.01	0.0004	P	5.1
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.1891 * x + 2.4992E-005$$

$$R = 0.9999$$

$$DL = 0.0002346$$

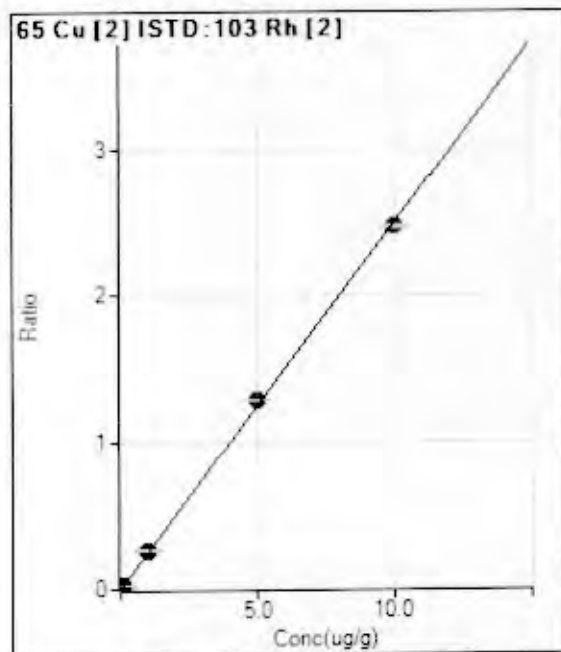
$$BEC = 0.0001322$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	14.44	0.0000	P	59.2
2	<input type="checkbox"/>	0.010	0.011	1196.76	0.0020	P	4.8
3	<input type="checkbox"/>	0.050	0.054	5926.75	0.0103	P	3.0
4	<input type="checkbox"/>	0.100	0.107	11702.05	0.0203	P	1.6
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.050	115260.08	0.1986	P	0.8
7	<input type="checkbox"/>	5.000	5.111	505723.41	0.9665	A	1.2
8	<input type="checkbox"/>	10.00	9.939	941433.43	1.8794	A	0.3
9	<input type="checkbox"/>			13.33	0.0000	P	25.9
10	<input type="checkbox"/>			21.11	0.0000	P	59.9
11	<input type="checkbox"/>			26.67	0.0001	P	33.1
12	<input type="checkbox"/>			27.78	0.0001	P	13.7
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.2492 * x + 2.8732E-004$$

$$R = 0.9998$$

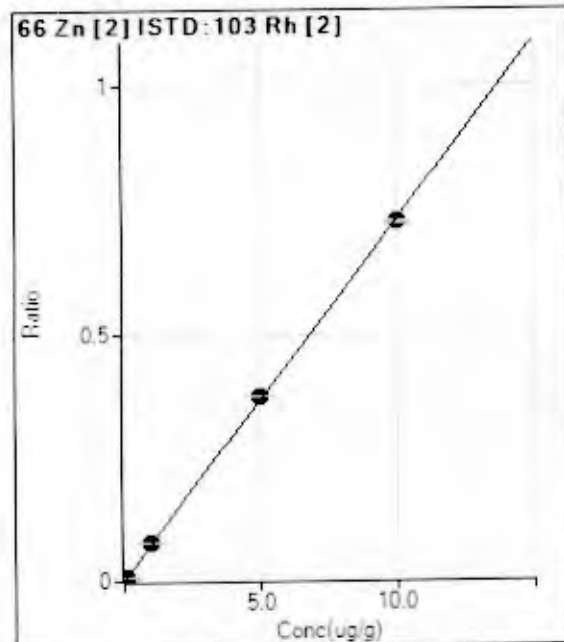
$$DL = 0.0006769$$

$$BEC = 0.001153$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	166.68	0.0003	P	19.6
2	<input type="checkbox"/>	0.010	0.011	1779.06	0.0030	P	1.7
3	<input type="checkbox"/>	0.050	0.055	8087.71	0.0140	P	0.8
4	<input type="checkbox"/>	0.100	0.110	15962.13	0.0277	P	2.8
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.076	155782.32	0.2684	P	0.9
7	<input type="checkbox"/>	5.000	5.141	670545.32	1.2814	A	0.5
8	<input type="checkbox"/>	10.00	9.922	1238742.8	2.4730	A	0.6
9	<input type="checkbox"/>			166.67	0.0003	P	14.4
10	<input type="checkbox"/>			138.90	0.0003	P	13.1
11	<input type="checkbox"/>			98.89	0.0002	P	18.1
12	<input type="checkbox"/>			100.01	0.0002	P	11.5
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0730 * x + 6.8849E-005$$

$$R = 0.9999$$

$$DL = 0.0004467$$

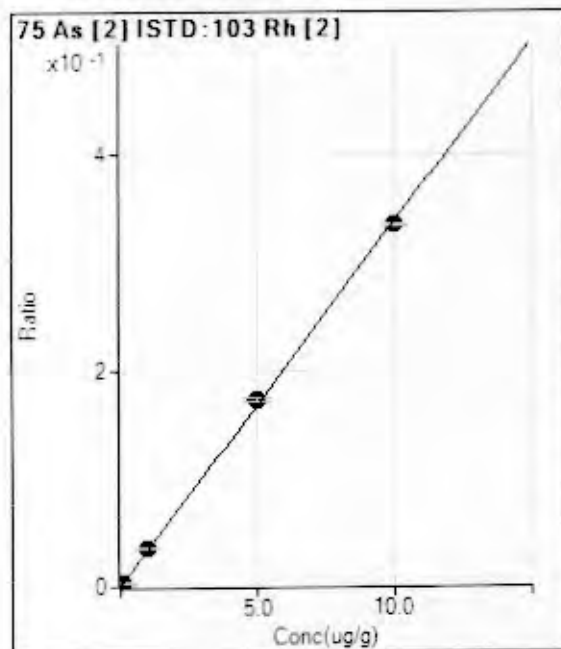
$$BEC = 0.0009425$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	40.00	0.0001	P	15.8
2	<input type="checkbox"/>	0.010	0.010	486.69	0.0008	P	8.4
3	<input type="checkbox"/>	0.050	0.053	2272.46	0.0039	P	6.3
4	<input type="checkbox"/>	0.100	0.101	4280.69	0.0074	P	3.7
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.042	44227.08	0.0762	P	0.6
7	<input type="checkbox"/>	5.000	5.112	195447.17	0.3735	P	0.7
8	<input type="checkbox"/>	10.00	9.940	363727.46	0.7261	P	0.4
9	<input type="checkbox"/>			57.78	0.0001	P	32.9
10	<input type="checkbox"/>			45.56	0.0001	P	27.0
11	<input type="checkbox"/>			58.89	0.0001	P	28.5
12	<input type="checkbox"/>			117.78	0.0002	P	20.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.0336 * x + 5.7835E-006$$

$$R = 0.9998$$

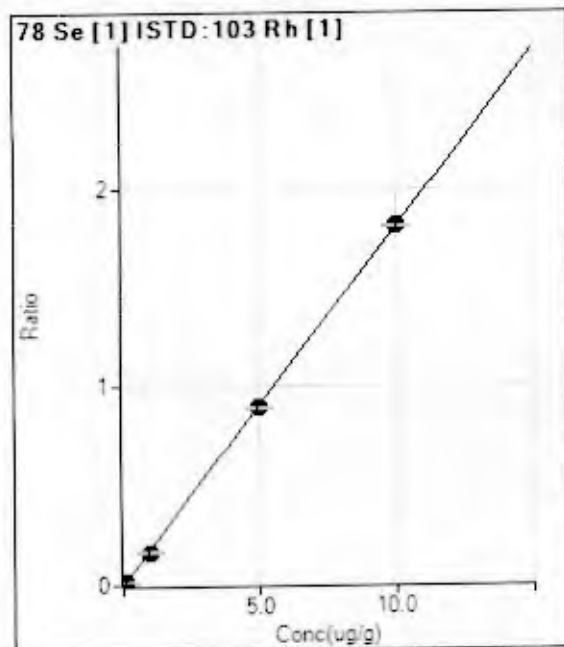
$$DL = 0.0005195$$

$$BEC = 0.000172$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	3.33	0.0000	P	100.7
2	<input type="checkbox"/>	0.010	0.010	196.67	0.0003	P	6.7
3	<input type="checkbox"/>	0.050	0.053	1023.41	0.0018	P	1.2
4	<input type="checkbox"/>	0.100	0.106	2063.54	0.0036	P	5.9
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.050	20494.83	0.0353	P	2.6
7	<input type="checkbox"/>	5.000	5.152	90664.06	0.1733	P	1.6
8	<input type="checkbox"/>	10.00	9.919	167101.1	0.3336	P	0.8
9	<input type="checkbox"/>			22.22	0.0000	P	46.9
10	<input type="checkbox"/>			7.78	0.0000	P	39.5
11	<input type="checkbox"/>			8.89	0.0000	P	43.9
12	<input type="checkbox"/>			8.89	0.0000	P	43.6
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.1811 * x + 7.5513E-005$$

$$R = 1.0000$$

$$DL = 0.0007197$$

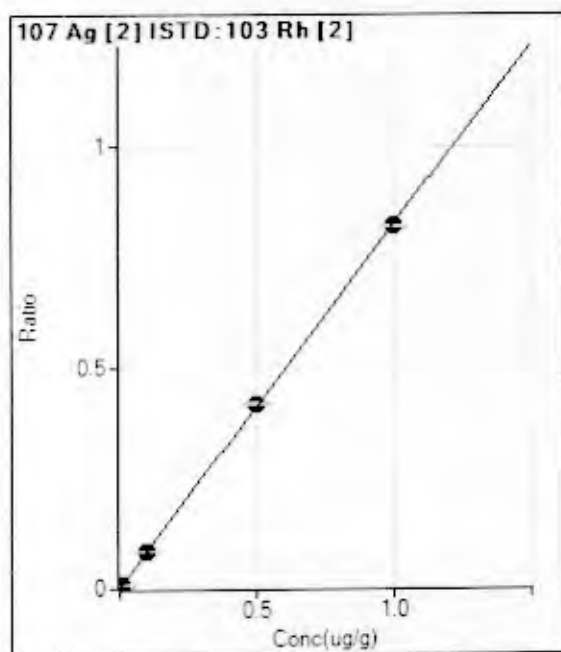
$$BEC = 0.0004169$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	10.00	0.0001	P	57.5
2	<input type="checkbox"/>	0.010	0.011	274.46	0.0020	P	22.5
3	<input type="checkbox"/>	0.050	0.052	1267.88	0.0095	P	5.9
4	<input type="checkbox"/>	0.100	0.100	2398.03	0.0182	P	1.2
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	0.929	26070.17	0.1683	P	2.7
7	<input type="checkbox"/>	5.000	4.937	118667.92	0.8942	P	1.0
8	<input type="checkbox"/>	10.00	10.039	222615.06	1.8182	P	0.8
9	<input type="checkbox"/>			18.89	0.0002	P	88.6
10	<input type="checkbox"/>			5.56	0.0000	P	35.5
11	<input type="checkbox"/>			4.44	0.0000	P	43.5
12	<input type="checkbox"/>			7.78	0.0001	P	89.4
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.8226 * x + 5.7202E-005$$

$$R = 1.0000$$

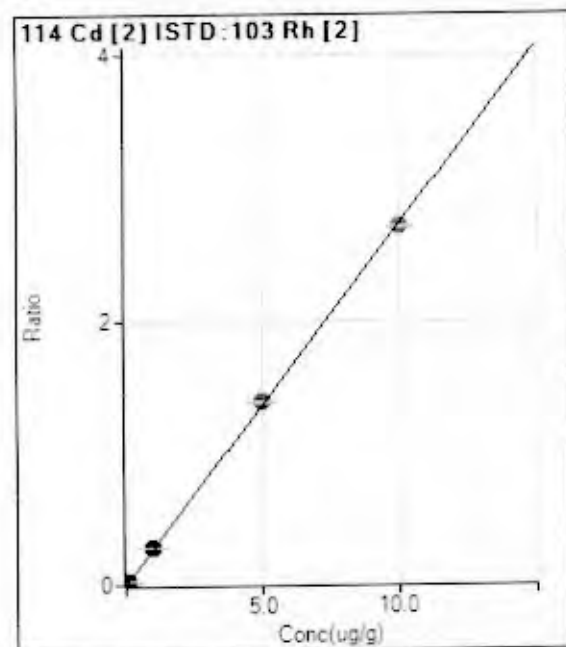
$$DL = 0.0001239$$

$$BEC = 6.954E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	33.34	0.0001	P	59.4
2	<input type="checkbox"/>	0.001	0.001	283.35	0.0005	P	7.3
3	<input type="checkbox"/>	0.005	0.004	2023.54	0.0035	P	4.1
4	<input type="checkbox"/>	0.010	0.009	4499.67	0.0078	P	2.6
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	0.100	0.102	48634.29	0.0838	P	1.1
7	<input type="checkbox"/>	0.500	0.507	218415.67	0.4174	P	0.9
8	<input type="checkbox"/>	1.000	0.996	410477.45	0.8195	P	0.2
9	<input type="checkbox"/>			135.56	0.0003	P	38.9
10	<input type="checkbox"/>			75.56	0.0002	P	18.0
11	<input type="checkbox"/>			66.67	0.0001	P	43.3
12	<input type="checkbox"/>			45.56	0.0001	P	44.1
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2721 * x + 2.4872E-005$$

$$R = 0.9999$$

$$DL = 3.48E-05$$

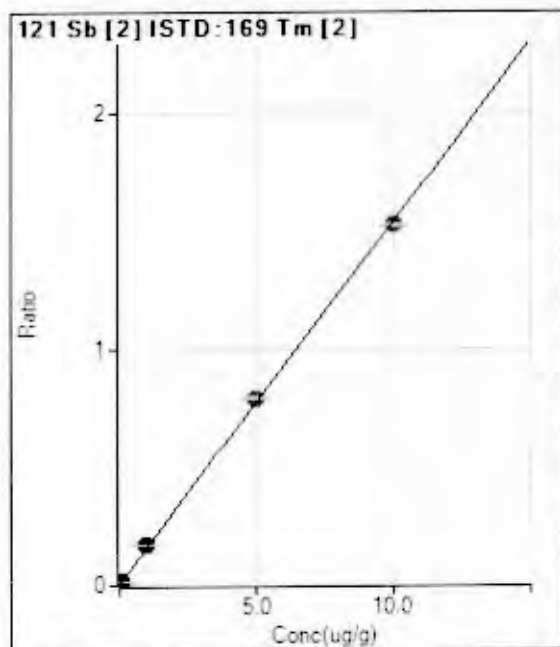
$$BEC = 9.139E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	14.44	0.0000	P	12.7
2	<input type="checkbox"/>	0.010	0.010	1676.82	0.0029	P	9.6
3	<input type="checkbox"/>	0.050	0.050	7938.82	0.0138	P	1.8
4	<input type="checkbox"/>	0.100	0.103	16120.39	0.0280	P	0.6
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.069	168933.13	0.2911	P	1.4
7	<input type="checkbox"/>	5.000	5.095	725579.56	1.3866	A	1.4
8	<input type="checkbox"/>	10.00	9.945	1355795.8	2.7067	A	0.4
9	<input type="checkbox"/>			44.45	0.0001	P	31.1
10	<input type="checkbox"/>			20.00	0.0000	P	66.5
11	<input type="checkbox"/>			36.67	0.0001	P	59.4
12	<input type="checkbox"/>			28.89	0.0001	P	88.5
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 0.1540 * x + 2.0130E-005$$

$$R = 0.9999$$

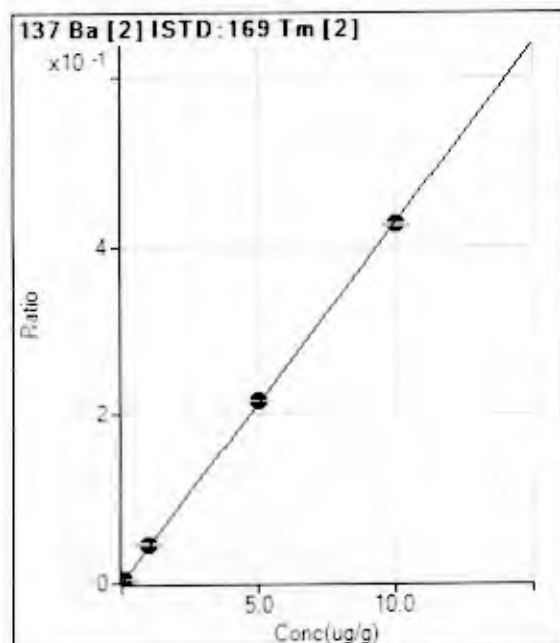
$$DL = 0.0002907$$

$$BEC = 0.0001307$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	15.56	0.0000	P	74.1
2	<input type="checkbox"/>	0.010	0.011	1381.22	0.0018	P	1.9
3	<input type="checkbox"/>	0.050	0.055	6562.65	0.0085	P	2.8
4	<input type="checkbox"/>	0.100	0.108	12894.30	0.0167	P	2.1
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.105	136809.11	0.1702	P	0.8
7	<input type="checkbox"/>	5.000	5.121	586961.96	0.7886	A	0.9
8	<input type="checkbox"/>	10.00	9.929	1091276.0	1.5289	A	0.3
9	<input type="checkbox"/>			116.67	0.0002	P	25.5
10	<input type="checkbox"/>			112.23	0.0002	P	15.3
11	<input type="checkbox"/>			140.01	0.0002	P	19.5
12	<input type="checkbox"/>			186.67	0.0005	P	9.5
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0428 * x + 5.7339E-006$$

$$R = 0.9999$$

$$DL = 0.0004629$$

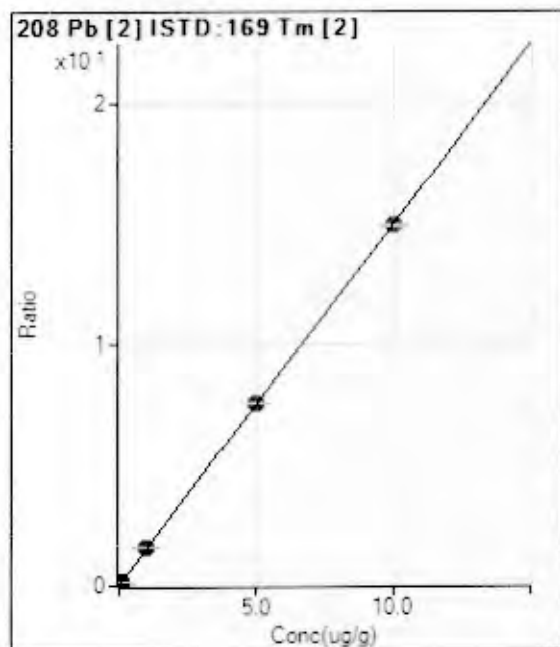
$$BEC = 0.0001339$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	4.44	0.0000	P	115.3
2	<input type="checkbox"/>	0.010	0.012	393.36	0.0005	P	7.1
3	<input type="checkbox"/>	0.050	0.049	1623.48	0.0021	P	2.5
4	<input type="checkbox"/>	0.100	0.104	3457.16	0.0045	P	4.2
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.076	37051.09	0.0461	P	1.2
7	<input type="checkbox"/>	5.000	5.082	162011.73	0.2177	P	0.2
8	<input type="checkbox"/>	10.00	9.951	304241.09	0.4262	P	0.7
9	<input type="checkbox"/>			0.00	0.0000	P	
10	<input type="checkbox"/>			1.11	0.0000	P	173.2
11	<input type="checkbox"/>			3.33	0.0000	P	100.3
12	<input type="checkbox"/>			6.67	0.0000	P	86.8
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for CCV3.D



$$y = 1.4990 * x + 1.1236E-004$$

$$R = 1.0000$$

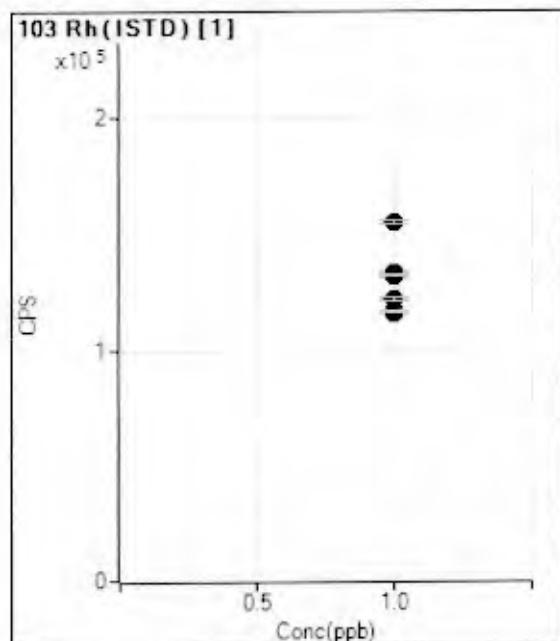
$$DL = 3.7E-05$$

$$BEC = 7.495E-05$$

Weight: None

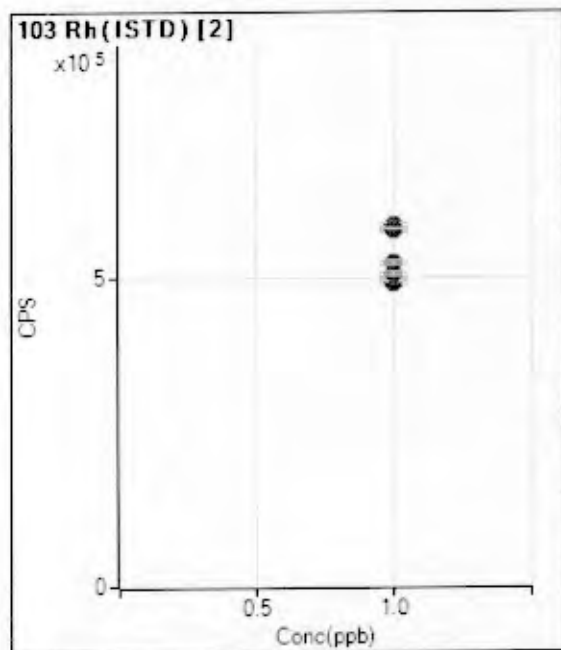
Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	86.67	0.0001	P	16.5
2	<input type="checkbox"/>	0.010	0.011	13313.86	0.0171	P	1.7
3	<input type="checkbox"/>	0.050	0.056	64258.65	0.0835	P	0.4
4	<input type="checkbox"/>	0.100	0.111	128641.76	0.1663	P	1.0
5	<input type="checkbox"/>						
6	<input type="checkbox"/>	1.000	1.051	1266109.45	1.5755	A	0.6
7	<input type="checkbox"/>	5.000	5.033	5615055.54	7.5441	A	0.2
8	<input type="checkbox"/>	10.00	9.978	10676663.9	14.957	A	0.3
9	<input type="checkbox"/>			190.01	0.0003	P	3.2
10	<input type="checkbox"/>			226.67	0.0003	P	30.5
11	<input type="checkbox"/>			234.46	0.0003	P	8.7
12	<input type="checkbox"/>			335.57	0.0009	P	15.3
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

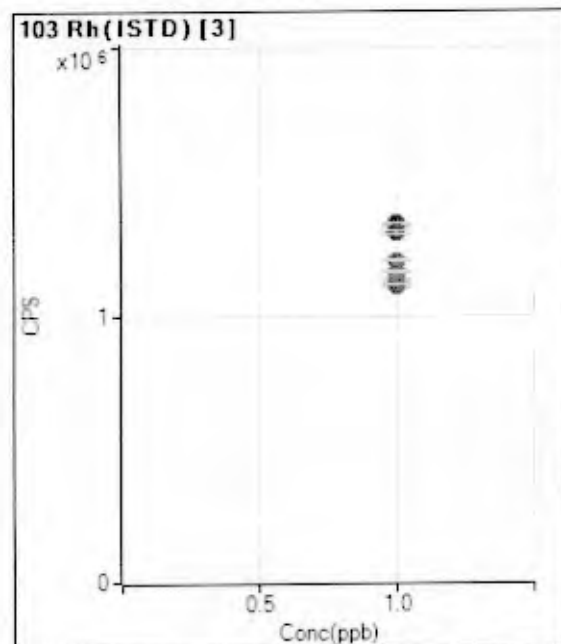


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		132392.97		P	0.5
2	<input type="checkbox"/>	1.000		134138.77		P	1.0
3	<input type="checkbox"/>	1.000		133174.94		P	0.6
4	<input type="checkbox"/>	1.000		131877.10		P	0.4
5	<input type="checkbox"/>	1.000					
6	<input type="checkbox"/>	1.000		154948.52		P	1.1
7	<input type="checkbox"/>	1.000		132708.38		P	0.7
8	<input type="checkbox"/>	1.000		122436.39		P	0.6
9	<input type="checkbox"/>	1.000		117517.87		P	0.3
10	<input type="checkbox"/>	1.000		116211.29		P	1.1
11	<input type="checkbox"/>	1.000		117028.35		P	0.1
12	<input type="checkbox"/>	1.000		122259.27		P	1.3
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for CCV3.D

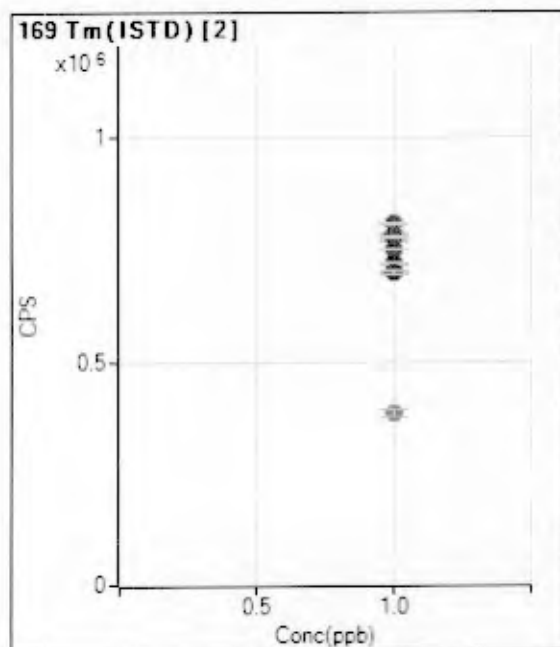


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		580413.01		A	1.2
2	<input type="checkbox"/>	1.000		584685.11		A	1.2
3	<input type="checkbox"/>	1.000		576642.37		A	0.6
4	<input type="checkbox"/>	1.000		576107.97		A	0.9
5	<input type="checkbox"/>	1.000					
6	<input type="checkbox"/>	1.000		580423.67		A	0.1
7	<input type="checkbox"/>	1.000		523312.75		A	1.0
8	<input type="checkbox"/>	1.000		500915.89		A	0.6
9	<input type="checkbox"/>	1.000		489304.58		A	1.1
10	<input type="checkbox"/>	1.000		495832.61		A	0.9
11	<input type="checkbox"/>	1.000		493083.77		A	0.6
12	<input type="checkbox"/>	1.000		505302.30		A	1.1
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		1336160.38		A	0.7
2	<input type="checkbox"/>	1.000		1343220.38		A	0.7
3	<input type="checkbox"/>	1.000		1311531.67		A	1.0
4	<input type="checkbox"/>	1.000		1311474.43		A	0.9
5	<input type="checkbox"/>	1.000					
6	<input type="checkbox"/>	1.000		1205598.39		A	0.3
7	<input type="checkbox"/>	1.000		1136319.00		A	0.6
8	<input type="checkbox"/>	1.000		1116293.10		A	0.2
9	<input type="checkbox"/>	1.000		1108260.40		A	0.8
10	<input type="checkbox"/>	1.000		1121819.03		A	0.6
11	<input type="checkbox"/>	1.000		1117858.69		A	0.6
12	<input type="checkbox"/>	1.000		1163758.64		A	0.7
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for CCV3.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		770246.09		A	2.0
2	<input type="checkbox"/>	1.000		778761.34		A	1.2
3	<input type="checkbox"/>	1.000		769306.21		A	0.4
4	<input type="checkbox"/>	1.000		773605.60		A	0.6
5	<input type="checkbox"/>	1.000					
6	<input type="checkbox"/>	1.000		803629.81		A	0.8
7	<input type="checkbox"/>	1.000		744292.42		A	0.2
8	<input type="checkbox"/>	1.000		713786.94		A	0.2
9	<input type="checkbox"/>	1.000		693383.99		A	0.8
10	<input type="checkbox"/>	1.000		695913.43		A	0.1
11	<input type="checkbox"/>	1.000		694885.99		A	1.1
12	<input type="checkbox"/>	1.000		387990.49		M	4.1
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

PHYSIS

Continuing Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name ICV.D
File Path D:\DATA\2130931L.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 14:09
Sample Name 100 ppb (10 ppb Ag)
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.103	ug/g	0.27	413,274.00	3.588E-01	Pulse	0.30	3
P	31	103	2	0.015	ug/g	60.04	94.45	1.850E-04	Pulse	0.30	3
Cr	52	103	2	0.106	ug/g	1.11	228,516.19	4.470E-01	Pulse	0.30	3
Ni	60	103	2	0.106	ug/g	1.32	102,375.97	2.003E-01	Pulse	0.30	3
Cu	65	103	2	0.107	ug/g	1.59	136,483.98	2.670E-01	Pulse	0.30	3
Zn	66	103	2	0.101	ug/g	0.73	37,696.43	7.374E-02	Pulse	0.30	3
As	75	103	2	0.099	ug/g	3.49	17,087.77	3.343E-02	Pulse	0.30	3
Se	78	103	1	0.106	ug/g	0.90	23,170.45	1.922E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.96	41,952.29	8.207E-02	Pulse	0.30	3
Cd	114	103	2	0.103	ug/g	1.12	143,683.25	2.811E-01	Pulse	0.30	3
Sb	121	169	2	0.103	ug/g	0.32	113,980.92	1.594E-01	Pulse	0.30	3
Ba	137	169	2	0.101	ug/g	2.01	30,813.82	4.309E-02	Pulse	0.30	3
Pb	208	169	2	0.105	ug/g	0.19	1,120,462.81	1.567E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	120,565.81	0.19	91.1	Pulse	0.30	3
2	Rh	103	511,214.23	0.84	88.1	Analog	0.30	3
3	Rh	103	1,151,937.16	0.42	86.2	Analog	0.30	3
2	Tm	169	715,140.95	0.21	92.8	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCVP.D
File Path D:\DATA\2130931Lb
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 14:13
Sample Name 5 PPM Phosphorus
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.000	ug/g	56.00	141.12	1.240E-04	Pulse	0.30	3
P	31	103	2	4.711	ug/g	1.20	11,131.63	2.242E-02	Pulse	0.30	3
Cr	52	103	2	0.000	ug/g	79.38	106.67	2.148E-04	Pulse	0.30	3
Ni	60	103	2	0.000	ug/g	43.96	41.11	8.279E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	-192.86	125.56	2.529E-04	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	62.29	87.78	1.767E-04	Pulse	0.30	3
As	75	103	2	0.000	ug/g	83.47	16.67	3.353E-05	Pulse	0.30	3
Se	78	103	1	0.000	ug/g	95.29	30.00	2.573E-04	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	7.71	368.91	7.428E-04	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	98.74	43.34	8.734E-05	Pulse	0.30	3
Sb	121	169	2	0.000	ug/g	7.85	214.46	3.065E-04	Pulse	0.30	3
Ba	137	169	2	0.000	ug/g	141.69	8.89	1.269E-05	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	21.75	404.46	5.785E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	116,345.96	1.20	87.9	Pulse	0.30	3
2	Rh	103	496,583.98	0.20	85.6	Analog	0.30	3
3	Rh	103	1,137,720.55	0.71	85.1	Analog	0.30	3
2	Tm	169	699,538.77	0.61	90.8	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV1.D
File Path D:\DATA\2130931L.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 16:38
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.097	ug/g	0.84	456,720.88	3.365E-01	Pulse	0.30	3
P	31	103	2	0.003	ug/g	434.94	73.34	1.286E-04	Pulse	0.30	3
Cr	52	103	2	0.106	ug/g	0.72	254,494.90	4.465E-01	Pulse	0.30	3
Ni	60	103	2	0.107	ug/g	0.47	115,062.96	2.019E-01	Pulse	0.30	3
Cu	65	103	2	0.109	ug/g	1.16	154,291.16	2.707E-01	Pulse	0.30	3
Zn	66	103	2	0.098	ug/g	0.21	40,738.89	7.147E-02	Pulse	0.30	3
As	75	103	2	0.100	ug/g	1.05	19,191.08	3.367E-02	Pulse	0.30	3
Se	78	103	1	0.109	ug/g	0.93	25,865.38	1.982E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	1.21	47,868.72	8.399E-02	Pulse	0.30	3
Cd	114	103	2	0.100	ug/g	0.50	155,848.87	2.734E-01	Pulse	0.30	3
Sb	121	169	2	0.105	ug/g	1.27	122,799.78	1.615E-01	Pulse	0.30	3
Ba	137	169	2	0.103	ug/g	2.10	33,563.34	4.415E-02	Pulse	0.30	3
Pb	208	169	2	0.106	ug/g	1.37	1,203,744.01	1.583E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	130,497.59	0.57	98.6	Pulse	0.30	3
2	Rh	103	569,998.85	1.03	98.2	Analog	0.30	3
3	Rh	103	1,357,338.63	0.91	101.6	Analog	0.30	3
2	Tm	169	760,357.64	0.86	98.7	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV2.D
File Path D:\DATA\2130931L.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 18:57
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.096	ug/g	0.59	428,483.27	3.337E-01	Pulse	0.30	3
P	31	103	2	0.003	ug/g	-175.37	54.45	1.007E-04	Pulse	0.30	3
Cr	52	103	2	0.103	ug/g	0.87	234,686.51	4.337E-01	Pulse	0.30	3
Ni	60	103	2	0.103	ug/g	0.07	105,732.73	1.954E-01	Pulse	0.30	3
Cu	65	103	2	0.105	ug/g	1.51	142,119.65	2.626E-01	Pulse	0.30	3
Zn	66	103	2	0.096	ug/g	1.27	38,078.50	7.037E-02	Pulse	0.30	3
As	75	103	2	0.096	ug/g	1.01	17,400.34	3.215E-02	Pulse	0.30	3
Se	78	103	1	0.107	ug/g	0.56	24,160.76	1.933E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	1.25	45,015.41	8.318E-02	Pulse	0.30	3
Cd	114	103	2	0.101	ug/g	0.20	148,877.95	2.751E-01	Pulse	0.30	3
Sb	121	169	2	0.100	ug/g	0.10	115,807.38	1.542E-01	Pulse	0.30	3
Ba	137	169	2	0.100	ug/g	1.45	32,327.65	4.305E-02	Pulse	0.30	3
Pb	208	169	2	0.107	ug/g	0.30	1,202,793.81	1.602E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	125,017.77	0.22	94.4	Pulse	0.30	3
2	Rh	103	541,161.32	0.60	93.2	Analog	0.30	3
3	Rh	103	1,283,937.46	0.45	96.1	Analog	0.30	3
2	Tm	169	750,970.14	0.26	97.5	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV3.D
File Path D:\DATA\2130931L.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/2/2013 21:02
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.090	ug/g	0.71	386,000.52	3.110E-01	Pulse	0.30	3
P	31	103	2	-0.005	ug/g	-29.41	45.56	8.762E-05	Pulse	0.30	3
Cr	52	103	2	0.100	ug/g	1.20	220,093.23	4.233E-01	Pulse	0.30	3
Ni	60	103	2	0.100	ug/g	1.36	98,516.74	1.895E-01	Pulse	0.30	3
Cu	65	103	2	0.103	ug/g	0.50	133,929.24	2.576E-01	Pulse	0.30	3
Zn	66	103	2	0.096	ug/g	1.19	36,395.95	6.999E-02	Pulse	0.30	3
As	75	103	2	0.095	ug/g	0.02	16,629.53	3.198E-02	Pulse	0.30	3
Se	78	103	1	0.106	ug/g	2.47	23,120.44	1.921E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.61	43,734.34	8.411E-02	Pulse	0.30	3
Cd	114	103	2	0.102	ug/g	0.70	144,587.43	2.781E-01	Pulse	0.30	3
Sb	121	169	2	0.099	ug/g	0.87	112,802.33	1.531E-01	Pulse	0.30	3
Ba	137	169	2	0.103	ug/g	0.85	32,392.11	4.396E-02	Pulse	0.30	3
Pb	208	169	2	0.107	ug/g	0.35	1,179,861.41	1.601E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	120,377.59	0.38	90.9	Pulse	0.30	3
2	Rh	103	520,004.56	0.50	89.6	Analog	0.30	3
3	Rh	103	1,241,228.10	0.37	92.9	Analog	0.30	3
2	Tm	169	736,906.05	0.41	95.7	Analog	0.30	3

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Instrument Run Log

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id	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
	Keyword		CALBEG	Start of CALIB									
METHODS	Sample	1	Rinse1			1,000							
METHODS	Sample	1	Rinse2			1,000							
METHODS	Sample	1101	Rinse			1,000							
METHODS	CalStd	1101	0MIX	0 ppb mix	0 ng 0 ng Ag	Level 1							
METHODS	CalStd	1102	1MIX	1 ppb mix	10 ng 1 ng Ag	Level 2							
METHODS	CalStd	1103	5MIX	5 ppb mix	50 ng 5 ng Ag	Level 3							
METHODS	CalStd	1104	10MIX	10 ppb mix	100 ng 10 ng Ag	Level 4							
METHODS	CalStd	1105	50MIX	50 ppb mix	500 ng 50 ng Ag	Level 5							
METHODS	CalStd	1106	100MIX	100 ppb mix	1000 ng 100 ng Ag	Level 6							
METHODS	CalStd	1107	500MIX	500 ppb mix	5000 ng 500 ng Ag	Level 7							
METHODS	CalStd	1108	1000MIX	1000 ppb mix	10000 ng 1000 ng Ag	Level 8							
METHODS	Sample	1	Rinse3			1,000							
METHODS	Sample	1	Rinse4			1,000							
METHODS	CalStd	1109	1P	1 ppm P	10 ug P	Level 9							
METHODS	CalStd	1110	2P	2 ppm P	20 ug P	Level 10							
METHODS	CalStd	1111	5P	5 ppm P	50 ug P	Level 11							
METHODS	CalStd	1112	10P	10 ppm P	100 ug P	Level 12							
METHODS	Sample	1	Rinse5			1,000							
METHODS	Sample	1201	ICV	100 ppb (10 ppb Ag)		1.000E-01							
METHODS	Sample	2111	CCVP	5 PPM Phosphorus		1.000E-01							
METHODS	Sample	1202	2ndP	ERA Phosphorus 9.71 PPM		1.000E-01							
METHODS	Sample	1	Rinse6			1,000							
METHODS	Sample	1	Rinse7			1,000							
	Keyword		CALEND	End of CALIB									
	Keyword		SMPLBEG	Start of SMPL									
METHODS	Sample	1	Rinse8			1,000							
METHODS	Sample	1	Rinse9			1,000							
METHODS	Sample	1	Rinse10			1,000							
METHODS	Sample	2101	Rinse11			1,000							
METHODS	Sample	2101	21956	QAQC Procedural Blank B1	21956 NA, B1 9/25/2013, E-5145,	10.00							
METHODS	Sample	2102	22035	QAQC Procedural Blank B1	22035 NA, B1 9/25/2013, E-5146,	10.00							
METHODS	Sample	2103	22077	QAQC Procedural Blank B1	22077 NA, B1 9/30/2013, E-5147,	10.00							
METHODS	Sample	2104	21957	B13-8233 Oceanside	21957 NA, R1 9/25/2013, E-5145,	33.28							
METHODS	Sample	2105	21957/2	B13-8233 Oceanside Dup	21957 NA, R2 9/25/2013, E-5145,	33.54							
METHODS	Sample	2106	21958	B13-8236 Oceanside	21958 NA, R1 9/25/2013, E-5145,	26.82							
METHODS	Sample	2107	21959	B13-8239 Oceanside	21959 NA, R1 9/25/2013, E-5145,	29.57							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
38	C:\CPMH\1\METHODS (Physis.m)	Sample	2108	21860	B13-8267 Dana Point	21860,NA,R1,9/25/2013,E-5145,	29.80							
39	C:\CPMH\1\METHODS (Physis.m)	Sample	2109	21861	B13-8265 Dana Point	21861,NA,R1,9/25/2013,E-5145,	21.93							
40	C:\CPMH\1\METHODS (Physis.m)	Sample	2110	21862	B13-8263 Dana Point	21862,NA,R1,9/25/2013,E-5145,	18.27							
41	C:\CPMH\1\METHODS (Physis.m)	Sample	2111	21863	B13-8269 Dana Point	21863,NA,R1,9/25/2013,E-5145,	26.88							
42	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R12			1.000							
43	C:\CPMH\1\METHODS (Physis.m)	Sample	2112	21865cm	QAQC CRM - RTC 016-0501	21865,NA,CRM1,9/25/2013,E-5145,	47.35							
44	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	21903cm	QAQC CRM - ERA 5401	21866,NA,CRM1,9/25/2013,E-5145,	50.51							
45	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R13			1.000							
46	C:\CPMH\1\METHODS (Physis.m)	Sample	2202	21956bs1	QAQC Procedural Blank BS1	21956,NA,BS1,9/25/2013,E-5145,	1.000							
47	C:\CPMH\1\METHODS (Physis.m)	Sample	2203	21956bs2	QAQC Procedural Blank BS2	21956,NA,BS2,9/25/2013,E-5145,	1.000							
48	C:\CPMH\1\METHODS (Physis.m)	Sample	2204	21957ms	B13-8233 Oceanside MS	21957,NA,MS1,9/25/2013,E-5145,	1.000							
49	C:\CPMH\1\METHODS (Physis.m)	Sample	2205	21957msd	B13-8233 Oceanside MSD	21957,NA,MS2,9/25/2013,E-5145,	1.000							
50	C:\CPMH\1\METHODS (Physis.m)	Sample	2206	21957s1P	B13-8233 Oceanside MS	21957,NA,MS1,9/25/2013,E-5145,	1.000							
51	C:\CPMH\1\METHODS (Physis.m)	Sample	2207	21957s2P	B13-8233 Oceanside MSD	21957,NA,MS2,9/25/2013,E-5145,	1.000							
52	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R14			1.000							
53	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R15			1.000							
54	C:\CPMH\1\METHODS (Physis.m)	Sample	1106	CCV1			1.000E-01							
55	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R16			1.000							
56	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R17			1.000							
57	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R18			1.000							
58	C:\CPMH\1\METHODS (Physis.m)	Sample	2208	22036	B13-8145 Grab	22036,NA,R1,9/25/2013,E-5146,	32.80							
59	C:\CPMH\1\METHODS (Physis.m)	Sample	2209	22036/2	B13-8145 Grab Dup	22036,NA,R2,9/25/2013,E-5146,	30.84							
60	C:\CPMH\1\METHODS (Physis.m)	Sample	2210	22037	B13-8163 Grab	22037,NA,R1,9/25/2013,E-5146,	29.39							
61	C:\CPMH\1\METHODS (Physis.m)	Sample	2211	22038	B13-8180 Grab	22038,NA,R1,9/25/2013,E-5146,	35.19							
62	C:\CPMH\1\METHODS (Physis.m)	Sample	2212	22039	B13-8168 Grab	22039,NA,R1,9/25/2013,E-5146,	34.56							
63	C:\CPMH\1\METHODS (Physis.m)	Sample	2301	22040	B13-8157 Grab	22040,NA,R1,9/25/2013,E-5146,	29.43							
64	C:\CPMH\1\METHODS (Physis.m)	Sample	2302	22041	B13-8158 Grab	22041,NA,R1,9/25/2013,E-5146,	35.43							
65	C:\CPMH\1\METHODS (Physis.m)	Sample	2303	22042	B13-8152 Grab	22042,NA,R1,9/25/2013,E-5146,	13.40							
66	C:\CPMH\1\METHODS (Physis.m)	Sample	2304	22043	B13-8151 Grab	22043,NA,R1,9/25/2013,E-5146,	39.72							
67	C:\CPMH\1\METHODS (Physis.m)	Sample	2305	22044	B13-8148 Grab	22044,NA,R1,9/25/2013,E-5146,	32.65							
68	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R19			1.000							
69	C:\CPMH\1\METHODS (Physis.m)	Sample	2306	22046cm	QAQC CRM - RTC 016-0501	22046,NA,CRM1,9/25/2013,E-5146,	51.34							
70	C:\CPMH\1\METHODS (Physis.m)	Sample	2307	22047cm	QAQC CRM - ERA 5401	22047,NA,CRM1,9/25/2013,E-5146,	45.98							
71	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R20			1.000							
72	C:\CPMH\1\METHODS (Physis.m)	Sample	2202	22035bs1	QAQC Procedural Blank BS1	22035,NA,BS1,9/25/2013,E-5146,	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	S/LP	Result
73	C:\ICPMH\1\METHODS (Physis.m)	Sample	2203	22036os2	QAQC Procedural Blank BS2	22035,NA,BS2,9/25/2013,E-5146,	1.000							
74	C:\ICPMH\1\METHODS (Physis.m)	Sample	2308	22036ms	B13-B145 Grab MS	22036,NA,MS1,9/25/2013,E-5146,	1.000							
75	C:\ICPMH\1\METHODS (Physis.m)	Sample	2308	22036ms	B13-B145 Grab MSD	22036,NA,MS2,9/25/2013,E-5146,	1.000							
76	C:\ICPMH\1\METHODS (Physis.m)	Sample	2310	22036s1P	B13-B145 Grab MS	22036,NA,MS1,9/25/2013,E-5146,	1.000							
77	C:\ICPMH\1\METHODS (Physis.m)	Sample	2311	22036s2P	B13-B145 Grab MSD	22036,NA,MS2,9/25/2013,E-5146,	1.000							
78	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R21			1.000							
79	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R22			1.000							
80	C:\ICPMH\1\METHODS (Physis.m)	Sample	1106	CCV2			1.000E-01							
81	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R23			1.000							
82	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R24			1.000							
83	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R25			1.000							
84	C:\ICPMH\1\METHODS (Physis.m)	Sample	2312	22078	B13-8055 Grab	22078,NA,R1,9/30/2013,E-5147,	30.56							
85	C:\ICPMH\1\METHODS (Physis.m)	Sample	2401	22078r2	B13-8055 Grab Dux	22078,NA,R2,9/30/2013,E-5147,	28.46							
86	C:\ICPMH\1\METHODS (Physis.m)	Sample	2402	22079	B13-8049 Grab	22079,NA,R1,9/30/2013,E-5147,	31.15							
87	C:\ICPMH\1\METHODS (Physis.m)	Sample	2403	22080	B13-8029 Grab	22080,NA,R1,9/30/2013,E-5147,	25.10							
88	C:\ICPMH\1\METHODS (Physis.m)	Sample	2404	22081	B13-8056 Grab	22081,NA,R1,9/30/2013,E-5147,	34.62							
89	C:\ICPMH\1\METHODS (Physis.m)	Sample	2405	22082	B13-8064 Grab	22082,NA,R1,9/30/2013,E-5147,	30.18							
90	C:\ICPMH\1\METHODS (Physis.m)	Sample	2406	22083	B13-8066 Grab	22083,NA,R1,9/30/2013,E-5147,	38.86							
91	C:\ICPMH\1\METHODS (Physis.m)	Sample	2407	22084	B13-8020 Grab	22084,NA,R1,9/30/2013,E-5147,	59.90							
92	C:\ICPMH\1\METHODS (Physis.m)	Sample	2408	22085	B13-8050 Grab	22085,NA,R1,9/30/2013,E-5147,	31.49							
93	C:\ICPMH\1\METHODS (Physis.m)	Sample	2408	22086	B13-8069 Grab	22086,NA,R1,9/30/2013,E-5147,	33.31							
94	C:\ICPMH\1\METHODS (Physis.m)	Sample	2410	22087	B13-8017 Grab	22087,NA,R1,9/30/2013,E-5147,	33.56							
95	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R26			1.000							
96	C:\ICPMH\1\METHODS (Physis.m)	Sample	2411	22089crm	QAQC CRM - RTC 016-0601	22089,NA,CRM1,9/30/2013,E-5147,	51.23							
97	C:\ICPMH\1\METHODS (Physis.m)	Sample	2412	22090crm	QAQC CRM - ERA 5401	22090,NA,CRM1,9/30/2013,E-5147,	51.78							
98	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R27			1.000							
99	C:\ICPMH\1\METHODS (Physis.m)	Sample	2203	22077bs1	QAQC Procedural Blank BS1	22077,NA,BS1,9/30/2013,E-5147,	1.000							
100	C:\ICPMH\1\METHODS (Physis.m)	Sample	2203	22077bs2	QAQC Procedural Blank BS2	22077,NA,BS2,9/30/2013,E-5147,	1.000							
101	C:\ICPMH\1\METHODS (Physis.m)	Sample	2501	22078ms	B13-8065 Grab MS	22078,NA,MS1,9/30/2013,E-5147,	1.000							
102	C:\ICPMH\1\METHODS (Physis.m)	Sample	2502	22078msd	B13-8065 Grab MSD	22078,NA,MS2,9/30/2013,E-5147,	1.000							
103	C:\ICPMH\1\METHODS (Physis.m)	Sample	2503	22078s1P	B13-8055 Grab MS	22078,NA,MS1,9/30/2013,E-5147,	1.000							
104	C:\ICPMH\1\METHODS (Physis.m)	Sample	2504	22078s2P	B13-8055 Grab MSD	22078,NA,MS2,9/30/2013,E-5147,	1.000							
105	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R28			1.000							
106	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R29			1.000							
107	C:\ICPMH\1\METHODS (Physis.m)	Sample	1106	CCV3			1.000E-01							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
108	C:\CPMH\1\METHODS\1Physis.m	Sample	1	R30			1.000							
109	C:\CPMH\1\METHODS\1Physis.m	Sample	1	R31			1.000							
110	C:\CPMH\1\METHODS\1Physis.m	Sample	1	R32			1.000							
111		Keyword		SMPLEND	End of SMPLE									
112		Keyword		End	End of Sequence									
113		Keyword		BLKBEQ	Start of BLANK									
114		Keyword		BLKEND	End of BLANK									
115		Keyword		ERRBEQ	Start of ERRTERM									
116		Keyword		ERREND	End of ERRTERM									

Elements -

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Instrument Blank

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ICPMS 7700x DATA REPORT

File Name OMDX.D
File Path D:\data\2131009.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/10/2013 12:02
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.000	ug/g	---	11.11	2.296E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	---	171.12	3.553E-04	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	---	203.35	4.218E-04	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	---	15.56	3.230E-05	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	---	14.45	3.010E-05	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	---	318.90	4.817E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	482,176.00	0.99	100.0	Analog	0.30	3
3	Rh	103	1,132,858.46	0.03	100.0	Analog	0.30	3
2	Tm	169	662,755.66	1.23	100.0	Analog	0.30	3

PHYSIS

Initial Calibration Data

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Calibration for 1000MIX.D

Batch Folder: D:\DATA\2131009.B\

 Analysis File: 2131009.batch.xml

 DA Date-Time: 4/8/2014 2:08:43 PM

 Calibration Title:

 Calibration Method: External Calibration

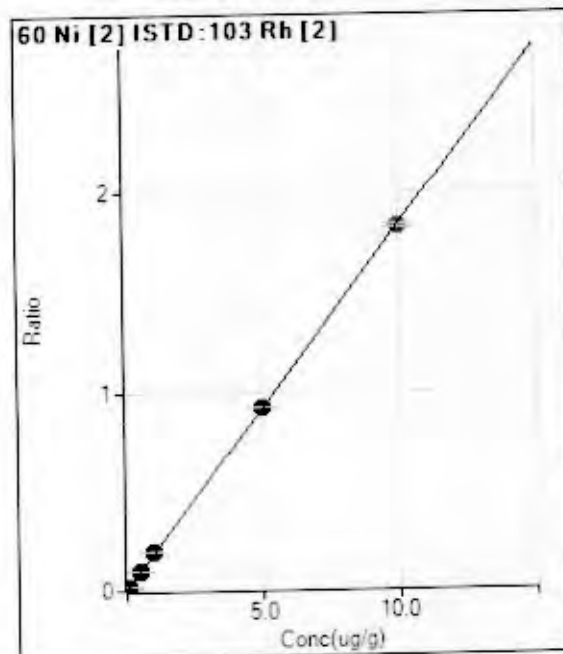
 VIS Interpolation Fit:

 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX.D	0 ppb mix	10/10/2013 12:02:54 PM
2	1MIX.D	1 ppb mix	10/10/2013 12:07:35 PM
3	5MIX.D	5 ppb mix	10/10/2013 12:12:20 PM
4	10MIX.D	10 ppb mix	10/10/2013 12:17:02 PM
5	50MIX.D	50 ppb mix	10/10/2013 12:21:43 PM
6	100MIX.D	100 ppb mix	10/10/2013 12:26:25 PM
7	500MIX.D	500 ppb mix	10/10/2013 12:31:06 PM
8	1000MIX.D	1000 ppb mix	10/10/2013 12:35:37 PM
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			



$$y = 0.1831 * x + 2.2963E-005$$

$$R = 1.0000$$

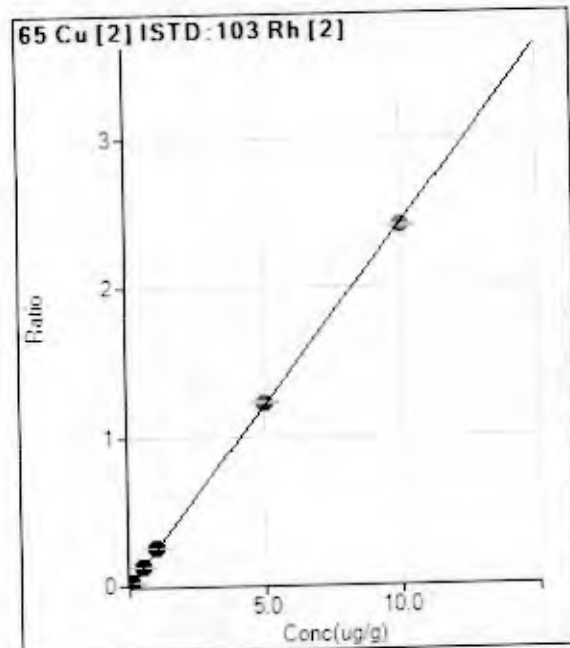
$$DL = 0.0002572$$

$$BEC = 0.0001254$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	11.11	0.0000	P	68.4
2	<input type="checkbox"/>	0.010	0.012	1040.07	0.0021	P	5.9
3	<input type="checkbox"/>	0.050	0.055	4995.36	0.0101	P	2.8
4	<input type="checkbox"/>	0.100	0.107	9699.71	0.0196	P	2.9
5	<input type="checkbox"/>	0.500	0.534	47898.29	0.0979	P	1.9
6	<input type="checkbox"/>	1.000	1.054	94206.87	0.1930	P	2.2
7	<input type="checkbox"/>	5.000	5.033	399344.10	0.9218	P	0.6
8	<input type="checkbox"/>	10.00	9.976	733813.21	1.8271	A	1.0
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2418 * x + 3.5526E-004$$

$$R = 0.9999$$

$$DL = 0.000688$$

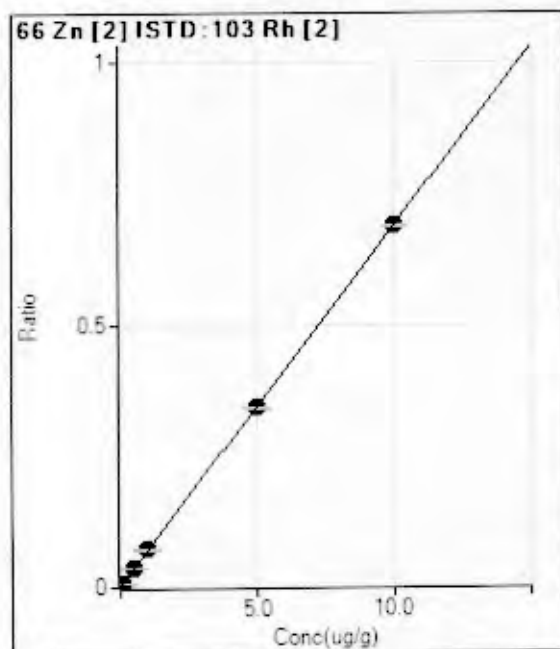
$$BEC = 0.001469$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	171.12	0.0004	P	15.6
2	<input type="checkbox"/>	0.010	0.011	1421.23	0.0029	P	2.3
3	<input type="checkbox"/>	0.050	0.053	6513.66	0.0132	P	2.6
4	<input type="checkbox"/>	0.100	0.108	13120.91	0.0265	P	1.5
5	<input type="checkbox"/>	0.500	0.542	64281.08	0.1314	P	1.4
6	<input type="checkbox"/>	1.000	1.063	125695.36	0.2575	P	1.2
7	<input type="checkbox"/>	5.000	5.072	531484.61	1.2270	A	0.9
8	<input type="checkbox"/>	10.00	9.955	967044.65	2.4079	A	0.5
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D



$$y = 0.0688 * x + 4.2178E-004$$

$$R = 1.0000$$

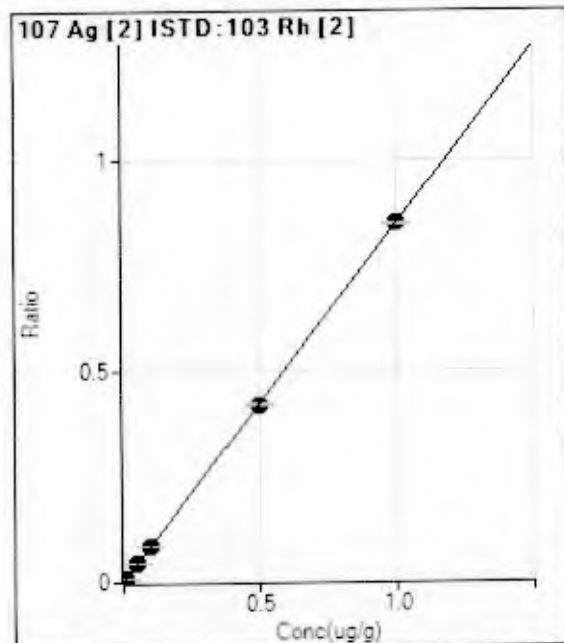
$$DL = 0.001621$$

$$BEC = 0.006132$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	203.35	0.0004	P	8.8
2	<input type="checkbox"/>	0.010	0.008	470.02	0.0010	P	3.2
3	<input type="checkbox"/>	0.050	0.049	1871.29	0.0038	P	2.2
4	<input type="checkbox"/>	0.100	0.102	3683.87	0.0074	P	2.9
5	<input type="checkbox"/>	0.500	0.518	17627.13	0.0360	P	3.2
6	<input type="checkbox"/>	1.000	1.032	34861.87	0.0714	P	2.4
7	<input type="checkbox"/>	5.000	4.965	148117.08	0.3419	P	0.3
8	<input type="checkbox"/>	10.00	10.013	276796.40	0.6892	P	0.5
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.8477 * x + 3.2301E-005$$

$$R = 1.0000$$

$$DL = 7.475E-05$$

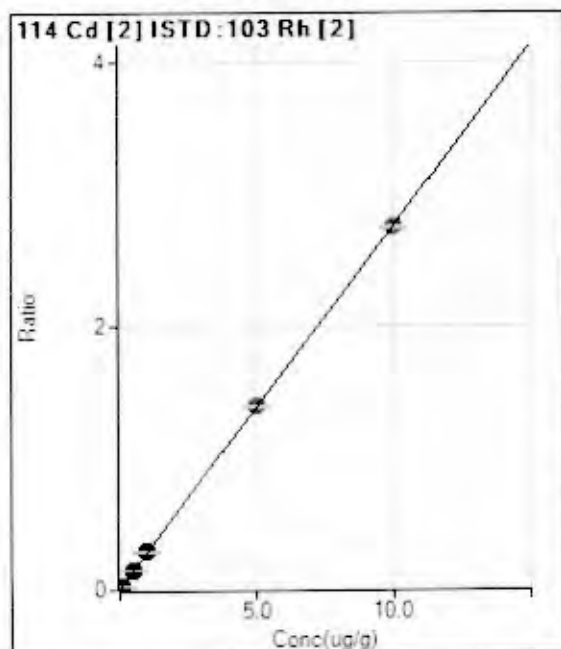
$$BEC = 3.81E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	15.56	0.0000	P	65.4
2	<input type="checkbox"/>	0.001	0.001	431.13	0.0009	P	14.5
3	<input type="checkbox"/>	0.005	0.005	2201.34	0.0045	P	2.4
4	<input type="checkbox"/>	0.010	0.010	4278.48	0.0086	P	0.8
5	<input type="checkbox"/>	0.050	0.051	21143.78	0.0432	P	0.7
6	<input type="checkbox"/>	0.100	0.101	41865.33	0.0858	P	1.3
7	<input type="checkbox"/>	0.500	0.496	182035.06	0.4202	P	0.5
8	<input type="checkbox"/>	1.000	1.002	341161.50	0.8495	P	0.3
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D



$$y = 0.2762 * x + 3.0104E-005$$

$$R = 1.0000$$

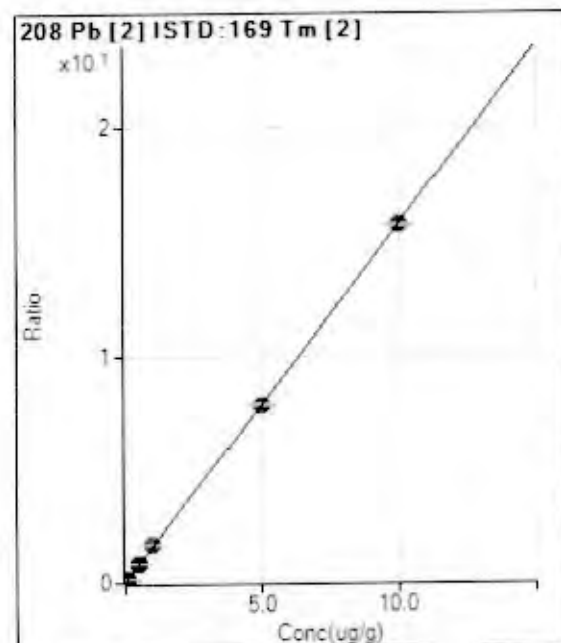
$$DL = 0.0002455$$

$$BEC = 0.000109$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	14.45	0.0000	P	75.1
2	<input type="checkbox"/>	0.010	0.011	1442.35	0.0030	P	5.3
3	<input type="checkbox"/>	0.050	0.051	6988.35	0.0142	P	4.7
4	<input type="checkbox"/>	0.100	0.102	13975.06	0.0282	P	1.9
5	<input type="checkbox"/>	0.500	0.521	70377.58	0.1439	P	0.8
6	<input type="checkbox"/>	1.000	1.033	139226.87	0.2853	P	1.2
7	<input type="checkbox"/>	5.000	5.012	599544.42	1.3842	A	1.3
8	<input type="checkbox"/>	10.00	9.990	1108135.7	2.7592	A	0.8
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 1.5727 * x + 4.8170E-004$$

$$R = 1.0000$$

$$DL = 0.0001486$$

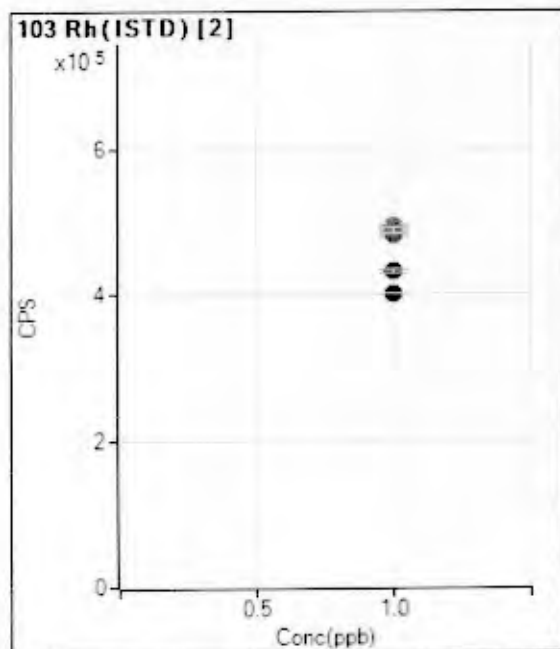
$$BEC = 0.0003063$$

Weight: None

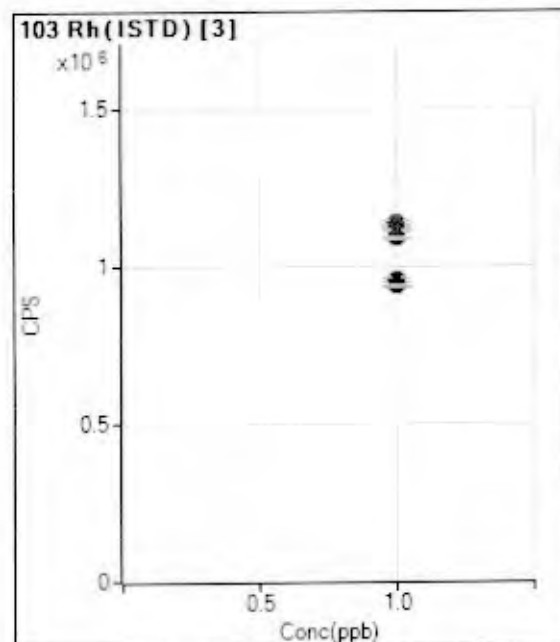
Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	318.90	0.0005	P	16.2
2	<input type="checkbox"/>	0.010	0.011	11805.55	0.0179	P	2.1
3	<input type="checkbox"/>	0.050	0.055	58968.35	0.0877	P	1.8
4	<input type="checkbox"/>	0.100	0.110	116615.94	0.1740	P	0.2
5	<input type="checkbox"/>	0.500	0.542	572958.11	0.8521	P	0.4
6	<input type="checkbox"/>	1.000	1.048	1103567.83	1.6485	A	0.8
7	<input type="checkbox"/>	5.000	4.990	4862015.16	7.8488	A	0.7
8	<input type="checkbox"/>	10.00	9.998	9278311.34	15.723	A	0.8
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D

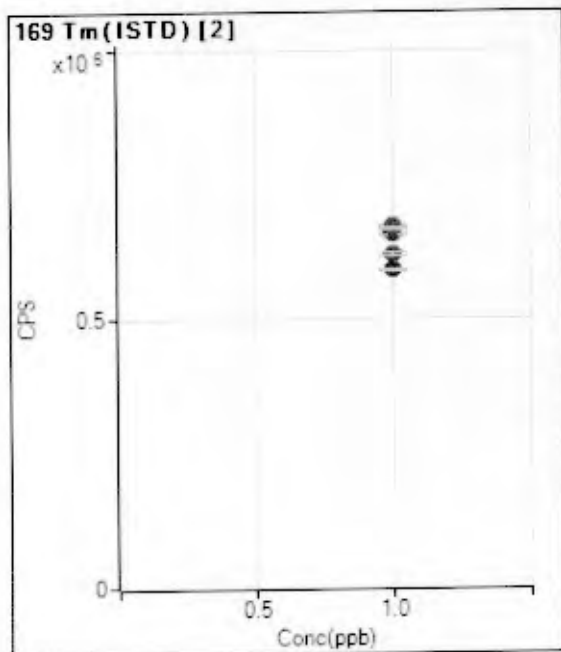


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		482176.00		A	1.0
2	<input type="checkbox"/>	1.000		486447.96		A	1.3
3	<input type="checkbox"/>	1.000		493073.63		A	0.9
4	<input type="checkbox"/>	1.000		494836.77		A	1.7
5	<input type="checkbox"/>	1.000		489256.29		A	0.8
6	<input type="checkbox"/>	1.000		488119.77		A	1.5
7	<input type="checkbox"/>	1.000		433186.42		P	1.4
8	<input type="checkbox"/>	1.000		401621.07		P	0.2
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		1132858.46		A	0.0
2	<input type="checkbox"/>	1.000		1127765.56		A	1.1
3	<input type="checkbox"/>	1.000		1136419.46		A	1.0
4	<input type="checkbox"/>	1.000		1124554.18		A	0.6
5	<input type="checkbox"/>	1.000		1111511.78		A	1.0
6	<input type="checkbox"/>	1.000		1089575.06		A	0.6
7	<input type="checkbox"/>	1.000		957957.94		A	1.5
8	<input type="checkbox"/>	1.000		937565.94		A	0.3
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for 1000MIX.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		662755.66		A	1.2
2	<input type="checkbox"/>	1.000		661094.41		A	1.2
3	<input type="checkbox"/>	1.000		672686.56		A	1.0
4	<input type="checkbox"/>	1.000		670359.07		A	0.3
5	<input type="checkbox"/>	1.000		672393.36		A	0.7
6	<input type="checkbox"/>	1.000		669474.48		A	0.6
7	<input type="checkbox"/>	1.000		619482.57		A	1.0
8	<input type="checkbox"/>	1.000		590094.46		A	0.6
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

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Continuing Calibration Data

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ICPMS 7700x DATA REPORT

File Name ICV.D
File Path D:\data\2131009.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/10/2013 12:54
Sample Name 100 ppb (10 ppb Ag)
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.101	ug/g	0.09	75,257.81	1.851E-01	Pulse	0.30	3
Cu	65	103	2	0.102	ug/g	0.16	100,231.49	2.466E-01	Pulse	0.30	3
Zn	66	103	2	0.100	ug/g	0.31	28,083.02	6.909E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	1.19	34,661.47	8.527E-02	Pulse	0.30	3
Cd	114	103	2	0.103	ug/g	0.76	116,037.20	2.855E-01	Pulse	0.30	3
Pb	208	169	2	0.105	ug/g	0.64	974,258.50	1.655E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	406,495.85	0.22	84.3	Pulse	0.30	3
3	Rh	103	909,923.16	0.70	80.3	Analog	0.30	3
2	Tm	169	588,519.34	0.54	88.8	Analog	0.30	3

PHYSIS LABORATORIES
ICPMS 7700x DATA REPORT

File Name	CCV.D
File Path	D:\data\2131009.B
Method File	Physis.m
Method Path	C:\ICPMH\1\METHODS\
Acq Time	10/10/2013 19:30
Sample Name	
Sample Type	Sample
Comment	

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.100	ug/g	0.66	69,348.63	1.835E-01	Pulse	0.30	3
Cu	65	103	2	0.102	ug/g	0.58	93,600.45	2.477E-01	Pulse	0.30	3
Zn	66	103	2	0.101	ug/g	2.45	26,383.72	6.982E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.67	32,209.02	8.524E-02	Pulse	0.30	3
Cd	114	103	2	0.104	ug/g	0.96	108,878.35	2.881E-01	Pulse	0.30	3
Pb	208	169	2	0.106	ug/g	1.28	935,456.46	1.662E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	377,846.25	0.50	78.4	Pulse	0.30	3
3	Rh	103	845,355.03	0.81	74.6	Analog	0.30	3
2	Tm	169	562,825.49	1.12	84.9	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV1.D
File Path D:\data\2131009.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/11/2013 9:54
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.105	ug/g	0.74	86,127.59	1.917E-01	Pulse	0.30	3
Cu	65	103	2	0.107	ug/g	1.01	116,233.75	2.587E-01	Pulse	0.30	3
Zn	66	103	2	0.100	ug/g	1.80	31,000.11	6.900E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	1.42	37,770.38	8.406E-02	Pulse	0.30	3
Cd	114	103	2	0.098	ug/g	0.46	121,135.22	2.696E-01	Pulse	0.30	3
Pb	208	169	2	0.107	ug/g	1.09	960,869.55	1.676E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	449,331.44	0.67	93.2	Pulse	0.30	3
3	Rh	103	1,022,651.20	1.00	90.3	Analog	0.30	3
2	Tm	169	573,410.06	1.05	86.5	Analog	0.30	3

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Instrument Run Log

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	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1	C:\CPMH\1\METHODS\Physis.m	Keyword		CALBEG	Start of CALIB									
2	C:\CPMH\1\METHODS\Physis.m	Sample	1101	Rinse			1.000							
3	C:\CPMH\1\METHODS\Physis.m	CalBk	1101	0MIX	0 ppb mix	0 ng 0 ng Ag	Level 1							
4	C:\CPMH\1\METHODS\Physis.m	CalStd	1102	1MIX	1 ppb mix	10 ng 1 ng Ag	Level 2							
5	C:\CPMH\1\METHODS\Physis.m	CalStd	1103	5MIX	5 ppb mix	50 ng 5 ng Ag	Level 3							
6	C:\CPMH\1\METHODS\Physis.m	CalStd	1104	10MIX	10 ppb mix	100 ng 10 ng Ag	Level 4							
7	C:\CPMH\1\METHODS\Physis.m	CalStd	1105	50MIX	50 ppb mix	500 ng 50 ng Ag	Level 5							
8	C:\CPMH\1\METHODS\Physis.m	CalStd	1106	100MIX	100 ppb mix	1000 ng 100 ng Ag	Level 6							
9	C:\CPMH\1\METHODS\Physis.m	CalStd	1107	500MIX	500 ppb mix	5000 ng 500 ng Ag	Level 7							
10	C:\CPMH\1\METHODS\Physis.m	CalStd	1108	1000MIX	1000 ppb mix	10000 ng 1000 ng Ag	Level 8							
11	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse1			1.000							
12	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse2			1.000							
13	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse3			1.000							
14	C:\CPMH\1\METHODS\Physis.m	Sample	1201	ICV	100 ppb (10 ppb Ag)		1.000E-01							
15	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse4			1.000							
16	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse5			1.000							
17	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse6			1.000							
18		Keyword		CALEND	End of CALIB									
19		Keyword		SAMPLEBEG	Start of SMPL									
20	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse7			1.000							
21	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse8			1.000							
22	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse9			1.000							
23	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse10			1.000							
24	C:\CPMH\1\METHODS\Physis.m	Sample	2101	21956	QAQC Procedural Blank B1	21956.NA.B1.10/8/2013.E-5152	10.00							
25	C:\CPMH\1\METHODS\Physis.m	Sample	2101	22035	QAQC Procedural Blank B1	22035.NA.B1.10/8/2013.E-5153	10.00							
26	C:\CPMH\1\METHODS\Physis.m	Sample	2101	22077	QAQC Procedural Blank B1	22077.NA.B1.10/8/2013.E-5154	10.00							
27	C:\CPMH\1\METHODS\Physis.m	Sample	2101	22098	QAQC Procedural Blank B1	22098.NA.B1.10/8/2013.E-5155	10.00							
28	C:\CPMH\1\METHODS\Physis.m	Sample	2102	21957	B13-8233 Oceanside	21957.NA.R1.10/8/2013.E-5152	55.38							
29	C:\CPMH\1\METHODS\Physis.m	Sample	2103	21957/2	B13-8233 Oceanside Dup	21957.NA.R2.10/8/2013.E-5152	60.49							
30	C:\CPMH\1\METHODS\Physis.m	Sample	2104	21958	B13-8236 Oceanside	21958.NA.R1.10/8/2013.E-5152	43.03							
31	C:\CPMH\1\METHODS\Physis.m	Sample	2105	21959	B13-8238 Oceanside	21959.NA.R1.10/8/2013.E-5152	33.76							
32	C:\CPMH\1\METHODS\Physis.m	Sample	2106	21960	B13-8267 Dana Point	21960.NA.R1.10/8/2013.E-5152	51.29							
33	C:\CPMH\1\METHODS\Physis.m	Sample	2107	21961	B13-8266 Dana Point	21961.NA.R1.10/8/2013.E-5152	45.25							
34	C:\CPMH\1\METHODS\Physis.m	Sample	2108	21962	B13-8263 Dana Point	21962.NA.R1.10/8/2013.E-5152	32.44							
35	C:\CPMH\1\METHODS\Physis.m	Sample	2109	21963	B13-8263 Dana Point	21963.NA.R1.10/8/2013.E-5152	49.59							
36	C:\CPMH\1\METHODS\Physis.m	Sample	1	R11			1.000							
37	C:\CPMH\1\METHODS\Physis.m	Sample	2110	21959bs1	QAQC Procedural Blank BS1	21959.NA.BS1.10/8/2013.E-5152	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Div/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
38	C:\CPMH\1\METHODS (Physis.m)	Sample	2111	21958.us2	QAQC Procedural Blank BS2	21956,NA,BS2,10/8/2013,E-5152	1.000							
39	C:\CPMH\1\METHODS (Physis.m)	Sample	2112	21957.ms	B13-8233 Oceanside MS	21957,NA,MS1,10/8/2013,E-5152	1.000							
40	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	21957.ms2	B13-8233 Oceanside MS2	21957,NA,MS2,10/8/2013,E-5152	1.000							
41	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R12			1.000							
42	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R13			1.000							
43	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R14			1.000							
44	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R15			1.000							
45	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R16			1.000							
46	C:\CPMH\1\METHODS (Physis.m)	Sample	2202	22038	B13-8145 Grab	22036,NA,R1,10/8/2013,E-5153	44.84							
47	C:\CPMH\1\METHODS (Physis.m)	Sample	2203	22038r2	B13-8145 Grab Dup	22038,NA,R2,10/8/2013,E-5153	41.60							
48	C:\CPMH\1\METHODS (Physis.m)	Sample	2204	22037	B13-8163 Grab	22037,NA,R1,10/8/2013,E-5153	58.07							
49	C:\CPMH\1\METHODS (Physis.m)	Sample	2205	22038	B13-8160 Grab	22038,NA,R1,10/8/2013,E-5153	74.53							
50	C:\CPMH\1\METHODS (Physis.m)	Sample	2206	22039	B13-8159 Grab	22039,NA,R1,10/8/2013,E-5153	85.83							
51	C:\CPMH\1\METHODS (Physis.m)	Sample	2207	22040	B13-8157 Grab	22040,NA,R1,10/8/2013,E-5153	49.47							
52	C:\CPMH\1\METHODS (Physis.m)	Sample	2208	22041	B13-8158 Grab	22041,NA,R1,10/8/2013,E-5153	85.28							
53	C:\CPMH\1\METHODS (Physis.m)	Sample	2209	22042	B13-8152 Grab	22042,NA,R1,10/8/2013,E-5153	27.87							
54	C:\CPMH\1\METHODS (Physis.m)	Sample	2210	22043	B13-8151 Grab	22043,NA,R1,10/8/2013,E-5153	67.82							
55	C:\CPMH\1\METHODS (Physis.m)	Sample	2211	22044	B13-8146 Grab	22044,NA,R1,10/8/2013,E-5153	43.59							
56	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R17			1.000							
57	C:\CPMH\1\METHODS (Physis.m)	Sample	2110	22035.us1	QAQC Procedural Blank BS1	22035,NA,BS1,10/8/2013,E-5153	1.000							
58	C:\CPMH\1\METHODS (Physis.m)	Sample	2111	22035.us2	QAQC Procedural Blank BS2	22035,NA,BS2,10/8/2013,E-5153	1.000							
59	C:\CPMH\1\METHODS (Physis.m)	Sample	2212	22036.ms	B13-8145 Grab MS	22036,NA,MS1,10/8/2013,E-5153	1.000							
60	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	22036.ms2	B13-8145 Grab MS2	22036,NA,MS2,10/8/2013,E-5153	1.000							
61	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R18			1.000							
62	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R19			1.000							
63	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R20			1.000							
64	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R21			1.000							
65	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R22			1.000							
66	C:\CPMH\1\METHODS (Physis.m)	Sample	2302	22078	B13-8065 Grab	22078,NA,R1,10/8/2013,E-5154	58.92							
67	C:\CPMH\1\METHODS (Physis.m)	Sample	2303	22078r2	B13-8065 Grab Dup	22078,NA,R2,10/8/2013,E-5154	48.22							
68	C:\CPMH\1\METHODS (Physis.m)	Sample	2304	22079	B13-8048 Grab	22079,NA,R1,10/8/2013,E-5154	59.89							
69	C:\CPMH\1\METHODS (Physis.m)	Sample	2305	22080	B13-8029 Grab	22080,NA,R1,10/8/2013,E-5154	40.58							
70	C:\CPMH\1\METHODS (Physis.m)	Sample	2306	22081	B13-8056 Grab	22081,NA,R1,10/8/2013,E-5154	55.43							
71	C:\CPMH\1\METHODS (Physis.m)	Sample	2307	22082	B13-8054 Grab	22082,NA,R1,10/8/2013,E-5154	81.78							
72	C:\CPMH\1\METHODS (Physis.m)	Sample	2308	22083	B13-8066 Grab	22083,NA,R1,10/8/2013,E-5154	58.79							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
73	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2309	22084	B13-8020 Grab	22084,NA,R1,10/8/2013,E-5154	94.83							
74	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2310	22085	B13-8050 Grab	22085,NA,R1,10/8/2013,E-5154	50.52							
75	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2311	22086	B13-8086 Grab	22086,NA,R1,10/8/2013,E-5154	52.71							
76	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2312	22087	B13-8017 Grab	22087,NA,R1,10/8/2013,E-5154	55.80							
77	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R23			1.000							
78	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2110	22077bs1	QAQC Procedural Blank BS1	22077,NA,BS1,10/8/2013,E-5154	1.000							
79	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2111	22077bs2	QAQC Procedural Blank BS2	22077,NA,BS2,10/8/2013,E-5154	1.000							
80	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2401	22078ms	B13-8085 Grab MS	22078,NA,MS1,10/8/2013,E-5154	1.000							
81	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2402	22078msd	B13-8085 Grab MSD	22078,NA,MS2,10/8/2013,E-5154	1.000							
82	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R24			1.000							
83	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R25			1.000							
84	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R26			1.000							
85	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R27			1.000							
86	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R28			1.000							
87	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2403	22100	B13-8077 Grab	22100,NA,R1,10/8/2013,E-5155	45.60							
88	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2404	22100r2	B13-8077 Grab Dup	22100,NA,R2,10/8/2013,E-5155	41.21							
89	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2405	22101	B13-8075 Grab	22101,NA,R1,10/8/2013,E-5155	50.23							
90	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2406	22102	B13-8075 Grab	22102,NA,R1,10/8/2013,E-5155	50.34							
91	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2407	22103	B13-8074 Grab	22103,NA,R1,10/8/2013,E-5155	57.11							
92	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R29			1.000							
93	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2110	22099bs1	QAQC Procedural Blank BS1	22099,NA,BS1,10/8/2013,E-5155	1.000							
94	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2111	22099bs2	QAQC Procedural Blank BS2	22099,NA,BS2,10/8/2013,E-5155	1.000							
95	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2408	22100ms	B13-8077 Grab MS	22100,NA,MS1,10/8/2013,E-5155	1.000							
96	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2409	22100msd	B13-8077 Grab MSD	22100,NA,MS2,10/8/2013,E-5155	1.000							
97	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R30			1.000							
98	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R31			1.000							
99	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1106	CCV			1.000							
100	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R32			1.000							
101	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R33			1.000							
102	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	R34			1.000							
103		Keyword		StandBy										
104		Keyword		SAMPLE	End of SMPLE									
105		Keyword		END	End of Sequence									
106		Keyword		BLKBEG	Start of BLANK									
107		Keyword		BLKEND	End of BLANK									
108		Keyword		ERRBEG	Start of ERRTERM									
109		Keyword		ERREND	End of ERRTERM									

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Elements -

CVAFS
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Initial Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

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Method: EPA 245.7 Mercury
Calibration data 100413

Calib Level Standard Raw Counts

Std01Rep1	0	-98
Std01Rep2	0	-98
Std01Rep3	0	-101
Std02Rep1	1	-72
Std02Rep2	1	-60
Std02Rep3	1	-56
Std03Rep1	10	127
Std03Rep2	10	142
Std03Rep3	10	128
Std04Rep1	100	2213
Std04Rep2	100	2230
Std04Rep3	100	2210
Std05Rep1	1000	23365
Std05Rep2	1000	23386
Std05Rep3	1000	23711
Std06Rep1	10000	239584
Std06Rep2	10000	240381
Std06Rep3	10000	239474

Note: Above calibration data used for the following project:

1307002-002
1307002-004
1307002-006
1307002-008
1307002-010
1307002-012
1307002-014
1307002-016
1307002-018

Continuing Calibration Data / Instrument Run Log

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Sequence# 100813 for PID: 1307002-006, 008

Sample ID	Date	Method
ICV	8-Oct-13	2457TST
Ck1Blank	8-Oct-13	2457TST
22077BLK	8-Oct-13	2457TST
BS1	8-Oct-13	2457TST
BS2	8-Oct-13	2457TST
Ck1Blank	8-Oct-13	2457TST
22078r1	8-Oct-13	2457TST
22078r2	8-Oct-13	2457TST
22078ms1	8-Oct-13	2457TST
22078ms2	8-Oct-13	2457TST
Ck1Blank	8-Oct-13	2457TST
22079	8-Oct-13	2457TST
22080	8-Oct-13	2457TST
22081	8-Oct-13	2457TST
22082	8-Oct-13	2457TST
22083	8-Oct-13	2457TST
22084	8-Oct-13	2457TST
22085	8-Oct-13	2457TST
22086	8-Oct-13	2457TST
22087	8-Oct-13	2457TST
Ck1Blank	8-Oct-13	2457TST
22089	8-Oct-13	2457TST
22090	8-Oct-13	2457TST
CCV1	8-Oct-13	2457TST
Ck1Blank	8-Oct-13	2457TST
Blank	8-Oct-13	2457TST
BS1	8-Oct-13	2457TST
BS2	8-Oct-13	2457TST
Ck1Blank	8-Oct-13	2457TST
22100r1	8-Oct-13	2457TST
22100r2	8-Oct-13	2457TST
22100ms1	8-Oct-13	2457TST
22100ms2	8-Oct-13	2457TST
Ck1Blank	8-Oct-13	2457TST
22101	8-Oct-13	2457TST
22102	8-Oct-13	2457TST
22103	8-Oct-13	2457TST
Ck1Blank	8-Oct-13	2457TST
22105crm1	8-Oct-13	2457TST
22246crmRR	8-Oct-13	2457TST

22106crm2	8-Oct-13	2457TST
CCV2	8-Oct-13	2457TST

QAQC	Date	Method	True value (ppt)	Result (ppt)
ICV	8-Oct-13	2457TST	1000	1030
CCV1	8-Oct-13	2457TST	1000	1010
CCV2	8-Oct-13	2457TST	1000	998



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Extraction/Preparation Log

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ENVIRONMENTAL LABORATORIES, INC.

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October 30, 2013

E. Chae, A. Hoang

Extraction of AMEC - RHMP B13 sediments for fipronils, OCPs (incl. DDMU, DCPA, Dieldrin, PCBs, Aroclors, PBDEs (incl. 499), PAHs, Pyrethroids, Toxaphene. Samples were analyzed for Pyrethroids, fipronils and then column cleaned w/ Alumina/silica adsorbents.
Method: EPA 8230C

PSID	Sample Description	Sample wt. (g)	Comments	D/W	Multiplier
B1 (22077)	Blank	—	A	—	10
B31	Blank spike	—	A, B	—	10
B32	Blank spike Dup	—	A, B	—	10
22078MS1	8065	15.0961	A, B	0.4465	0.1483
22078MS2	8065	15.0051	A, B	0.4465	0.1492
22088	CRM-SEMIMIX	1.8935	A	—	0.5281
22078	8065	15.1429	A	0.4465	0.1479
22078P2	8065	15.0571	A	0.4465	0.1487
22079	8049	15.0440	A	0.4306	0.1543
22080	8029	15.2414	A	0.6055	0.1083
22081	8056	15.1556	A	0.4390	0.1503
22082	8064	15.0310	A	0.4133	0.1609
22083	8066	15.1684	A	0.4296	0.1526
22084	8020	15.1391	A	0.2849	0.2315
22085	8050	15.7283	A	0.5427	0.1171
22086	8069	15.0088	A	0.4717	0.1412
22087	8017	15.3055	A	0.4496	0.1453
22100	8077	15.4896	A	0.5443	0.1186
22101	8076	15.5984	A	0.4030	0.1590
22102	8075	15.1849	A	0.4611	0.1428
22103	8074	15.1428	A	0.4471	0.1476

A) 100 µL CHC PS (400ng, P. 274)
100 µL PAH PS (1000ng, P. 244)
100 µL PBDE 26 (50ng, P. 261)
100 µL CHC 15
100 µL PAH 15

B) 1.0 mL Fipronil Mix (1000ng, P. 270)
1.0 mL OCP Mix (1000ng, P. 241)
100 µL DDMU (1000 ng, P. 272)
200 µL PCB Mix (200ng, P. 255)
200 µL PCB+6 Mix (200ng, P. 259)
100 µL PBDE Mix (100ng, P. 262)
100 µL PBDE 499 (100ng, P. 263)
1.0 mL PAH Mix (1000 ng, P. 256)
1.0 mL Pyrethroid Mix (1000ng, P. 260)
1.0 mL Tralomethrin (1000ng, P. 275)
1.0 mL Toxaphene (1000ng, P. 242)

1307002 - 006/008

March 27, 2014

R. Hong

(EXTRACTION OF AMEC - RHP SEDIMENT) FOR FIPRONIL, OCP, PCB, PDBE, PAH, PYRETHROIDS. SAMPLES WERE SPLIT 5/50 COLUMN CLEARED AND COLUMN CLEARED. THE COLUMN CLEARED FRACTION WAS ELUATED WITH SILICA/ALUMINA ADSORBENTS.

METHOD EPA 8270C

PSID	SAMPLE Wt(g)	SOL Wt(g)	+NAD(g)	LIPONAL(g)	Comments	g/w	MULTIPLIER
B1 (22077)	—	—	—	—	A, C	—	1.0
BS1	—	—	—	—	A, B, C	—	1.0
BS2	—	—	—	—	A, B, C	—	1.0
22078M21	19.60	20.035	56.741	0.796	A, B, C	.4637	.2101
22079M21	20.67	21.039	66.075	0.794	A, B, C	.4657	.1992
22080M21	2.104	—	—	—	A, C	—	.9505
22078	20.09	21.036	51.894	1.408	D, C	.4465	.2229
22079	19.74	20.042	60.842	0.624	A, C	.4637	.2006
22079P2	19.04	19.428	53.759	0.692	A, C	.4657	.2163
22080	19.18	19.670	39.588	0.680	A, C	.6055	.1722
22081	19.24	19.563	57.168	0.627	A, C	.4390	.2368
22082	20.58	20.297	61.663	0.618	A, C, D	.6362	.1528
22083	20.49	20.707	67.482	0.497	A, C, D	.4296	.2272
22084	20.83	21.528	52.524	1.003	A, C	.2839	.3370
22085	18.93	19.399	45.336	0.629	A, C, D	.5427	.1947
22086	19.63	20.236	48.284	0.781	A, C	.6524	.1601
22087	20.58	21.067	62.008	0.984	A, C	.4496	.2163
PH 2	—	—	—	—	—	—	PH 1005
22100	20.36	20.612	52.505	0.394	A, C	.5443	PH 1682 .1805
22101	19.74	20.063	54.477	0.547	A, C	.6024	PH 1682 .1682
22102	19.23	19.455	54.193	0.397	A, C	.4611	.2256
22403	21.15	21.620	57.448	0.781	A, C	.4471	.2115

A) 200 μ L CHL PS (2000 μ g, P296) ^{EC}
 200 μ L PAH PS (2000 μ g, P296) ^{EC}
 20 μ L PDBE PS (100 μ g, P297) ^{EC}

B) 2.0 FIPRONIL (2000 μ g, P299) ^{EC}
 2.0mL OCP M.X (2000 μ g, P310) ^{EC}
 2.0mL DDMU (2000 μ g, P291) ^{EC}
 400 μ L PCB M.X (2000 μ g, P303) ^{EC}
 400 μ L PCB+6 M.X (2000 μ g, P259) ^{EC}
 200 μ L PDBE M.X (2000 μ g, P293) ^{EC}

C) 100 μ L CHL IS (1000 μ g, P323)

Organics - GC-MS

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Analytical Solutions
(EPA 8270C)

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Instrument Run Log

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AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

2014 Apr 15 1544 Sequence Log .LOG
Starting sequence Tue Apr 15 15:44:02 2014

Instrument Name: GCMS3
Sequence File: D:\MassHunter\GCMS\1\sequence\Q3_1404015 EI_0-5125.sequence.xml

... Comment:
Operator:
Data Path: D:\MassHunter\GCMS\1\data\Q3_140415 EI_0-5125\
Method Path: D:\MassHunter\GCMS\1\methods\checkout\

Line	Type	Vials	DataFile	Sample Name
Acquisition Method: EI Scan. M				
1)	Sample	131	MI X_500_PCB_100_I CV	MI X_500_PCB_100_I CV
2)	Sample	131	MI X_500_PCB_100_I CV2	MI X_500_PCB_100_I CV2
3)	Sample	143	TUNE	TUNE
4)	Sample	1	B_5125	B_5125
	Comment:	22077, NA, B1, 3/27/2014, 0-5125,		
5)	Sample	2	BS1_5125	BS1_5125
	Comment:	22077, NA, BS1, 3/27/2014, 0-5125,		
6)	Sample	3	BS2_5125	BS2_5125
	Comment:	22077, NA, BS2, 3/27/2014, 0-5125,		
7)	Sample	4	22079MS1	22079MS1
	Comment:	22079, NA, MS1, 3/27/2014, 0-5125,		
8)	Sample	5	22079MS2	22079MS2
	Comment:	22079, NA, MS2, 3/27/2014, 0-5125,		
9)	Sample	6	22088	22088
	Comment:	22088, NA, CRM1, 3/27/2014, 0-5125,		
10)	Sample	7	22078	22078
	Comment:	22078, NA, R1, 3/27/2014, 0-5125,		
11)	Sample	8	22079	22079
	Comment:	22079, NA, R1, 3/27/2014, 0-5125,		
12)	Sample	9	22079R2	22079R2
	Comment:	22079, NA, R2, 3/27/2014, 0-5125,		
13)	Sample	31	22630	22630
14)	Sample	32	22631	22631
15)	Sample	10	22080	22080
	Comment:	22080, NA, R1, 3/27/2014, 0-5125,		
16)	Sample	11	22081	22081
	Comment:	22081, NA, R1, 3/27/2014, 0-5125,		
17)	Sample	12	22082	22082
	Comment:	22082, NA, R1, 3/27/2014, 0-5125,		
18)	Sample	13	22083	22083
	Comment:	22083, NA, R1, 3/27/2014, 0-5125,		
19)	Sample	121	PAH500CCV	PAH500CCV
20)	Sample	122	OCP500CCV	OCP500CCV
21)	Sample	123	PCB100CCV	PCB100CCV
22)	Sample	14	22084	22084
	Comment:	22084, NA, R1, 3/27/2014, 0-5125,		
23)	Sample	15	22085	22085
	Comment:	22085, NA, R1, 3/27/2014, 0-5125,		
24)	Sample	16	22086	22086
	Comment:	22086, NA, R1, 3/27/2014, 0-5125,		
25)	Sample	17	22087	22087
	Comment:	22087, NA, R1, 3/27/2014, 0-5125,		
26)	Sample	18	22100	22100
	Comment:	22100, NA, R1, 3/27/2014, 0-5125,		
27)	Sample	19	22101	22101
	Comment:	22101, NA, R1, 3/27/2014, 0-5125,		
28)	Sample	20	22102	22102
	Comment:	22102, NA, R1, 3/27/2014, 0-5125,		
29)	Sample	21	22103	22103
	Comment:	22103, NA, R1, 3/27/2014, 0-5125,		

		2014 Apr 15 1544 Sequence Log .LOG	
30) Sample	121	PAH500FCV	PAH500FCV
31) Sample	122	OCP500FCV	OCP500FCV
32) Sample	123	PCB100FCV	PCB100FCV

Sequence completed Thu Apr 17 18:11:42 2014

D:\MassHunter\GCMS\1\data\Q3_140415 EI 0-5125\2014 Apr 15 1544 Quality Log.
D:\MassHunter\GCMS\1\data\Q3_140415 EI 0-5125\2014 Apr 15 1544 Sequence Log

PHYSIS

Instrument Tune Report

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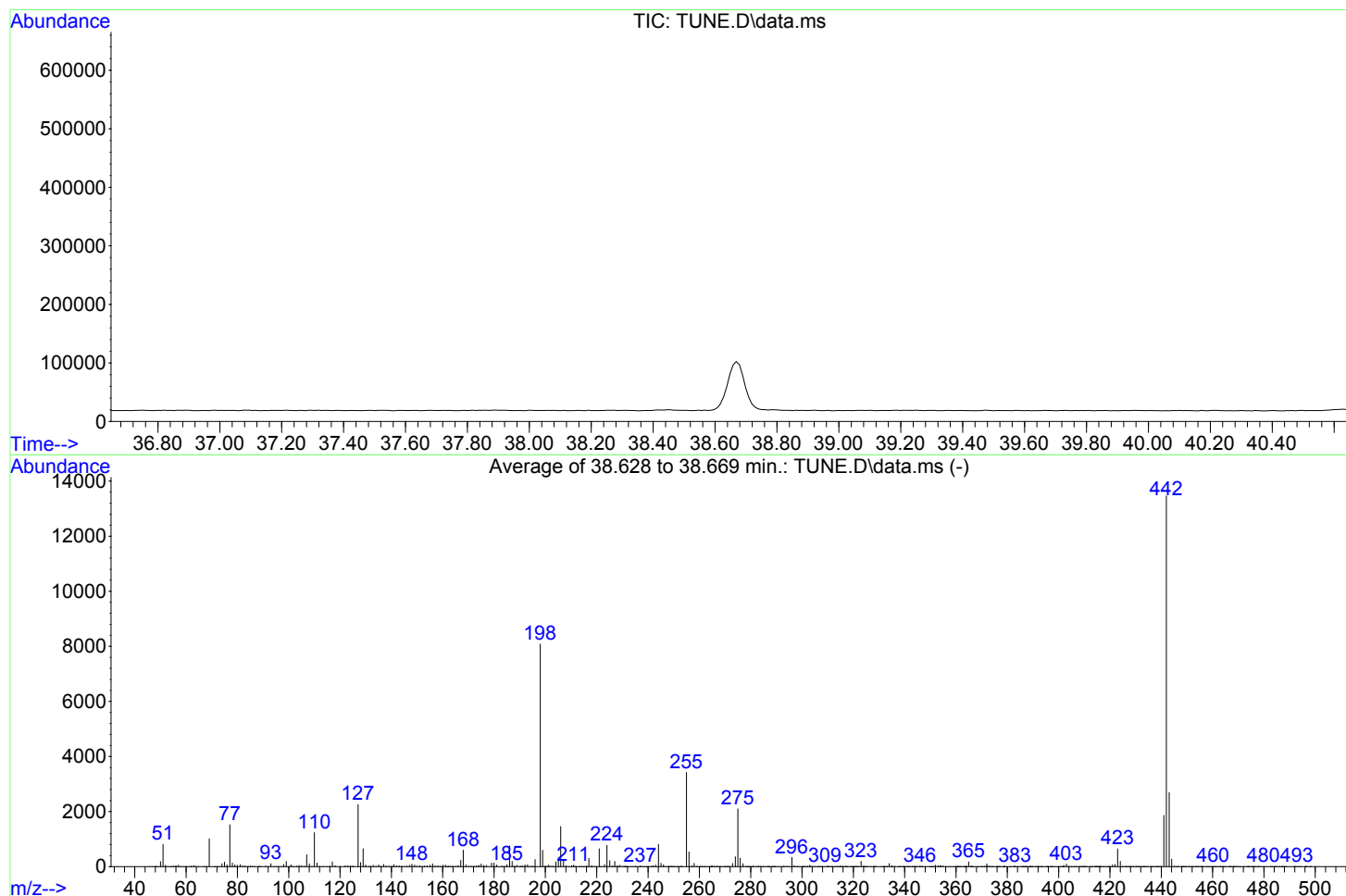
ENVIRONMENTAL LABORATORIES, INC.

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Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
 Data File : TUNE.D
 Acq On : 15 Apr 2014 06:58 pm
 Operator :
 Sample : TUNE
 Misc :
 ALS Vial : 143 Sample Multiplier: 1

Integration File: events.e

Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_OCP+3_140502.M
 Title : CHCs
 Last Update : Mon May 12 21:28:22 2014



Spectrum Information: Average of 38.628 to 38.669 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	31.0	2506	PASS
68	69	0.00	2	1.1	11	PASS
69	198	0.00	100	12.5	1010	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	40.3	3254	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	8083	PASS
199	198	5	9	7.3	591	PASS
275	198	10	30	25.9	2096	PASS
365	198	1	100	2.1	170	PASS
441	443	0.01	100	69.0	1860	PASS
442	198	40	300	166.5	13460	PASS
443	442	17	23	20.0	2694	PASS

Chlorinated Pesticides

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Summary of Internal Standards

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	4,4'-Dibromobiphenyl		2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time	Response	Retention Time
Spex_500ICV	1035087	42.523	213022	53.682
B_5125	2956891	42.524	571592	53.675
BS1_5125	2836263	42.522	518666	53.674
BS2_5125	1470970	42.482	239667	53.63
22079MS1	3283500	42.541	537792	53.674
22079MS2	2504075	42.555	363137	53.669
22088	2289398	42.532	349965	53.682
22078	2183851	42.517	358142	53.668
22079	2409363	42.511	408371	53.663
22079R2	2831954	42.509	489118	53.66
22080	2703143	42.508	487503	53.66
22081	2891741	42.506	579518	53.658
22082	1757700	42.503	259634	53.654
22083	2402789	42.501	345690	53.653
OCP500CCV	641022	42.492	120256	53.65
22084	2630760	42.492	457568	53.646
22085	2295605	42.494	386870	53.646
22086	2227143	42.494	344856	53.641
22087	2387367	42.487	383409	53.639
22100	1625695	42.493	254247	53.644
22101	3100762	42.501	660040	53.651
22102	1321095	42.491	193537	53.645
22103	1665565	42.491	250771	53.639
OCP500FCV	904893	42.483	177175	53.636

PHYSIS

Initial Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\

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Method File : Q_OCP+3_140502.M

Title : CHCs

Last Update : Mon May 12 21:28:22 2014

Response Via : Initial Calibration

Calibration Files

1000=OCP1000.D 500 =OCP500.D 250 =OCP250.D 100 =OCP100.D 50 =OCP50.D 25 =OCP25.D

	Compound	1000	500	250	100	50	25	Avg	%RSD
1) I	4,4'-Dibromobiphenyl	-----ISTD-----							
2) S	(TCMX)	0.391	0.417	0.444	0.425	0.439	0.389	0.417	5.60
3) S	(PCB030)	1.047	1.097	1.125	1.108	1.140	1.028	1.091	4.05
4)	BHC-alpha	0.307	0.296	0.298	0.268	0.272	0.246	0.281	8.17
5)	Hexachlorobenzene	0.861	0.888	0.915	0.892	0.875	0.845	0.879	2.79
6)	BHC-beta	0.075	0.069	0.075	0.082	0.108	0.136	0.091	28.49
7)	BHC-gamma	0.188	0.175	0.173	0.151	0.143	0.131	0.160	13.60
8)	BHC-delta	0.206	0.188	0.173	0.159	0.153	0.154	0.172	12.44
9)	Heptachlor	0.207	0.171	0.152	0.120	0.108	0.094	0.142	30.03
10)	Aldrin	0.215	0.205	0.201	0.198	0.191	0.169	0.196	7.86
11)	DCPA (Dacthal)	0.803	0.770	0.731	0.728	0.681	0.697	0.735	6.17
12)	Heptachlor epo...	0.314	0.292	0.273	0.267	0.255	0.245	0.274	9.27
13)	Oxychlordane	0.152	0.153	0.143	0.158	0.133	0.154	0.149	6.14
14) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
15) S	(PCB112)	4.607	4.679	4.627	4.539	4.519	4.478	4.575	1.65
16) S	(PCB198)	1.327	1.350	1.382	1.374	1.347	1.297	1.346	2.30
17)	Chlordane-gamma	2.205	2.054	1.946	1.784	1.660	1.655	1.884	11.83
18)	4,4'-DDMU	6.781	6.515	6.177	5.575	5.137	5.179	5.894	11.85
19)	2,4'-DDE	5.495	5.396	5.226	4.964	4.646	4.711	5.073	7.00
20)	Endosulfan-I	0.349	0.327	0.323	0.302	0.314	0.396	0.335	9.99
21)	Chlordane-alpha	2.123	2.016	1.876	1.718	1.579	1.642	1.826	11.83
22)	trans-Nonachlor	2.396	2.229	2.068	1.844	1.624	1.643	1.967	16.08
23)	4,4'-DDE	3.951	3.815	3.677	3.497	3.225	3.230	3.566	8.47
24)	Dieldrin	0.511	0.489	0.476	0.448	0.448	0.389	0.460	9.22
25)	2,4'-DDD	6.376	5.884	5.359	5.025	4.669	5.360	5.445	11.18
26)	Perthane	1.068	0.909	0.768	0.638	0.539	0.629	0.758	E1 26.23
27)	Endrin	0.455	0.408	0.380	0.322	0.305	0.340	0.368	15.47
28)	Endosulfan-II	0.292	0.277	0.261	0.258	0.254	0.274	0.269	5.41
29)	4,4'-DDD	6.104	5.401	4.756	4.427	3.568	4.537	4.799	18.14
30)	2,4'-DDT	4.008	3.240	2.634	1.806	1.245	0.678	2.269	55.40
31)	cis-Nonachlor	2.340	2.191	2.025	1.777	1.521	1.626	1.914	16.96
32)	Endrin aldehyde	0.590	0.453	0.411	0.423	0.387	0.238	0.417	27.23
33)	Endosulfan sul...	0.950	0.841	0.768	0.684	0.585	0.700	0.755	17.06
34)	4,4'-DDT	3.280	2.276	1.614	0.863	0.466	0.124	1.437	83.09
35)	Endrin ketone	0.908	0.768	0.663	0.532	0.449	0.465	0.631	28.99
36)	Methoxychlor	5.539	3.649	2.536	1.381	0.752	0.247	2.351	84.66
37)	Dicofol	0.686	0.416	0.226	0.066			0.348	76.55
38)	Mirex	2.720	2.489	2.370	2.095	1.841	1.912	2.238	15.44

(#)= Out of Range

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Continuing Calibration Data

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Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
 Data File : MIX_500_PCB_100_ICV.D
 Acq On : 15 Apr 2014 03:49 pm
 Operator :
 Sample : MIX_500_PCB_100_ICV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: May 09 07:27:20 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_OCP+3_140502.M
 Quant Title : CHCs
 QLast Update : Fri May 09 07:26:54 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	42.523	312	1035087	1000.00		0.04
14) 2,2',5,5'-Tetrabromobi...	53.682	391	213022	1000.00		0.04
System Monitoring Compounds						
2) (TCMX)	27.926	244	178455	413.21		0.02
Spiked Amount	400.000		Recovery	=	103.30%	
3) (PCB030)	33.116	256	467341	413.83		0.03
Spiked Amount	400.000		Recovery	=	103.46%	
15) (PCB112)	47.804	326	405348	415.95		0.04
Spiked Amount	400.000		Recovery	=	103.99%	
16) (PCB198)	62.033	358	125592	437.98		0.05
Spiked Amount	400.000		Recovery	=	109.50%	
Target Compounds						
					Qvalue	
4) BHC-alpha	30.970	219	158758	504.12		96
5) Hexachlorobenzene	31.556	284	496378	551.87		97
6) BHC-beta	33.282	219	94487	1230.59		91
7) BHC-gamma	33.449	219	130979	686.30		99
8) BHC-delta	35.454	219	100619	484.79		96
9) Heptachlor	38.805	272	141775	696.79		99
10) Aldrin	41.366	263	106386	484.73		96
11) DCPA (Dacthal)	42.386	301	418156	509.70		99
12) Heptachlor epoxide	44.374	353	172916	543.04	#	94
13) Oxychlordane	44.452	115	66504	423.72	#	76
17) Chlordane-gamma	46.148	373	232508	505.31		96
18) 4,4'-DDMU	0.000		0	N.D.	d	
19) 2,4'-DDE	46.574	246	518431	445.94		97
20) Endosulfan-I	47.006	241	30698	420.21		94
21) Chlordane-alpha	47.261	373	219875	494.65		95
22) trans-Nonachlor	47.651	409	248136	497.08		100
23) 4,4'-DDE	48.910	246	351908	422.77		97
24) Dieldrin	48.914	263	46339	431.26		98
25) 2,4'-DDD	49.517	235	553341	417.53		97
26) Perthane	50.759	223	950857	437.88		96
27) Endrin	50.464	263	62121	661.19	#	48
28) Endosulfan-II	51.178	241	26977	440.04	#	73
29) 4,4'-DDD	51.957	235	508581	405.35		98
30) 2,4'-DDT	52.129	235	476242	655.05		95
31) cis-Nonachlor	52.187	409	241106	493.99	#	98
32) Endrin aldehyde	52.547	345	65534	555.47		96
33) Endosulfan sulfate	54.261	272	94066	480.86		99
34) 4,4'-DDT	54.597	235	405082	713.24		95
35) Endrin ketone	57.484	317	97679	529.38	#	53
36) Methoxychlor	58.705	227	790286	788.06	#	68
37) Dicofol	58.757	139	144905	994.26	#	90
38) Mirex	61.361	272	277662	491.34		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
 Data File : OCP500CCV.D
 Acq On : 16 Apr 2014 09:46 pm
 Operator :
 Sample : OCP500CCV
 Misc :
 ALS Vial : 122 Sample Multiplier: 1

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Quant Time: May 09 07:28:25 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_OCP+3_140502.M
 Quant Title : CHCs
 QLast Update : Fri May 09 07:23:47 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	42.492	312	641022	1000.00		0.00
14) 2,2',5,5'-Tetrabromobi...	53.650	391	120256	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)	27.907	244	145802	545.14		0.00
Spiked Amount	400.000		Recovery	=	136.29%	
3) (PCB030)	33.090	256	335873	480.25		0.00
Spiked Amount	400.000		Recovery	=	120.06%	
15) (PCB112)	47.773	326	230959	419.82		0.00
Spiked Amount	400.000		Recovery	=	104.96%	
16) (PCB198)	61.991	358	66933	413.48		0.00
Spiked Amount	400.000		Recovery	=	103.37%	
Target Compounds						
					Qvalue	
4) BHC-alpha	30.940	219	114955	589.43		95
5) Hexachlorobenzene	31.532	284	333514	598.75		98
6) BHC-beta	33.228	219	23991m	504.53		
7) BHC-gamma	33.420	219	68312	577.98	#	92
8) BHC-delta	35.407	219	60268	468.88		93
9) Heptachlor	38.778	272	83794	664.99		99
10) Aldrin	41.342	263	67674	497.90		96
11) DCPA (Dacthal)	42.355	301	238006	468.46		99
12) Heptachlor epoxide	44.345	353	97214	492.98	#	94
13) Oxychlordane	44.435	115	42048	432.58	#	87
17) Chlordane-gamma	46.115	373	126501	487.01		94
18) 4,4'-DDMU	46.246	212	348501	433.24		99
19) 2,4'-DDE	46.546	246	293956	447.91		97
20) Endosulfan-I	46.977	241	17906	434.18		99
21) Chlordane-alpha	47.231	373	118196	471.02		93
22) trans-Nonachlor	47.627	409	133172	472.57	#	95
23) 4,4'-DDE	48.878	246	206395	439.24		98
24) Dieldrin	48.884	263	29055	479.00		99
25) 2,4'-DDD	49.480	235	305969	408.97		98
26) Perthane	50.726	223	495422	404.14	#	97
27) Endrin	50.438	263	31699	597.65	#	49
28) Endosulfan-II	51.143	241	17057m	492.87		
29) 4,4'-DDD	51.921	235	262599	370.75		99
30) 2,4'-DDT	52.101	235	237982	597.53		95
31) cis-Nonachlor	52.155	409	122917	446.11	#	96
32) Endrin aldehyde	52.509	345	29481	442.65		97
33) Endosulfan sulfate	54.225	272	46678	422.68	#	90
34) 4,4'-DDT	54.564	235	206877	669.20		95
35) Endrin ketone	57.453	317	48189	462.63		95
36) Methoxychlor	58.671	227	355209	686.29	#	95
37) Dicofol	58.717	139	64553	873.71	#	84
38) Mirex	61.330	272	151136	473.76		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
 Data File : OCP500FCV.D
 Acq On : 17 Apr 2014 03:08 pm
 Operator :
 Sample : OCP500FCV
 Misc :
 ALS Vial : 122 Sample Multiplier: 1

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Quant Time: May 09 07:29:08 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_OCP+3_140502.M
 Quant Title : CHCs
 QLast Update : Fri May 09 07:23:47 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	42.483	312	904893	1000.00		0.00
14) 2,2',5,5'-Tetrabromobi...	53.636	391	177175	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)	27.900	244	176652	467.89		0.00
Spiked Amount	400.000		Recovery	=	116.97%	
3) (PCB030)	33.082	256	441752	447.45		0.00
Spiked Amount	400.000		Recovery	=	111.86%	
15) (PCB112)	47.763	326	343215	423.45		0.00
Spiked Amount	400.000		Recovery	=	105.86%	
16) (PCB198)	61.984	358	103927	435.75		0.00
Spiked Amount	400.000		Recovery	=	108.94%	
Target Compounds						
					Qvalue	
4) BHC-alpha	30.930	219	148193	538.28		96
5) Hexachlorobenzene	31.527	284	436781	555.48		97
6) BHC-beta	33.228	219	34119m	508.29		
7) BHC-gamma	33.408	219	92387	553.74	#	94
8) BHC-delta	35.395	219	87923	484.57		100
9) Heptachlor	38.768	272	117170	658.71		98
10) Aldrin	41.337	263	93577	487.71		97
11) DCPA (Dacthal)	42.346	301	336947	469.81		96
12) Heptachlor epoxide	44.339	353	140248	503.82	#	93
13) Oxychlordan	44.419	115	71638	522.10		95
17) Chlordane-gamma	46.108	373	184528	482.18		96
18) 4,4'-DDMU	46.237	212	514767	434.35		98
19) 2,4'-DDE	46.536	246	432747	447.55		96
20) Endosulfan-I	46.975	241	25804	424.68		93
21) Chlordane-alpha	47.224	373	173721	469.89		96
22) trans-Nonachlor	47.615	409	194627	468.77		99
23) 4,4'-DDE	48.870	246	303596	438.53		99
24) Dieldrin	48.877	263	42407	474.52		98
25) 2,4'-DDD	49.472	235	449963	408.22		97
26) Perthane	50.714	223	733374	406.06	#	97
27) Endrin	50.423	263	43538	557.16	#	56
28) Endosulfan-II	51.132	241	22756	446.29	#	79
29) 4,4'-DDD	51.911	235	393709	377.29		99
30) 2,4'-DDT	52.094	235	349178	595.66		95
31) cis-Nonachlor	52.144	409	176799	435.53	#	98
32) Endrin aldehyde	52.504	345	41640	424.35		97
33) Endosulfan sulfate	54.209	272	70901	435.77		94
34) 4,4'-DDT	54.558	235	302982	666.65		99
35) Endrin ketone	57.442	317	76100	495.88		93
36) Methoxychlor	58.661	227	531589	692.90		100
37) Dicofol	58.705	139	97502	885.70	#	80
38) Mirex	61.324	272	224484	477.61		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	OCP500 ICV			OCP500 CCV			OCP500 FCV		
	4/15/14 3:49 PM			4/16/14 9:46 AM			4/17/14 3:08 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
BHC-alpha	500	504	1	500	589	18	500	538	8
Hexachlorobenzene	500	551	10	500	598	20	500	555	11
BHC-beta	500	1230	146	500	504	1	500	508	2
BHC-gamma	500	686	37	500	577	15	500	553	11
BHC-delta	500	484	3	500	468	6	500	484	3
Heptachlor	500	696	39	500	664	33	500	658	32
Aldrin	500	484	3	500	497	1	500	487	3
DCPA (Dacthal)	500	509	2	500	468	6	500	469	6
Heptachlor epoxide	500	543	9	500	492	2	500	503	1
Oxychlordane	500	423	15	500	432	14	500	522	4
Chlordane-gamma	500	505	1	500	487	3	500	482	4
4,4'-DDMU	0	0	NA	500	433	13	500	434	13
2,4'-DDE	500	445	11	500	447	11	500	447	11
Endosulfan-I	500	420	16	500	434	13	500	424	15
Chlordane-alpha	500	494	1	500	471	6	500	469	6
trans-Nonachlor	500	497	1	500	472	6	500	468	6
4,4'-DDE	500	422	16	500	439	12	500	438	12
Dieldrin	500	431	14	500	479	4	500	474	5
2,4'-DDD	500	417	17	500	408	18	500	408	18
Perthane	500	437	13	500	404	19	500	406	19
Endrin	500	661	32	500	597	19	500	557	11
Endosulfan-II	500	440	12	500	492	2	500	446	11
4,4'-DDD	500	405	19	500	370	26	500	377	25
2,4'-DDT	500	655	31	500	597	19	500	595	19
cis-Nonachlor	500	493	1	500	446	11	500	435	13
Endrin aldehyde	500	555	11	500	442	12	500	424	15
Endosulfan sulfate	500	480	4	500	422	16	500	435	13
4,4'-DDT	500	713	43	500	669	34	500	666	33
Endrin ketone	500	529	6	500	462	8	500	495	1
Methoxychlor	500	788	58	500	686	37	500	692	38
Dicofol	500	994	99	500	873	75	500	885	77
Mirex	500	491	2	500	473	5	500	477	5
Average	-	-	17	-	-	15	-	-	15

PHYSIS

PCB Congeners

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Initial Calibration Data

TERRA

FAUNA

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
 Method File : Q_PCB+6_140502.M
 Title : PCBs (Richs Version)
 Last Update : Fri May 09 10:42:15 2014
 Response Via : Initial Calibration

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Calibration Files

10 =PCB10.D 25 =PCB25.D 50 =PCB50.D 75 =PCB75.D 100 =PCB100CCV.D 200 =PCB200.D

Compound		10	25	50	75	100	200	Avg	%RSD

1) I	4,4'-Dibromobiphenyl	-----ISTD-----							
2)	PCB003	1.917	1.953	1.867	1.945	1.790	1.724	1.866	4.92
3)	PCB008	1.668	1.432	1.493	1.549	1.553	1.327	1.503	7.75
4)	PCB005	1.278	1.363	1.378	1.425	1.309	1.262	1.336	4.74
5)	PCB018	0.721	0.759	0.724	0.774	0.718	0.657	0.726	5.57
6)	PCB015	1.567	1.539	1.528	1.532	1.501	1.437	1.517	2.94
7)	PCB027	0.740	0.765	0.733	0.772	0.735	0.693	0.740	3.77
8)	PCB029	1.069	1.049	1.054	1.055	1.065	1.039	1.055	1.03
9) I	PCB031	1.145	1.125	1.128	1.153	1.121	1.069	1.124	2.61
10)	PCB028	1.073	1.144	1.131	1.172	1.139	1.093	1.125	3.22
11)	PCB033	1.003	1.075	1.089	1.128	1.084	1.045	1.071	3.96
12)	PCB052	0.703	0.777	0.734	0.773	0.751	0.735	0.745	3.68
13)	PCB049	0.787	0.807	0.774	0.819	0.782	0.756	0.788	2.88
14)	PCB044	0.661	0.678	0.657	0.671	0.692	0.637	0.666	2.88
15)	PCB037	1.036	1.043	1.061	1.092	1.110	1.085	1.071	2.73
16)	PCB074	0.982	1.022	1.006	1.039	1.096	1.043	1.031	3.77
17)	PCB070	0.993	1.040	1.023	1.089	1.114	1.060	1.053	4.19
18)	PCB066	1.020	1.070	1.063	1.111	1.104	1.096	1.077	3.15
19)	PCB095	0.689	0.708	0.689	0.733	0.691	0.678	0.698	2.83
20)	PCB056(060)	0.887	0.909	0.939	0.951	0.992	0.969	0.941	4.07
21)	PCB101	0.705	0.693	0.691	0.730	0.749	0.726	0.716	3.26
22)	PCB099	0.755	0.730	0.740	0.789	0.812	0.783	0.768	4.13
23)	PCB119	0.830	0.871	0.887	0.908	1.020	0.929	0.908	7.12
24)	PCB097	0.600	0.595	0.604	0.633	0.668	0.637	0.623	4.52
25)	PCB087	0.605	0.656	0.641	0.676	0.701	0.681	0.660	5.17
26)	PCB081	0.983	1.020	1.044	1.057	1.135	1.047	1.048	4.82
27)	PCB110	0.886	0.898	0.928	0.950	0.974	0.935	0.928	3.51
28)	PCB077	0.908	1.006	1.048	1.056	1.084	1.053	1.026	6.14
29)	PCB151	0.596	0.574	0.595	0.603	0.630	0.596	0.599	3.00
30)	PCB149	0.599	0.640	0.648	0.689	0.693	0.659	0.654	5.31
31)	PCB123	0.876	0.896	0.898	0.891	0.978	0.956	0.916	4.47
32)	PCB118	0.938	0.925	0.933	0.988	1.049	1.022	0.976	5.32
33)	PCB114	0.802	0.838	0.854	0.878	1.009	0.970	0.892	9.06
34) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
35)	PCB153	3.291	3.227	3.171	3.252	3.511	3.361	3.302	3.65
36)	PCB168+132	3.094	3.058	3.235	3.288	3.281	3.138	3.182	3.11
37)	PCB105	4.800	4.778	4.761	5.006	4.963	4.738	4.841	2.35
38)	PCB141	3.182	2.978	3.039	3.081	3.068	2.896	3.041	3.20
39)	PCB137	2.510	2.332	2.429	2.394	2.801	2.550	2.503	6.63
40)	PCB138	2.977	2.910	2.936	2.957	3.157	3.041	2.996	3.02
41)	PCB158	3.678	3.792	3.808	3.885	4.206	4.105	3.912	5.17
42)	PCB126	3.976	4.047	4.077	4.065	4.548	4.479	4.199	5.90
43)	PCB187	2.432	2.515	2.527	2.587	2.753	2.599	2.569	4.22
44)	PCB183	2.476	2.560	2.610	2.641	2.961	2.677	2.654	6.25
45)	PCB128	2.635	2.324	2.450	2.537	2.674	2.584	2.534	5.10
46)	PCB167	3.640	3.781	3.898	3.960	4.331	4.246	3.976	6.71
47)	PCB174	2.396	2.434	2.409	2.512	2.529	2.504	2.464	2.34
48)	PCB177	2.234	2.205	2.206	2.393	2.432	2.444	2.319	5.00
49)	PCB156	3.536	3.531	3.730	3.751	4.294	4.088	3.822	8.06
50)	PCB199(200)	2.725	2.934	2.757	2.980	2.911	2.845	2.859	3.55
51)	PCB157	4.909	4.750	4.736	4.921	5.047	5.185	4.925	3.51
52)	PCB180	2.429	2.302	2.415	2.448	2.740	2.562	2.483	6.07
53)	PCB169	3.383	3.589	3.512	3.546	4.135	4.183	3.725	9.23
54)	PCB170	2.378	2.159	2.248	2.357	2.475	2.282	2.316	4.78
55)	PCB201	1.991	1.936	1.942	2.039		1.834	1.948	3.93
56)	PCB203	2.137	2.074	2.134	2.157	2.154	2.325	2.164	3.91
57)	PCB189	2.868	3.084	3.004	3.107	3.396	3.543	3.167	7.98
58)	PCB195	1.863	1.910	1.924	1.917	1.869	2.033	1.919	3.18
59)	PCB194	1.906	2.101	1.974	2.078	1.981	2.175	2.036	4.86
60)	PCB206	1.599	1.697	1.669	1.792	1.881	1.808	1.741	5.96
61)	PCB209	1.830	1.981	1.831	2.005	1.789	2.044	1.913	5.69

Method Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
Method File : Q_PCB+6_140502.M

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(#) = Out of Range

PHYSIS

Continuing Calibration Data

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Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
 Data File : MIX_500_PCB_100_ICV.D
 Acq On : 15 Apr 2014 03:49 pm
 Operator :
 Sample : MIX_500_PCB_100_ICV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: May 09 10:43:45 2014

Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_PCB+6_140502.M

Quant Title : PCBs (Richs Version)

QLast Update : Fri May 09 10:42:15 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	42.523	312	1034919	1000.00		0.03
34) 2,2',5,5'-Tetrabromobi...	53.683	389	221084	1000.00		0.04
Target Compounds						Qvalue
2) PCB003	26.256	188	177770	97.29		99
3) PCB008	30.939	222	143286	99.22	#	49
4) PCB005	30.939	222	143171	107.13	#	36
5) PCB018	34.172	256	73607	104.15		98
6) PCB015	0.000		0	N.D.		
7) PCB027	0.000		0	N.D. d		
8) PCB029	0.000		0	N.D.		
9) PCB031	37.626	256	104175	92.41		91
10) PCB028	37.726	256	110887	96.50	#	93
11) PCB033	38.436	256	101796	92.64		94
12) PCB052	40.322	292	73952	96.34		90
13) PCB049	40.651	292	76761	96.58		97
14) PCB044	41.849	292	64783	96.18		94
15) PCB037	42.143	256	109674	97.36		96
16) PCB074	44.525	292	105779	97.38		93
17) PCB070	44.789	292	109598	98.97		97
18) PCB066	45.055	292	108355	95.46	#	99
19) PCB095	45.084	326	67818	95.44		97
20) PCB056(060)	46.270	292	91524	91.24		99
21) PCB101	46.796	326	73226	97.10		93
22) PCB099	47.186	326	81330	100.01	#	95
23) PCB119	47.641	326	94398m	97.04		
24) PCB097	48.341	326	64497m	97.38		
25) PCB087	48.716	326	70272	99.55	#	86
26) PCB081	48.764	292	111435	101.37		97
27) PCB110	49.435	326	96935	99.38		97
28) PCB077	49.473	292	109185	99.74		88
29) PCB151	50.323	360	63152	101.35		96
30) PCB149	51.180	360	70284	101.86		94
31) PCB123	51.164	326	97641	99.30		93
32) PCB118	51.341	326	101128	95.98	#	86
33) PCB114	52.136	326	103683	104.19	#	96
35) PCB153	52.959	360	74693	100.36	#	96
36) PCB168+132	53.125	360	143088	203.52		97
37) PCB105	53.220	326	106439	100.24	#	96
38) PCB141	53.842	360	65031	99.71		96
39) PCB137	0.000		0	N.D. d		
40) PCB138	54.902	360	68186	101.23	#	99
41) PCB158	55.075	360	90167	99.86	#	97
42) PCB126	55.560	326	101508	103.67	#	97
43) PCB187	56.083	394	58857	101.62	#	87
44) PCB183	56.435	394	60988	101.51	#	96
45) PCB128	56.797	360	59684	104.37	#	69
46) PCB167	56.918	360	91698	98.47	#	93
47) PCB174	57.691	394	56211	101.55		94
48) PCB177	58.075	394	57083	106.51	#	100
49) PCB156	58.494	360	96379	107.14	#	83
50) PCB199(200)	58.849	430	70411	111.12	#	98
51) PCB157	58.872	360	120024	106.20		97
52) PCB180	59.654	394	62421	109.77		99
53) PCB169	61.122	360	95679	106.12	#	95
54) PCB170	61.650	394	57075	111.31	#	95
55) PCB201	62.236	430	54117m	131.29		

Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
Data File : MIX_500_PCB_100_ICV.D
Acq On : 15 Apr 2014 03:49 pm
Operator :
Sample : MIX_500_PCB_100_ICV
Misc :
ALS Vial : 131 Sample Multiplier: 1

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Quant Time: May 09 10:43:45 2014
Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_PCB+6_140502.M
Quant Title : PCBs (Richs Version)
QLast Update : Fri May 09 10:42:15 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	0.000		0	N.D.	d	
57) PCB189	63.640	394	83130	109.08	#	95
58) PCB195	64.618	430	47368	107.80	#	94
59) PCB194	65.976	430	57141	121.75	#	98
60) PCB206	68.450	464	47199	117.86	#	91
61) PCB209	70.411	498	51919	118.19	#	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
 Data File : PCB100CCV.D
 Acq On : 16 Apr 2014 11:21 pm
 Operator :
 Sample : PCB100CCV
 Misc :
 ALS Vial : 123 Sample Multiplier: 1

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Quant Time: May 09 10:41:44 2014

Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_PCB+6_140502.M

Quant Title : PCBs (Richs Version)

QLast Update : Fri May 09 10:39:49 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	42.494	312	1303792	1000.00		0.00
34) 2,2',5,5'-Tetrabromobi...	53.646	389	261104	1000.00		0.00
Target Compounds						
					Qvalue	
2) PCB003	26.234	188	240005	104.26		98
3) PCB008	30.917	222	180311	99.11	#	48
4) PCB005	30.964	222	162306m	96.40		
5) PCB018	34.145	256	117762	132.27		97
6) PCB015	34.350	222	184159	96.60		98
7) PCB027	34.943	256	89108	96.19	#	93
8) PCB029	36.607	256	129142	94.72		95
9) PCB031	37.597	256	155753	109.67		93
10) PCB028	37.694	256	179447m	123.96		
11) PCB033	38.406	256	141391	102.14		93
12) PCB052	40.295	292	121311	125.45		91
13) PCB049	40.622	292	123361	123.21		94
14) PCB044	41.819	292	106243	125.20		95
15) PCB037	42.112	256	182024	128.26		96
16) PCB074	44.491	292	167653	122.51		96
17) PCB070	44.757	292	167530	120.09		97
18) PCB066	45.026	292	165390	115.66	#	98
19) PCB095	45.053	326	91819	102.56		96
20) PCB056(060)	46.237	292	121763	96.35		96
21) PCB101	46.766	326	117789	123.98		92
22) PCB099	47.149	326	125410	122.41	#	97
23) PCB119	47.610	326	148960m	121.56		
24) PCB097	48.311	326	85390m	102.33		
25) PCB087	48.688	326	108103	121.56		90
26) PCB081	48.729	292	172537	124.58		98
27) PCB110	49.403	326	152723	124.29		98
28) PCB077	49.437	292	172480	125.07		89
29) PCB151	50.296	360	94489	120.37		95
30) PCB149	51.148	360	101152	116.36		95
31) PCB123	51.131	326	150395	121.41		94
32) PCB118	51.312	326	154249	116.20		89
33) PCB114	52.100	326	146231	116.64	#	99
35) PCB153	52.924	360	108683	123.65	#	93
36) PCB168+132	53.095	360	198876	239.51		99
37) PCB105	53.183	326	158281	126.21	#	94
38) PCB141	53.807	360	82335	106.89		97
39) PCB137	54.295	360	63427	94.51		91
40) PCB138	54.864	360	97552	122.62	#	99
41) PCB158	55.049	360	131666	123.47	#	98
42) PCB126	55.530	326	148025	128.00	#	98
43) PCB187	56.052	394	85455	124.93	#	90
44) PCB183	56.405	394	86739	122.24	#	99
45) PCB128	56.765	360	88644m	131.26		
46) PCB167	56.883	360	133099	121.02	#	92
47) PCB174	57.662	394	68940	105.46		98
48) PCB177	58.047	394	77080	121.78	#	100
49) PCB156	58.457	360	128075	120.56	#	84
50) PCB199(200)	58.816	430	96373	128.78	#	97
51) PCB157	58.835	360	167338	125.37		93
52) PCB180	59.611	394	86589	128.94		100
53) PCB169	61.083	360	129847	121.95	#	95
54) PCB170	61.612	394	78863	130.22	#	99
55) PCB201	62.196	430	60786m	124.87		

Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
Data File : PCB100CCV.D
Acq On : 16 Apr 2014 11:21 pm
Operator :
Sample : PCB100CCV
Misc :
ALS Vial : 123 Sample Multiplier: 1

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Quant Time: May 09 10:41:44 2014
Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_PCB+6_140502.M
Quant Title : PCBs (Richs Version)
QLast Update : Fri May 09 10:39:49 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	62.562	430	60473	102.07		94
57) PCB189	63.593	394	104824	116.46	#	98
58) PCB195	64.585	430	62280	120.02	#	97
59) PCB194	65.933	430	76338	137.72	#	98
60) PCB206	68.400	464	69901	147.80	#	90
61) PCB209	70.369	498	57728	111.27	#	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
 Data File : PCB100FCV.D
 Acq On : 17 Apr 2014 04:43 pm
 Operator :
 Sample : PCB100FCV
 Misc :
 ALS Vial : 123 Sample Multiplier: 1

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Quant Time: May 09 10:45:17 2014

Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_PCB+6_140502.M

Quant Title : PCBs (Richs Version)

QLast Update : Fri May 09 10:42:15 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	42.481	312	1077827	1000.00		-0.01
34) 2,2',5,5'-Tetrabromobi...	53.635	389	212569	1000.00		-0.01
Target Compounds						
					Qvalue	
2) PCB003	26.228	188	201833	106.06		100
3) PCB008	30.908	222	151056	100.43	#	56
4) PCB005	30.965	222	135600m	97.42		
5) PCB018	34.136	256	95942	130.35		99
6) PCB015	34.339	222	153076	97.13		99
7) PCB027	34.929	256	74776	97.65	#	92
8) PCB029	36.599	256	106935	94.87		97
9) PCB031	37.586	256	128248	109.23		96
10) PCB028	37.691	256	149355	124.80	#	100
11) PCB033	38.399	256	116657	101.94		93
12) PCB052	40.284	292	97834	122.38		93
13) PCB049	40.613	292	102465	123.79		95
14) PCB044	41.809	292	88387	125.99		98
15) PCB037	42.100	256	147996	126.15		97
16) PCB074	44.483	292	136456	120.62		96
17) PCB070	44.745	292	137566	119.28		96
18) PCB066	45.017	292	135650	114.75	#	100
19) PCB095	45.041	326	74647	100.86		96
20) PCB056(060)	46.223	292	104438	99.97		95
21) PCB101	46.757	326	96675	123.09		92
22) PCB099	47.140	326	100634	118.82	#	94
23) PCB119	47.600	326	123848m	122.25		
24) PCB097	48.300	326	66902	96.99		92
25) PCB087	48.678	326	90114	122.58		90
26) PCB081	48.719	292	143664	125.48		98
27) PCB110	49.396	326	122521	120.62		97
28) PCB077	49.428	292	137581	120.68		93
29) PCB151	50.287	360	78439	120.87		97
30) PCB149	51.136	360	82007	114.11		97
31) PCB123	51.124	326	123694	120.79		95
32) PCB118	51.300	326	130420	118.85		89
33) PCB114	52.092	326	121957	117.67	#	97
35) PCB153	52.909	360	90934	127.08	#	96
36) PCB168+132	53.082	360	161272	238.57		100
37) PCB105	53.172	326	127124	124.51	#	95
38) PCB141	53.797	360	66861	106.62		96
39) PCB137	54.284	360	54402	99.57		91
40) PCB138	54.860	360	79487	122.73	#	99
41) PCB158	55.039	360	105724	121.78	#	97
42) PCB126	55.517	326	120296	127.78	#	96
43) PCB187	56.040	394	71266	127.97	#	87
44) PCB183	56.402	394	71186	123.23	#	95
45) PCB128	56.761	360	70671	128.54	#	67
46) PCB167	56.875	360	109023	121.77	#	89
47) PCB174	57.651	394	55221	103.76		96
48) PCB177	58.038	394	62592	121.47	#	100
49) PCB156	58.447	360	101683	117.57	#	85
50) PCB199(200)	58.812	430	79745	130.89	#	97
51) PCB157	58.827	360	133992	123.31		95
52) PCB180	59.610	394	70170	128.34		99
53) PCB169	61.078	360	104566	120.63	#	94
54) PCB170	61.604	394	62971	127.72	#	95
55) PCB201	62.196	430	50050m	126.29		

Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
Data File : PCB100FCV.D
Acq On : 17 Apr 2014 04:43 pm
Operator :
Sample : PCB100FCV
Misc :
ALS Vial : 123 Sample Multiplier: 1

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Quant Time: May 09 10:45:17 2014
Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_PCB+6_140502.M
Quant Title : PCBs (Richs Version)
QLast Update : Fri May 09 10:42:15 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	62.548	430	49442	102.51		94
57) PCB189	63.583	394	86776	118.42	#	95
58) PCB195	64.568	430	49658	117.54	#	99
59) PCB194	65.921	430	63523m	140.77		
60) PCB206	68.394	464	57103	148.30	#	93
61) PCB209	70.359	498	48581	115.02	#	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PCB100 ICV			PCB100 CCV			PCB100 FCV		
	4/15/14 3:49 PM			4/16/14 11:21 PM			4/17/14 4:43 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PCB003	100	97.29	3	100	104.26	4	100	106.06	6
PCB008	100	99.22	1	100	99.11	1	100	100.43	0
PCB005	0	0	NA	100	96.4	4	100	97.42	3
PCB018	100	104.15	4	100	132.27	32	100	130.35	30
PCB015	0	0	NA	100	96.6	3	100	97.13	3
PCB027	0	0	NA	100	96.19	4	100	97.65	2
PCB029	0	0	NA	100	94.72	5	100	94.87	5
PCB031	100	92.41	8	100	109.67	10	100	109.23	9
PCB028	100	96.5	4	100	123.96	24	100	124.8	25
PCB033	100	92.64	7	100	102.14	2	100	101.94	2
PCB052	100	96.34	4	100	125.45	25	100	122.38	22
PCB049	100	96.58	3	100	123.21	23	100	123.79	24
PCB044	100	96.18	4	100	125.2	25	100	125.99	26
PCB037	100	97.36	3	100	128.26	28	100	126.15	26
PCB074	100	97.38	3	100	122.51	23	100	120.62	21
PCB070	100	98.97	1	100	120.09	20	100	119.28	19
PCB066	100	95.46	5	100	115.66	16	100	114.75	15
PCB095	100	95.44	5	100	102.56	3	100	100.86	1
PCB056 (060)	100	91.24	9	100	96.35	4	100	99.97	0
PCB101	100	97.1	3	100	123.98	24	100	123.09	23
PCB099	100	100.01	0	100	122.41	22	100	118.82	19
PCB119	100	97.04	3	100	121.56	22	100	122.25	22
PCB097	100	97.38	3	100	102.33	2	100	96.99	3
PCB087	100	99.55	0	100	121.56	22	100	122.58	23
PCB081	100	101.37	1	100	124.58	25	100	125.48	25
PCB110	100	99.38	1	100	124.29	24	100	120.62	21
PCB077	100	99.74	0	100	125.07	25	100	120.68	21
PCB151	100	101.35	1	100	120.37	20	100	120.87	21
PCB149	100	101.86	2	100	116.36	16	100	114.11	14
PCB123	100	99.3	1	100	121.41	21	100	120.79	21
PCB118	100	95.98	4	100	116.2	16	100	118.85	19
PCB114	100	104.19	4	100	116.64	17	100	117.67	18
PCB153	100	100.36	0	100	123.65	24	100	127.08	27
PCB168+132	200	203.52	2	200	239.51	20	200	238.57	19
PCB105	100	100.24	0	100	126.21	26	100	124.51	25
PCB141	100	99.71	0	100	106.89	7	100	106.62	7
PCB137	0	0	NA	100	94.51	5	100	99.57	0
PCB138	100	101.23	1	100	122.62	23	100	122.73	23
PCB158	100	99.86	0	100	123.47	23	100	121.78	22
PCB126	100	103.67	4	100	128	28	100	127.78	28
PCB187	100	101.62	2	100	124.93	25	100	127.97	28
PCB183	100	101.51	2	100	122.24	22	100	123.23	23
PCB128	100	104.37	4	100	131.26	31	100	128.54	29
PCB167	100	98.47	2	100	121.02	21	100	121.77	22
PCB174	100	101.55	2	100	105.46	5	100	103.76	4
PCB177	100	106.51	7	100	121.78	22	100	121.47	21
PCB156	100	107.14	7	100	120.56	21	100	117.57	18
PCB199 (200)	100	111.12	11	100	128.78	29	100	130.89	31
PCB157	100	106.2	6	100	125.37	25	100	123.31	23
PCB180	100	109.77	10	100	128.94	29	100	128.34	28
PCB169	100	106.12	6	100	121.95	22	100	120.63	21
PCB170	100	111.31	11	100	130.22	30	100	127.72	28
PCB201	100	131.29	31	100	124.87	25	100	126.29	26
PCB203	0	0	NA	100	102.07	2	100	102.51	3
PCB189	100	109.08	9	100	116.46	16	100	118.42	18
PCB195	100	107.8	8	100	120.02	20	100	117.54	18
PCB194	100	121.75	22	100	137.72	38	100	140.77	41
PCB206	100	117.86	18	100	147.8	48	100	148.3	48
PCB209	100	118.19	18	100	111.27	11	100	115.02	15
Average	-	-	5	-	-	19	-	-	18

Polynuclear

Aromatic

Hydrocarbons

(PAHs)

PHYSIS

Summary of Internal Standards

TERRA FACTA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

	D10-Anthracene		D-12 Perylene	
	Response	Retention Time	Response	Retention Time
PAH500SPEX	5623939	34.402	6089664	79.375
B_5125	9869541	34.4	8887575	79.369
BS1_5125	11661518	34.399	8976735	79.364
BS2_5125	12178805	34.355	9212147	79.278
22079MS1	15593002	34.399	5833317	79.364
22079MS2	14304380	34.397	4016867	79.36
22088	16350725	34.404	3727983	79.376
22078	14460323	34.391	4559648	79.354
22079	15232263	34.389	4602807	79.348
22079R2	16822632	34.388	5402298	79.348
22080	16414232	34.384	5211719	79.345
22081	16537681	34.383	10582609	79.348
22082	12750740	34.382	2093426	79.339
22083	17119136	34.38	2872653	79.333
PAH500CCV	5589844	34.376	5417521	79.334
22084	16597769	34.373	5083274	79.322
22085	12840261	34.372	2567006	79.323
22086	15086812	34.372	3168525	79.323
22087	15148565	34.368	3434242	79.321
22100	11281737	34.37	2898549	79.332
22101	17399440	34.375	15368572	79.356
22102	9410733	34.369	2008854	79.331
22103	11584776	34.37	2487452	79.322
PAH500FCV	4334987	34.364	4134030	79.321

PHYSIS

Initial Calibration Data

TERRA

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AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\

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Method File : Q_PAH140411.M

Title : PAH

Last Update : Mon Apr 21 14:15:24 2014

Response Via : Initial Calibration

Calibration Files

500 =PAH500.D 250 =PAH250.D 1000=PAH1000.D 100 =PAH100.D 50 =PAH50.D 25 =PAH25.D

Compound		500	250	1000	100	50	25	Avg	%RSD

1) I	d10-Anthracene	-----ISTD-----							
2) S	(d8-Naphthalene)	1.213	1.007	0.376	0.923	0.870	0.885	0.879	31.49
3) S	(d10-Acenaphth...	0.671	0.606	0.519	0.573	0.548	0.553	0.578	9.29
4) S	(d10-Phenanthr...	1.058	1.054	1.045	1.054	1.034	1.037	1.047	0.93
5) S	(d12-Chrysene)	1.109	1.189	1.230	1.170	1.241	1.224	1.194	4.16
6) S	(d12-Perylene)	1.082	1.162	1.202	1.129	1.244	1.208	1.171	5.04
7)	Naphthalene	1.169	0.977		0.883	0.839	0.851	0.944	14.52
8)	2-Methylnaphth...	0.823	0.707		0.655	0.622	0.625	0.686	12.20
9)	1-Methylnaphth...	0.729	0.631		0.582	0.553	0.558	0.611	11.95
10)	Biphenyl	1.013	0.888		0.831	0.781	0.787	0.860	11.12
11)	2,6-Dimethylna...	0.737	0.656		0.608	0.572	0.577	0.630	10.88
12)	Acenaphthylene	1.089	0.960		0.919	0.872	0.886	0.945	9.21
13)	Acenaphthene	0.704	0.630		0.602	0.570	0.570	0.615	9.09
14)	2,3,5-Trimethy...	0.673	0.625	0.577	0.596	0.564	0.587	0.604	6.60
15)	Fluorene	0.787	0.732	0.694	0.709	0.706	0.726	0.726	4.59
16)	Dibenzothiophene	1.022	1.009	0.985	1.001	0.981	0.990	0.998	1.59
17)	Phenanthrene	1.081	1.065	1.060	1.053	1.026	1.012	1.050	2.46
18)	Anthracene	1.047	1.043	1.059	1.031	1.010	1.018	1.035	1.79
19)	1-Methylphenan...	0.750	0.775	0.822	0.774	0.753	0.795	0.778	3.51
20)	Fluoranthene	1.105	1.146	1.215	1.137	1.143	1.151	1.149	3.13
21)	Pyrene	1.127	1.179	1.220	1.178	1.174	1.176	1.176	2.52
22)	Benz[a]anthracene	1.067	1.125	1.177	1.117	1.192	1.205	1.147	4.62
23)	Chrysene	1.045	1.107	1.157	1.096	1.155	1.141	1.117	3.87
24)	Benzo[b]fluora...	1.144	1.217	1.232	1.158	1.216	1.209	1.196	3.01
25)	Benzo[k]fluora...	1.250	1.322	1.339	1.259	1.421	1.312	1.317	4.71
26)	Benzo[e]pyrene	1.142	1.221	1.198	1.176	1.244	1.279	1.210	4.04
27)	Benzo[a]pyrene	1.122	1.198	1.196	1.123	1.235	1.198	1.179	3.90
28)	Perylene	1.136	1.220	1.212	1.164	1.271	1.283	1.214	4.75

29) I	d12-Benzo[g,h,i]pe...	-----ISTD-----							
30)	Indeno[1,2,3-c...	1.359	1.351	1.394	1.332	1.320	1.250	1.334	3.64
31)	Dibenz[a,h]ant...	1.340	1.322	1.355	1.310	1.308	1.376	1.335	2.04
32)	Benzo[g,h,i]pe...	1.417	1.451	1.416	1.450	1.419	1.448	1.434	1.25

(#) = Out of Range

PHYSIS

Continuing Calibration Data

TERRA

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AQUA

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
 Data File : MIX_500_PCB_100_ICV.D
 Acq On : 15 Apr 2014 03:49 pm
 Operator :
 Sample : MIX_500_PCB_100_ICV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: May 08 12:40:30 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Mon Apr 21 14:15:24 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	34.402	188	5623939	2000.00		0.03
29) d12-Benzo[g,h,i]perylene	79.375	288	6089664	2000.00		0.05
System Monitoring Compounds						
2) (d8-Naphthalene)	14.072	136	3036493	1228.56		0.00
3) (d10-Acenaphthene)	22.738	164	1688709	1038.30		0.02
4) (d10-Phenanthrene)	33.990	188	3006113	1021.03		0.03
5) (d12-Chrysene)	57.959	240	3421696	1019.16		0.04
6) (d12-Perylene)	70.177	264	3759458	1141.41		0.04
Target Compounds						Qvalue
7) Naphthalene	14.139	128	1652922	524.69		100
8) 2-Methylnaphthalene	16.819	142	1087513	487.21		100
9) 1-Methylnaphthalene	17.321	142	1122788	567.06		99
10) Biphenyl	19.226	154	1375708	498.44		100
11) 2,6-Dimethylnaphthalene	20.102	156	927075	460.45		99
12) Acenaphthylene	21.727	152	1482839	498.94		100
13) Acenaphthene	22.944	153	983192	509.94		99
14) 2,3,5-Trimethylnaphtha...	25.780	170	767350	456.64		100
15) Fluorene	26.550	166	1165338	581.06		98
16) Dibenzothiophene	33.119	184	1558142	558.07		100
17) Phenanthrene	34.174	178	1726822	577.05		100
18) Anthracene	34.552	178	1247018	420.08		100
19) 1-Methylphenanthrene	39.701	192	1144972	505.17		98
20) Fluoranthene	44.715	202	1761194	526.41		100
21) Pyrene	46.609	202	1874083	555.32		100
22) Benz[a]anthracene	57.835	228	1714734	528.56		100
23) Chrysene	58.178	228	1797200	563.86		100
24) Benzo[b]fluoranthene	67.239	252	2011614	589.27		100
25) Benzo[k]fluoranthene	67.436	252	2191480	589.84		100
26) Benzo[e]pyrene	69.332	252	1901650	569.06		100
27) Benzo[a]pyrene	69.697	252	1949595	586.56		100
28) Perylene	70.367	252	1888186	560.64		100
30) Indeno[1,2,3-c,d]pyrene	77.891	276	2095899	497.23		100
31) Dibenz[a,h]anthracene	78.162	278	2161365	525.62		100
32) Benzo[g,h,i]perylene	79.555	276	2421966	560.85		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
 Data File : PAH500CCV.D
 Acq On : 16 Apr 2014 08:12 pm
 Operator :
 Sample : PAH500CCV
 Misc :
 ALS Vial : 121 Sample Multiplier: 1

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Quant Time: May 08 12:39:18 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Thu May 08 12:39:05 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	34.376	188	5589844	2000.00		0.00
29) d12-Benzo[g,h,i]perylene	79.334	288	5417521	2000.00		0.00
System Monitoring Compounds						
2) (d8-Naphthalene)	14.069	136	3269080	1330.73		0.00
3) (d10-Acenaphthene)	22.724	164	1750687	1082.97		0.00
4) (d10-Phenanthrene)	33.962	188	2907839	993.68		0.00
5) (d12-Chrysene)	57.922	240	3171606	950.44		0.00
6) (d12-Perylene)	70.138	264	3329589	1017.07		0.00
Target Compounds						Qvalue
7) Naphthalene	14.135	128	1571428	501.86		100
8) 2-Methylnaphthalene	16.812	142	1082040	487.72		99
9) 1-Methylnaphthalene	17.313	142	969490	492.62		99
10) Biphenyl	19.217	154	1319690	481.06		100
11) 2,6-Dimethylnaphthalene	20.089	156	956779	478.10		98
12) Acenaphthylene	21.712	152	1453492	492.05		100
13) Acenaphthene	22.929	153	931750	486.20		100
14) 2,3,5-Trimethylnaphtha...	25.761	170	853498	511.00		99
15) Fluorene	26.531	166	1048951	526.22		98
16) Dibenzothiophene	33.092	184	1400298	504.60		100
17) Phenanthrene	34.143	178	1479308	497.35		100
18) Anthracene	34.524	178	1449103	491.13		100
19) 1-Methylphenanthrene	39.670	192	1011369	448.94		98
20) Fluoranthene	44.682	202	1498941	450.75		100
21) Pyrene	46.576	202	1558841	464.72		100
22) Benz[a]anthracene	57.801	228	1413833	438.47		100
23) Chrysene	58.144	228	1462540	461.66		100
24) Benzo[b]fluoranthene	67.204	252	1505240	443.63		100
25) Benzo[k]fluoranthene	67.398	252	1714118	464.17		100
26) Benzo[e]pyrene	69.299	252	1559662	469.57		100
27) Benzo[a]pyrene	69.661	252	1573973	476.44		100
28) Perylene	70.329	252	1619407	483.77		100
30) Indeno[1,2,3-c,d]pyrene	77.851	276	1703653	454.32		100
31) Dibenz[a,h]anthracene	78.126	278	1689950	461.97		100
32) Benzo[g,h,i]perylene	79.513	276	1914684	498.39		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
 Data File : PAH500FCV.D
 Acq On : 17 Apr 2014 01:34 pm
 Operator :
 Sample : PAH500FCV
 Misc :
 ALS Vial : 121 Sample Multiplier: 1

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Quant Time: May 08 12:41:31 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Mon Apr 21 14:15:24 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	34.364	188	4334987	2000.00		0.00
29) d12-Benzo[g,h,i]perylene	79.321	288	4134030	2000.00		0.00
System Monitoring Compounds						
2) (d8-Naphthalene)	14.066	136	3329883	1747.85		0.00
3) (d10-Acenaphthene)	22.717	164	1590869	1268.98		0.00
4) (d10-Phenanthrene)	33.951	188	2280625	1004.94		0.00
5) (d12-Chrysene)	57.907	240	2340066	904.24		0.00
6) (d12-Perylene)	70.124	264	2573615	1013.71		0.00
Target Compounds						Qvalue
7) Naphthalene	14.132	128	1587402	653.72		100
8) 2-Methylnaphthalene	16.808	142	1064573	618.74		99
9) 1-Methylnaphthalene	17.308	142	937391	614.19		100
10) Biphenyl	19.212	154	1239996	582.86		100
11) 2,6-Dimethylnaphthalene	20.084	156	883904	569.54		99
12) Acenaphthylene	21.705	152	1335012	582.77		100
13) Acenaphthene	22.923	153	837158	563.30		99
14) 2,3,5-Trimethylnaphtha...	25.753	170	727471	561.63		98
15) Fluorene	26.523	166	895347	579.18		97
16) Dibenzothiophene	33.083	184	1111991	516.70		100
17) Phenanthrene	34.136	178	1174137	509.02		100
18) Anthracene	34.514	178	1117163	488.23		100
19) 1-Methylphenanthrene	39.659	192	762368	436.37		99
20) Fluoranthene	44.670	202	1110006	430.42		100
21) Pyrene	46.563	202	1132327	435.29		100
22) Benz[a]anthracene	57.788	228	1074360	429.64		100
23) Chrysene	58.129	228	1085236	441.72		100
24) Benzo[b]fluoranthene	67.187	252	1165884	443.08		100
25) Benzo[k]fluoranthene	67.384	252	1333333	465.58		100
26) Benzo[e]pyrene	69.278	252	1201661	466.51		100
27) Benzo[a]pyrene	69.647	252	1219719	476.08		100
28) Perylene	70.314	252	1267824	488.38		100
30) Indeno[1,2,3-c,d]pyrene	77.841	276	1313958	459.18		100
31) Dibenz[a,h]anthracene	78.111	278	1296511	464.45		100
32) Benzo[g,h,i]perylene	79.494	276	1434460	489.32		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PAH500 ICV			PAH500 CCV			PAH500 FCV		
	4/15/14 3:49 PM			4/16/14 8:12 PM			4/17/14 1:34 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
d8-Naphthalene	1000	1229	23	1000	1331	33	1000	1748	75
d10-Acenaphthene	1000	1038	4	1000	1083	8	1000	1269	27
d10-Phenanthrene	1000	1021	2	1000	994	1	1000	1005	0
d10-Chrysene	1000	1019	2	1000	950	5	1000	904	10
d12-Perylene	1000	1141	14	1000	1017	2	1000	1014	1
Naphthalene	500	525	5	500	502	0	500	654	31
2-Methylnaphthalene	500	487	3	500	488	2	500	619	24
1-Methylnaphthalene	500	567	13	500	493	1	500	614	23
Biphenyl	500	498	0	500	481	4	500	583	17
2,6-Dimethylnaphthalene	500	460	8	500	478	4	500	570	14
Acenaphthylene	500	499	0	500	492	2	500	583	17
Acenaphthene	500	510	2	500	486	3	500	563	13
2,3,5-Trimethylnaphthalene	500	457	9	500	511	2	500	562	12
Fluorene	500	581	16	500	526	5	500	579	16
Dibenzothiophene	500	558	12	500	505	1	500	517	3
Phenanthrene	500	577	15	500	497	1	500	509	2
Anthracene	500	420	16	500	491	2	500	488	2
1-Methylphenanthrene	500	505	1	500	449	10	500	436	13
Fluoranthene	500	526	5	500	451	10	500	430	14
Pyrene	500	555	11	500	465	7	500	435	13
Benz[a]anthracene	500	529	6	500	438	12	500	430	14
Chrysene	500	564	13	500	462	8	500	442	12
Benzo[b]fluoranthene	500	589	18	500	444	11	500	443	11
Benzo[k]fluoranthene	500	590	18	500	464	7	500	466	7
Benzo[e]pyrene	500	569	14	500	470	6	500	467	7
Benzo[a]pyrene	500	587	17	500	476	5	500	476	5
Perylene	500	561	12	500	484	3	500	488	2
Indeno[1,2,3-c,d]pyrene	500	497	1	500	454	9	500	459	8
Dibenz[a,h]anthracene	500	526	5	500	462	8	500	464	7
Benzo[g,h,i]perylene	500	561	12	500	498	0	500	489	2
Average	-	-	9	-	-	6	-	-	13

Organics - GC-MS-NCI

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Analytical Solutions
(EPA 8270C)

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Instrument Run Log

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

2014 Apr 02 1456 Sequence Log .LOG
 Starting sequence Wed Apr 02 14:56:34 2014

Instrument Name: GCMS1
 Sequence File: C:\MSDCHEM\1\SEQUENCE\140330 NCI.S
 Comment:
 Operator:
 Data Path: C:\MSDCHEM\1\DATA\140402 NCI\
 Method Path: C:\MSDCHEM\1\METHODS\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	106	PYR1000Pre		
	Datafile		PYR1000Pre		
	Method		NCI		
2)	Sample	101	PYR25	NCI	PYR25
3)	Sample	102	PYR50	NCI	PYR50
4)	Sample	103	PYR100	NCI	PYR100
5)	Sample	104	PYR250	NCI	PYR250
6)	Sample	105	PYR500	NCI	PYR500
7)	Sample	106	PYR1000	NCI	PYR1000
8)	Sample	131	PYR_SPEX500I CV		
	Datafile		PYR_SPEX500I CV		
	Method		NCI		
9)	Sample	111	TRAL0500I CV		
	Datafile		TRAL0500I CV		
	Method		NCI		
10)	Sample	121	PBDE+49_10		
	Datafile		PBDE+49_10		
	Method		NCI		
11)	Sample	122	PBDE+49_25		
	Datafile		PBDE+49_25		
	Method		NCI		
12)	Sample	123	PBDE+49_50		
	Datafile		PBDE+49_50		
	Method		NCI		
13)	Sample	124	PBDE+49_75		
	Datafile		PBDE+49_75		
	Method		NCI		
14)	Sample	125	PBDE+49_100		
	Datafile		PBDE+49_100		
	Method		NCI		
15)	Sample	126	PBDE+49_200		
	Datafile		PBDE+49_200		
	Method		NCI		
16)	Sample	91	FI P25	NCI	FI P25
17)	Sample	92	FI P50	NCI	FI P50
18)	Sample	93	FI P100	NCI	FI P100
19)	Sample	94	FI P250	NCI	FI P250
20)	Sample	95	FI P500	NCI	FI P500
21)	Sample	96	FI P1000	NCI	FI P1000
22)	Sample	1	B_5125	NCI	B_5125
23)	Sample	2	BS1_5125	NCI	BS1_5125
24)	Sample	3	BS2_5125	NCI	BS2_5125
25)	Sample	4	22079MS1	NCI	22079MS1
26)	Sample	5	22079MS2	NCI	22079MS2
27)	Sample	6	22088	NCI	22088
28)	Sample	7	22078	NCI	22078
29)	Sample	8	22079	NCI	22079
30)	Sample	9	22079R2	NCI	22079R2
31)	Sample	10	22080	NCI	22080
32)	Sample	11	22081	NCI	22081
33)	Sample	12	22082	NCI	22082
34)	Sample	13	22083	NCI	22083

2014 Apr 02 1456 Sequence Log . LOG

35) Sample	105	PYR500CCV		
Datafile		PYR500CCV		
Method		NCI		
36) Sample	95	FIP500CCV		
Datafile		FIP500CCV		
Method		NCI		
37) Sample	125	PBDE+49_100CCV		
Datafile		PBDE+49_100CCV		
Method		NCI		
38) Sample	14	22084rr	NCI	22084
39) Sample	15	22085	NCI	22085
40) Sample	16	22086	NCI	22086
41) Sample	17	22087	NCI	22087
42) Sample	18	22100	NCI	22100
43) Sample	19	22101	NCI	22101
44) Sample	20	22102	NCI	22102
45) Sample	21	22103	NCI	22103
46) Sample	105	PYR500FCV		
Datafile		PYR500FCV		
Method		NCI		
47) Sample	95	FIP500FCV		
Datafile		FIP500FCV		
Method		NCI		

Sequence completed Fri Apr 04 17: 28: 34 2014

C: \MSDCHEM\1\DATA\140402 NCI\2014 Apr 02 1456 Qual i ty Log. LOG
 C: \MSDCHEM\1\DATA\140402 NCI\2014 Apr 02 1456 Sequence Log . LOG

2014 Apr 09 1026 Sequence Log .LOG
Starting sequence Tue Apr 08 18:10:17 2014

Instrument Name: GCMS1
Sequence File: C:\MSDCHEM\1\SEQUENCE\Q2_140408 NCI PBDE 0-5125.S
Comment:
Operator:
Data Path: C:\MSDCHEM\1\DATA\Q2_140408 NCI PBDE 0-5125_RR\
Method Path: C:\MSDCHEM\1\METHODS\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	136	PBDE200A		
	Datafile		PBDE200A		
	Method		04082014_PBDE_NCI		
2)	Sample	136	PBDE200B		
	Datafile		PBDE200B		
	Method		04082014_PBDE_NCI		
3)	Sample	131	PBDE10		
	Datafile		PBDE10		
	Method		04082014_PBDE_NCI		
4)	Sample	132	PBDE25		
	Datafile		PBDE25		
	Method		04082014_PBDE_NCI		
5)	Sample	133	PBDE50		
	Datafile		PBDE50		
	Method		04082014_PBDE_NCI		
6)	Sample	134	PBDE75		
	Datafile		PBDE75		
	Method		04082014_PBDE_NCI		
7)	Sample	135	PBDE100		
	Datafile		PBDE100		
	Method		04082014_PBDE_NCI		
8)	Sample	136	PBDE200		
	Datafile		PBDE200		
	Method		04082014_PBDE_NCI		

Wed Apr 09 10:11:52 2014
Fatal sequence error detected.
GC Prerun Aborted

C:\MSDCHEM\1\DATA\Q2_140408 NCI PBDE 0-5125_RR\2014 Apr 08 1810 Quality
Log.LOG
C:\MSDCHEM\1\DATA\Q2_140408 NCI PBDE 0-5125_RR\2014 Apr 08 1810 Sequence Log
.LOG

Resuming sequence Wed Apr 09 10:23:20 2014

Instrument Name: GCMS1
Sequence File: C:\msdchem\1\sequence\Q2_140408 NCI PBDE 0-5125.S
Comment:
Operator:
Data Path: C:\MSDCHEM\1\DATA\Q2_140408 NCI PBDE 0-5125_RR\
Method Path: C:\MSDCHEM\1\METHODS\

Line	Type	Vial	DataFile	Method	Sample Name
------	------	------	----------	--------	-------------

Wed Apr 09 10:23:45 2014
Fatal sequence error detected.
GC Prerun Aborted

2014 Apr 09 1026 Sequence Log .LOG

C:\MSDCHEM\1\DATA\Q2_140408 NCI PBDE 0-5125_RR\2014 Apr 09 1023 Quality
Log.LOG

C:\MSDCHEM\1\DATA\Q2_140408 NCI PBDE 0-5125_RR\2014 Apr 09 1023 Sequence Log
.LOG

Resumi ng sequence Wed Apr 09 10:26:19 2014

Instrument Name: GCMS1

Sequence File: C:\msdchem\1\sequence\Q2_140408 NCI PBDE 0-5125.S

Comment:

Operator:

Data Path: C:\MSDCHEM\1\DATA\Q2_140408 NCI PBDE 0-5125_RR\

Method Path: C:\MSDCHEM\1\METHODS\

Line	Type	Vial	DataFile	Method	Sample Name
------	------	------	----------	--------	-------------

11)	Sample	1	B_5125RR		
	Datafile		B_5125RR		
	Method		04082014_PBDE_NCI		
12)	Sample	2	BS1_5125		
	Datafile		BS1_5125		
	Method		04082014_PBDE_NCI		
13)	Sample	3	BS2_5125		
	Datafile		BS2_5125		
	Method		04082014_PBDE_NCI		
14)	Sample	4	22079MS1		
	Datafile		22079MS1		
	Method		04082014_PBDE_NCI		
15)	Sample	5	22079MS2		
	Datafile		22079MS2		
	Method		04082014_PBDE_NCI		
16)	Sample	6	22088		
	Datafile		22088		
	Method		04082014_PBDE_NCI		
17)	Sample	7	22078		
	Datafile		22078		
	Method		04082014_PBDE_NCI		
18)	Sample	8	22079		
	Datafile		22079		
	Method		04082014_PBDE_NCI		
19)	Sample	9	22079R2		
	Datafile		22079R2		
	Method		04082014_PBDE_NCI		
20)	Sample	10	22080		
	Datafile		22080		
	Method		04082014_PBDE_NCI		
21)	Sample	11	22081		
	Datafile		22081		
	Method		04082014_PBDE_NCI		
22)	Sample	12	22082		
	Datafile		22082		
	Method		04082014_PBDE_NCI		
23)	Sample	13	22083		
	Datafile		22083		
	Method		04082014_PBDE_NCI		
24)	Sample	135	PBDE100CCV		
	Datafile		PBDE100CCV		
	Method		04082014_PBDE_NCI		
25)	Sample	14	22084		
	Datafile		22084		
	Method		04082014_PBDE_NCI		

2014 Apr 09 1026 Sequence Log .LOG

26) Sample	15	22085
Datafile		22085
Method		04082014_PBDE_NCI
27) Sample	16	22086
Datafile		22086
Method		04082014_PBDE_NCI
28) Sample	17	22087
Datafile		22087
Method		04082014_PBDE_NCI
29) Sample	18	22100
Datafile		22100
Method		04082014_PBDE_NCI
30) Sample	19	22101
Datafile		22101
Method		04082014_PBDE_NCI
31) Sample	20	22102
Datafile		22102
Method		04082014_PBDE_NCI
32) Sample	21	22103
Datafile		22103
Method		04082014_PBDE_NCI
33) Sample	135	PBDE100FCV
Datafile		PBDE100FCV
Method		04082014_PBDE_NCI

Sequence completed Thu Apr 10 04:22:16 2014

C:\MSDCHEM\1\DATA\Q2_140408 NCI PBDE 0-5125_RR\2014 Apr 09 1026 Quality
 Log.LOG
 C:\MSDCHEM\1\DATA\Q2_140408 NCI PBDE 0-5125_RR\2014 Apr 09 1026 Sequence Log
 .LOG

2013 Nov 04 1120 Sequence Log .LOG
Starting sequence Mon Nov 04 09:38:05 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MassHunter\GCMS\1\sequence\131104 NCI . sequence. xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131104 NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX	HEX_NCI	HEX
2)	Sample	131	TOX1000	PYR_NCI	TOX1000

Mon Nov 04 11:15:48 2013
Fatal sequence error detected.
There was no bottle in the gripper.

D:\MassHunter\GCMS\1\data\131104 NCI\2013 Nov 04 0938 Sequence Log .LOG

Resuming sequence Mon Nov 04 11:20:41 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MassHunter\GCMS\1\sequence\131104 NCI . sequence. xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131104 NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
4)	Sample	132	TOX2500	PYR_NCI	TOX2500
5)	Sample	133	TOX5000	PYR_NCI	TOX5000
6)	Sample	134	TOX7500	PYR_NCI	TOX7500
7)	Sample	135	TOX10000	PYR_NCI	TOX10000
8)	Sample	121	PYR25	PYR_NCI	PYR25
9)	Sample	122	PYR50	PYR_NCI	PYR50
10)	Sample	123	PYR100	PYR_NCI	PYR100
11)	Sample	124	PYR250	PYR_NCI	PYR250
12)	Sample	125	PYR500	PYR_NCI	PYR500
13)	Sample	126	PYR1000	PYR_NCI	PYR1000
14)	Sample	127	PYR_SPEX1000		
	Datafile		PYR_SPEX1000		
	Method		PYR_NCI		
15)	Sample	141	HEX_BLANK		
	Datafile		HEX_BLANK		
	Method		PYR_NCI		
16)	Sample	128	TRAL01000I CV		
	Datafile		TRAL01000I CV		
	Method		PYR_NCI		
17)	Sample	111	FIP25	PYR_NCI	FIP25
18)	Sample	112	FIP50	PYR_NCI	FIP50
19)	Sample	113	FIP100	PYR_NCI	FIP100
20)	Sample	114	FIP250	PYR_NCI	FIP250
21)	Sample	115	FIP500	PYR_NCI	FIP500
22)	Sample	116	FIP1000	PYR_NCI	FIP1000
23)	Sample	141	HEX2	HEX_NCI	HEX2
24)	Sample	1	B_5030	PYR_NCI	B_5030
25)	Sample	2	BS1_5030	PYR_NCI	BS1_5030
26)	Sample	3	BS2_5030	PYR_NCI	BS2_5030
27)	Sample	4	22078MS1	PYR_NCI	22078MS1
28)	Sample	5	22078MS2	PYR_NCI	22078MS2

2013 Nov 04 1120 Sequence Log .LOG

29) Sample	141	HEX3	HEX_NCI	HEX3
30) Sample	6	22088	PYR_NCI	22088
31) Sample	7	22078	PYR_NCI	22078
32) Sample	8	22078R2	PYR_NCI	22078R2
33) Sample	9	22079	PYR_NCI	22079
34) Sample	10	22080	PYR_NCI	22080
35) Sample	11	22081	PYR_NCI	22081
36) Sample	135	TOX1000CCV		
Datafile		TOX1000CCV		
Method		PYR_NCI		
37) Sample	126	PYR1000CCV		
Datafile		PYR1000CCV		
Method		PYR_NCI		
38) Sample	128	TRAL01000CCV		
Datafile		TRAL01000CCV		
Method		PYR_NCI		
39) Sample	116	FIP1000CCV		
Datafile		FIP1000CCV		
Method		PYR_NCI		
40) Sample	141	HEX4	HEX_NCI	HEX4
41) Sample	12	22082	PYR_NCI	22082
42) Sample	13	22083	PYR_NCI	22083
43) Sample	14	22084	PYR_NCI	22084
44) Sample	15	22085	PYR_NCI	22085
45) Sample	16	22086	PYR_NCI	22086
46) Sample	17	22087	PYR_NCI	22087
47) Sample	18	22100	PYR_NCI	22100
48) Sample	19	22101	PYR_NCI	22101
49) Sample	20	22102	PYR_NCI	22102
50) Sample	21	22103	PYR_NCI	22103
51) Sample	135	TOX1000FCV		
Datafile		TOX1000FCV		
Method		PYR_NCI		
52) Sample	126	PYR1000FCV		
Datafile		PYR1000FCV		
Method		PYR_NCI		
53) Sample	128	TRAL01000FCV		
Datafile		TRAL01000FCV		
Method		PYR_NCI		
54) Sample	116	FIP1000FCV		
Datafile		FIP1000FCV		
Method		PYR_NCI		

Sequence completed Wed Nov 06 15:57:20 2013

D:\MassHunter\GCMS\1\data\131104_NCI\2013 Nov 04 1120 Sequence Log .LOG

Fipronil & Degradates

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Initial Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : P:\Data, Organics Lab_Q2 Data Files\Q2_140402 NCI O-5125\
Method File : Q_FIP140402.M
Title : Fipronils
Last Update : Sat May 10 22:56:21 2014
Response Via : Initial Calibration

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Calibration Files

500 =FIP500.D 25 =FIP25.D 50 =FIP50.D 250 =FIP250.D 1000=FIP1000.D 100 =FIP100.D

Compound	500	25	50	250	1000	100	Avg	%RSD
----------	-----	----	----	-----	------	-----	-----	------

1) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
2)	Fipronil Desul...	3.607	2.501	2.496	2.983	4.281	2.603	3.078	23.57
3)	Fipronil Sulfide	5.058	3.472	3.584	4.277	5.867	3.673	4.322	22.24
4)	Fipronil	0.511	0.364	0.397	0.446	0.606	0.375	0.450	20.80
5)	Fipronil Sulfone	1.454	0.944	0.922	1.190	1.749	0.983	1.207	27.62

(#) = Out of Range

PHYSIS

Continuing Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : P:\Data, Organics Lab_Q2 Data Files\Q2_140402 NCI O-5125\
 Data File : FIP500CCV.D
 Acq On : 4 Apr 2014 4:40 am
 Operator :
 Sample : FIP500CCV
 Misc :
 ALS Vial : 95 Sample Multiplier: 1

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Quant Time: May 10 23:08:55 2014
 Quant Method : C:\msdchem\1\DATA_Q2\Q2_140402 NCI O-5125\Q_FIP140402.M
 Quant Title : Fipronils
 QLast Update : Sat May 10 23:06:42 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	23.673	79	14141054	1000.00		0.00
Target Compounds						
2) Fipronil Desulfinyl	16.995	352	37213486	690.26		Qvalue 100
3) Fipronil Sulfide	18.836	384	51948081	693.03		100
4) Fipronil	19.086	366	4062242	557.02		100
5) Fipronil Sulfone	21.035	416	11646627	564.31		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : P:\Data, Organics Lab_Q2 Data Files\Q2_140402 NCI O-5125\
Data File : FIP500FCV.D
Acq On : 4 Apr 2014 4:30 pm
Operator :
Sample : FIP500FCV
Misc :
ALS Vial : 95 Sample Multiplier: 1

Page 275 of 300

Quant Time: May 10 23:09:09 2014
Quant Method : C:\msdchem\1\DATA_Q2\Q2_140402 NCI O-5125\Q_FIP140402.M
Quant Title : Fipronils
QLast Update : Sat May 10 23:06:42 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	23.685	79	14115551	1000.00		0.02
Target Compounds						
2) Fipronil Desulfinyl	17.005	352	49260996	857.53		Qvalue 100
3) Fipronil Sulfide	18.847	384	67612741	854.61		100
4) Fipronil	19.099	366	4884305	647.64		100
5) Fipronil Sulfone	21.055	416	13762367	644.26		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	FIP500 CCV			FIP500 FCV		
	4/4/14 4:40 AM			4/4/14 4:30 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
Fipronil Desulfinyl	500	690	38	500	858	72
Fipronil Sulfide	500	693	39	500	855	71
Fipronil	500	557	11	500	648	30
Fipronil Sulfone	500	564	13	500	644	29
Average	-	-	25	-	-	50

PolyBrominated Diphenyl Ethers (PBDEs)

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Innovative Environmental Nature



	2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time
B_5125	33971345	13.147
BS1_5125	21156921	13.148
BS2_5125	23488903	13.157
22079MS1	22094911	13.155
22079MS2	24601195	13.162
22088	45890768	13.214
22078	38127148	13.157
22079	42665093	13.148
22079R2	35655483	13.148
22080	44779816	13.148
22081	38834945	13.149
22082	40303676	13.148
22083	51614557	13.157
PBDE100CCV	26956844	13.139
22084	49246403	13.148
22085	56692582	13.155
22086	45107669	13.156
22087	45763212	13.149
22100	45388898	13.175
22101	47698181	13.171
22102	36254449	13.167
22103	40636277	13.161
PBDE100FCV	27884265	13.144

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Initial Calibration Data

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Method Path : C:\msdchem\1\DATA\Q2_140408 NCI PBDE O-5125_RR\
 Method File : Q_PBDE_NCI_140410.M
 Title : PBDE
 Last Update : Thu Apr 10 08:33:04 2014
 Response Via : Initial Calibration

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Calibration Files

10 =PBDE10.D 25 =PBDE25.D 50 =PBDE50.D 75 =PBDE75.D 100 =PBDE100.D 200 =PBDE200.D

Compound		10	25	50	75	100	200	Avg	%RSD

1) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
2) S	(FTBDE)	0.728	0.737	0.743	0.730	0.727	0.766	0.738	1.98
3) S	(DFTBDE)	0.607	0.601	0.645	0.604	0.575	0.634	0.611	4.08
4)	PBDE017	0.734	0.643	0.673	0.659	0.651	0.657	0.670	4.95
5)	PBDE028	0.807	0.724	0.733	0.722	0.698	0.740	0.737	5.02
6)	PBDE049	0.680	0.631	0.760	0.684	0.667	0.733	0.693	6.70
7)	PBDE071	0.672	0.623	0.642	0.562	0.585	0.616	0.617	6.36
8)	PBDE047	0.679	0.572	0.590	0.594	0.561	0.599	0.599	6.93
9)	PBDE066	0.985	0.727	0.684	0.658	0.616	0.659	0.722	18.61
10)	PBDE100	0.611	0.543	0.589	0.577	0.529	0.595	0.574	5.55
11)	PBDE099	0.652	0.512	0.581	0.540	0.510	0.553	0.558	9.54
12)	PBDE085	0.431	0.398	0.442	0.427	0.386	0.441	0.421	5.54
13)	PBDE154	0.566	0.512	0.562	0.521	0.496	0.576	0.539	6.23
14)	PBDE153	0.549	0.403	0.489	0.468	0.430	0.487	0.471	10.77
15)	PBDE138	0.409	0.357	0.433	0.391	0.350	0.420	0.393	8.63
16)	PBDE183	0.518	0.361	0.419	0.341	0.338	0.395	0.395	17.15
17)	PBDE190	0.172	0.149	0.164	0.153	0.143	0.163	0.157	6.97
18)	PBDE209	0.066	0.052	0.061	0.044	0.048	0.051	0.054	15.52

(#) = Out of Range

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Data Path : C:\msdchem\1\DATA\Q2_140408 NCI PBDE O-5125_RR\
 Data File : PBDE100CCV.D
 Acq On : 9 Apr 2014 8:40 pm
 Operator :
 Sample : PBDE100CCV
 Misc :
 ALS Vial : 135 Sample Multiplier: 1

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Quant Time: Apr 10 08:34:02 2014
 Quant Method : C:\msdchem\1\DATA\Q2_140408 NCI PBDE O-5125_RR\Q_PBDE_NCI_140410.M
 Quant Title : PBDE
 QLast Update : Thu Apr 10 08:33:04 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	13.139	79	26956844	1000.00	ng	0.00
System Monitoring Compounds						
2) (FTBDE)	12.022	81	921084	46.27	ng	0.00
3) (DFTBDE)	16.487	81	739538	44.89	ng	0.00
Target Compounds						Qvalue
4) PBDE017	12.402	81	1703921	96.25	ng	97
5) PBDE028	12.657	79	1939475m	98.41	ng	
6) PBDE049	14.255	81	1513378	78.27	ng	94
7) PBDE071	14.301	81	1711696	104.64	ng	98
8) PBDE047	14.566	81	1509904	94.72	ng	96
9) PBDE066	14.851	79	1614913	91.62	ng	100
10) PBDE100	16.167	81	1484513	94.76	ng	96
11) PBDE099	16.640	81	1422953	96.80	ng	# 95
12) PBDE085	17.396	81	1075336	92.85	ng	99
13) PBDE154	17.985	81	1395795	93.12	ng	96
14) PBDE153	18.660	81	1173964	91.74	ng	# 99
15) PBDE138	19.433	81	923322	84.54	ng	95
16) PBDE183	20.529	81	909448	88.52	ng	97
17) PBDE190	21.584	81	352100	82.44	ng	94
18) PBDE209	27.258	81	383129	282.65	ng	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q2_140408 NCI PBDE O-5125_RR\
 Data File : PBDE100FCV.D
 Acq On : 10 Apr 2014 3:42 am
 Operator :
 Sample : PBDE100FCV
 Misc :
 ALS Vial : 135 Sample Multiplier: 1

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Quant Time: Apr 10 08:34:55 2014
 Quant Method : C:\msdchem\1\DATA\Q2_140408 NCI PBDE O-5125_RR\Q_PBDE_NCI_140410.M
 Quant Title : PBDE
 QLast Update : Thu Apr 10 08:33:04 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	13.144	79	27884265	1000.00	ng	0.01
System Monitoring Compounds						
2) (FTBDE)	12.026	81	886924	43.07	ng	0.00
3) (DFTBDE)	16.499	81	687109	40.32	ng	0.01
Target Compounds						Qvalue
4) PBDE017	12.406	81	1773954	96.88	ng	98
5) PBDE028	12.657	79	1936027m	94.97	ng	
6) PBDE049	14.256	81	1528803m	76.44	ng	
7) PBDE071	14.307	81	1532606	90.58	ng	# 76
8) PBDE047	14.576	81	1435470	87.05	ng	99
9) PBDE066	14.858	79	1547336	84.87	ng	100
10) PBDE100	16.173	81	1381937	85.28	ng	# 94
11) PBDE099	16.648	81	1288483	84.74	ng	# 95
12) PBDE085	17.404	81	953204	79.56	ng	98
13) PBDE154	17.992	81	1190740	76.79	ng	99
14) PBDE153	18.672	81	1035492	78.22	ng	99
15) PBDE138	19.442	81	817956	72.40	ng	98
16) PBDE183	20.536	81	754448	70.99	ng	97
17) PBDE190	21.589	81	346081	78.33	ng	94
18) PBDE209	27.271	81	423647	302.14	ng	# 91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PBDE100 CCV			PBDE100 FCV		
	4/9/14 8:40 PM			4/10/14 3:42 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
FTBDE	50	46	7	50	43	14
DFTBDE	50	45	10	50	40	19
PBDE017	100	96	4	100	97	3
PBDE028	100	98	2	100	95	5
PBDE049	100	78	22	100	76	24
PBDE071	100	105	5	100	91	9
PBDE047	100	95	5	100	87	13
PBDE066	100	92	8	100	85	15
PBDE100	100	95	5	100	85	15
PBDE099	100	97	3	100	85	15
PBDE085	100	93	7	100	80	20
PBDE154	100	93	7	100	77	23
PBDE153	100	92	8	100	78	22
PBDE138	100	85	15	100	72	28
PBDE183	100	89	11	100	71	29
PBDE190	100	82	18	100	78	22
PBDE209	200	283	41	200	302	51
Average	-	-	11	-	-	19

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	2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time
PYR500ICV	13127382	23.666
B_5125	22487409	23.669
BS1_5125	27360610	23.67
BS2_5125	32323055	23.674
22079MS1	25610655	23.672
22079MS2	31540636	23.682
22088	24184019	23.734
22078	21136232	23.688
22079	19939474	23.679
22079R2	19672873	23.68
22080	21479922	23.679
22081	19348957	23.693
22082	17898724	23.685
22083	19394761	23.682
PYR500CCV	16889823	23.675
22084	23581533	23.683
22085	17903152	23.678
22086	7726488	23.679
22087	19541426	23.679
22100	15202701	23.697
22101	18459208	23.695
22102	16605529	23.7
22103	19858035	23.699
PBDE100FCV	17930828	23.687

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Initial Calibration Data

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Method Path : C:\msdchem\1\DATA\Q2_140402 NCI O-5125\
 Method File : Q2_PYR_140329.M
 Title : Pyrethroids
 Last Update : Mon May 12 13:14:10 2014
 Response Via : Initial Calibration

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Calibration Files

1000=PYR1000.D 500 =PYR500.D 250 =PYR250.D 100 =PYR100.D 50 =PYR50.D 25 =PYR25.D

Compound		1000	500	250	100	50	25	Avg	%RSD

1) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
2) S	(PCB112)-PYR	2.966	2.939	2.933	3.062	3.305	3.041		5.14
3) S	(PCB198)-PYR	0.798	0.795	0.787	0.787	0.824	0.798		1.90
4)	Allethrin	0.328	0.274	0.239	0.223	0.287	0.270		15.34
5)	Prallethrin	0.295	0.233	0.227	0.230	0.248	0.246		11.51
6)	Resmethrin	0.474	0.352	0.346	0.321	0.296	0.358		19.14
7)	Bifenthrin	0.194	0.162	0.156	0.167	0.184	0.173		9.30
8)	Danitol (Fenpr...	0.330	0.263	0.265	0.264	0.282	0.281		10.09
9)	L-Cyhalothrin	0.688	0.577	0.604	0.603	0.618	0.618		6.73
10)	Permethrin-cis	0.017	0.021	0.009	0.010		0.014		40.70
11)	Permethrin-trans	0.012	0.013	0.010	0.007	0.002	0.009		52.36
12)	Cyfluthrin-1	0.116	0.107	0.108	0.107	0.114	0.110		3.82
13)	Cyfluthrin-2	0.151	0.126	0.152	0.141	0.133	0.141		8.08
14)	Cyfluthrin-3	0.102	0.094	0.093	0.108	0.096	0.099		6.27
15)	Cyfluthrin-4	0.076	0.066	0.076	0.070	0.083	0.074		8.89
16)	Cypermethrin-1	0.089	0.081	0.087	0.091	0.085	0.087		4.28
17)	Cypermethrin-2	0.085	0.071	0.081	0.081	0.072	0.078		7.67
18)	Cypermethrin-3	0.093	0.076	0.085	0.083	0.072	0.082		9.78
19)	Cypermethrin-4	0.067	0.059	0.059	0.082	0.063	0.066		14.49
20)	Fenvalerate	0.855	0.726	0.743	0.745	0.702	0.754		7.83
21)	Esfenvalerate	0.975	0.808	0.811	0.757	0.726	0.815		11.78
22)	Fluvalinate	0.512	0.443	0.502	0.504	0.476	0.487		5.81
23)	Deltamethrin/T...	0.075	0.058	0.044	0.037	0.018	0.047		45.89

(#) = Out of Range

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Data Path : C:\msdchem\1\DATA\Q2_140402 NCI O-5125\
 Data File : PYR_SPEX500ICV.D
 Acq On : 2 Apr 2014 10:31 pm
 Operator :
 Sample : PYR_SPEX500ICV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Apr 22 14:07:26 2014
 Quant Method : C:\msdchem\1\DATA\Q2_140402 NCI O-5125\Q2_PYR_140329.M
 Quant Title : Pyrethroids
 QLast Update : Tue Apr 22 14:06:30 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	23.666	79	13127382	1000.00		0.00
System Monitoring Compounds						
2) (PCB112)-PYR	20.616	326	15201411	380.80		0.00
Spiked Amount 400.000			Recovery	=	95.20%	
3) (PCB198)-PYR	29.063	358	4054802	386.97		0.00
Spiked Amount 400.000			Recovery	=	96.74%	
Target Compounds						
					Qvalue	
4) Allethrin	19.029	167	2822039	683.72	#	100
5) Prallethrin	19.062	167	2421777	657.67	#	100
6) Resmethrin	19.423	167	3088692	528.83	#	100
7) Bifenthrin	26.123	386	1433336	584.77	#	100
8) Danitol (Fenpropathrin)	26.484	141	2404204	582.81	#	100
9) L-Cyhalothrin	28.845	241	2746188	315.48		96
10) Permethrin-cis	31.105	207	22269m	96.15		
11) Permethrin-trans	31.492	207	76239	474.50	#	100
12) Cyfluthrin-1	32.940	207	583022	390.56	#	100
13) Cyfluthrin-2	33.216	207	683825	356.13	#	100
14) Cyfluthrin-3	33.490	207	645440	491.56	#	100
15) Cyfluthrin-4	33.602	207	683957	701.33	#	100
16) Cypermethrin-1	33.963	207	585070	508.43	#	100
17) Cypermethrin-2	34.265	207	519598	481.23	#	100
18) Cypermethrin-3	34.538	207	585111	499.18	#	100
19) Cypermethrin-4	34.644	207	481842	562.73	#	100
20) Fenvalerate	37.076	211	6856304	632.53	#	99
21) Esfenvalerate	37.806	211	5981409	487.05	#	83
22) Fluvalinate	37.980	294	2926459	447.28	#	95
23) Deltamethrin/Tralomethrin	39.914	297	306969	332.38	#	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q2_140402 NCI O-5125\
 Data File : PYR500CCV.D
 Acq On : 4 Apr 2014 3:35 am
 Operator :
 Sample : PYR500CCV
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Apr 22 14:08:40 2014
 Quant Method : C:\msdchem\1\DATA\Q2_140402 NCI O-5125\Q2_PYR_140329.M
 Quant Title : Pyrethroids
 QLast Update : Tue Apr 22 14:06:30 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	23.675	79	16889823	1000.00		0.00
System Monitoring Compounds						
2) (PCB112)-PYR	20.624	326	19896674	387.39		0.00
Spiked Amount 400.000			Recovery	=	96.85%	
3) (PCB198)-PYR	29.073	358	4836722	358.76		0.00
Spiked Amount 400.000			Recovery	=	89.69%	
Target Compounds						
					Qvalue	
4) Allethrin	19.031	167	4073359	767.04	#	100
5) Prallethrin	19.066	167	4974329	1049.94	#	100
6) Resmethrin	19.429	167	5868585	780.96	#	100
7) Bifenthrin	26.127	386	2410529	764.36	#	100
8) Danitol (Fenpropathrin)	26.492	141	4451630	838.74	#	100
9) L-Cyhalothrin	28.850	241	8490332	758.08		97
10) Permethrin-cis	31.114	207	52979m	177.79		
11) Permethrin-trans	31.499	207	102319	494.96	#	100
12) Cyfluthrin-1	32.949	207	1282509	667.76	#	100
13) Cyfluthrin-2	33.225	207	1718683	695.68	#	100
14) Cyfluthrin-3	33.502	207	1089942	645.18	#	100
15) Cyfluthrin-4	33.615	207	814500	649.14	#	100
16) Cypermethrin-1	33.976	207	996847	673.29	#	100
17) Cypermethrin-2	34.274	207	889189	640.07	#	100
18) Cypermethrin-3	34.549	207	940289	623.50	#	100
19) Cypermethrin-4	34.656	207	723056	656.33	#	100
20) Fenvalerate	37.087	211	8988683	644.53	#	99
21) Esfenvalerate	37.820	211	10031847	634.90		89
22) Fluvalinate	37.991	294	5495702	652.85	#	93
23) Deltamethrin/Tralomethrin	39.932	297	565158	475.63	#	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q2_140402 NCI O-5125\
 Data File : PYR500FCV.D
 Acq On : 4 Apr 2014 3:25 pm
 Operator :
 Sample : PYR500FCV
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Apr 22 14:09:15 2014
 Quant Method : C:\msdchem\1\DATA\Q2_140402 NCI O-5125\Q2_PYR_140329.M
 Quant Title : Pyrethroids
 QLast Update : Tue Apr 22 14:06:30 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	23.687	79	17930828	1000.00		0.02
System Monitoring Compounds						
2) (PCB112)-PYR	20.633	326	21791259	399.64		0.01
Spiked Amount 400.000			Recovery	=	99.91%	
3) (PCB198)-PYR	29.088	358	4824895	337.11		0.02
Spiked Amount 400.000			Recovery	=	84.28%	
Target Compounds						
					Qvalue	
4) Allethrin	19.038	167	7612133	1350.20	#	100
5) Prallethrin	19.072	167	8582965	1706.44	#	100
6) Resmethrin	19.436	167	11432728	1433.08	#	100
7) Bifenthrin	26.140	386	3995470	1193.38	#	100
8) Danitol (Fenpropathrin)	26.505	141	7339851	1302.63	#	100
9) L-Cyhalothrin	28.864	241	12149399	1021.81		96
10) Permethrin-cis	31.129	207	99277	313.81	#	100
11) Permethrin-trans	31.515	207	141444	644.50	#	100
12) Cyfluthrin-1	32.964	207	1821972	893.56	#	100
13) Cyfluthrin-2	33.241	207	2426479	925.15	#	100
14) Cyfluthrin-3	33.517	207	1526563	851.17	#	100
15) Cyfluthrin-4	33.628	207	1157652	869.06	#	100
16) Cypermethrin-1	33.989	207	1459007	928.24	#	100
17) Cypermethrin-2	34.296	207	1310079	888.30	#	100
18) Cypermethrin-3	34.560	207	1395955	871.91	#	100
19) Cypermethrin-4	34.665	207	1027696	878.70	#	100
20) Fenvalerate	37.106	211	12810069	865.21	#	100
21) Esfenvalerate	37.842	211	14330344	854.29	#	87
22) Fluvalinate	38.008	294	7421880	830.48	#	94
23) Deltamethrin/Tralomethrin	39.952	297	701282	555.92	#	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PYR500 ICV			PYR500 CCV			PYR500 FCV		
	4/2/14 10:31 PM			4/4/14 3:35 AM			4/4/14 3:25 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PCB112	400	381	5	400	387	3	400	400	0
PCB198	400	387	3	400	359	10	400	337	16
Allethrin	500	684	37	500	767	53	500	1350	170
Prallethrin	500	658	32	500	1050	110	500	1706	241
Resmethrin	500	529	6	500	781	56	500	1433	187
Bifenthrin	500	585	17	500	764	53	500	1193	139
Danitol (Fenpropathrin)	500	583	17	500	839	68	500	1303	161
Cyhalothrin-lambda	500	315	37	500	758	52	500	1022	104
Permethrin-cis	134	96	28	134	178	33	134	314	135
Permethrin-trans	358	475	33	358	495	38	358	645	80
Cyfluthrin-1	500	391	22	500	668	34	500	894	79
Cyfluthrin-2	500	356	29	500	696	39	500	925	85
Cyfluthrin-3	500	492	2	500	645	29	500	851	70
Cyfluthrin-4	500	701	40	500	649	30	500	869	74
Cypermethrin-1	500	508	2	500	673	35	500	928	86
Cypermethrin-2	500	481	4	500	640	28	500	888	78
Cypermethrin-3	500	499	0	500	624	25	500	872	74
Cypermethrin-4	500	563	13	500	656	31	500	879	76
Fenvalerate	500	633	27	500	645	29	500	865	73
Esfenvalerate	500	487	3	500	635	27	500	854	71
Fluvalinate	500	447	11	500	653	31	500	830	66
Deltamethrin-Tralomethrin	500	332	34	500	476	5	500	556	11
Average	-	-	19	-	-	33	-	-	83

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Summary of Internal Standards

TERRA FACTORY AQUA AURA
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	2,2',5,5' - Tetrabromobiphenyl	
	Response	Retention Time
B_5030.D	889435	24.3176
BS1_5030.D	1089487	24.3091
BS2_5030.D	1197213	24.3091
22078MS1.D	1330681	24.3260
22078MS2.D	1056197	24.3176
22088.D	1671507	24.5036
22078.D	897025	24.3260
22078R2.D	996633	24.3260
22079.D	958392	24.3176
22080.D	817355	24.3176
22081.D	1291743	24.3176
TOX10000CCV.D	145727	24.3091
22082.D	1216456	24.3091
22083.D	1220610	24.3091
22084.D	1078632	24.3007
22085.D	955434	24.3007
22086.D	1974980	24.3260
22087.D	945690	24.3007
22100.D	1067475	24.3091
22101.D	1181521	24.3007
22102.D	1498290	24.3176
22103.D	1239863	24.3091
TOX10000FCV.D	272995	24.3007

PHYSIS

Continuing Calibration Data

TERRA

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AQUA

AURA

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	TOX10000 CCV			TOX10000 FCV		
	11/5/13 8:20 PM			11/6/13 11:47 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Toxaphene	10000	11528.3180	15.28	10000	6423.4238	35.77

June 02, 2014

Chris Stransky
 AMEC
 9210 Sky Park Court
 Suite 200
 San Diego, CA 92123-

Project Name: RHMP Bight '13
 Physis Project ID: 1307002-008

Dear Chris,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 8/13/2013. A total of 4 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventionals
Percent Solids by SM 2540B
Ammonia as N by SM 4500-NH ₃ D
Acid Volatile Sulfides (AVS) by Plumb, 1981 and TERL
Elements
Trace Metals by EPA 6020
Trace Mercury by EPA 245.7
Total Phosphorus by EPA 6020
Simultaneously Extracted Metals Analysis (AVS-SEM) by EPA 200.8
Organics
Toxaphene w/ OCPs by EPA 8270C-NCI
Synthetic Pyrethroid Pesticides by EPA 8270C-NCI
Polynuclear Aromatic Hydrocarbons by EPA 8270C
PBDE Congeners by EPA 8270C-NCI
Organochlorine Pesticides & PCB Congeners/Aroclors by EPA 8270C
Fipronil & Degradates by EPA 8270C-NCI
Subcontract
Total Organic Carbon by SM 5310 B
Total Nitrogen by SM 4500-N

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

Misty Mercier
Extension 202
714-335-5918 cell
mistymercier@physislabs.com

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and are used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use was assessed through the analysis of procedural blanks at a minimum frequency of one per batch. Physis' QM requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the procedural blanks be flagged in the project sample results with a B qualifier.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS1/MS2, BS1/BS2, LCS1/LCS2, LCM1/LCM2, CRM1/CRM2, surrogate spikes and/or replicate project sample analysis (R1/R2) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

MATRIX SPIKES: MS samples were employed to assess the effect a particular project sample matrix has on the accuracy of a measurement. It is prepared by adding a known amount of the target analyte(s) to an aliquot of the project sample. Matrix spikes indicate the bias of analytical measurements due to chemical interferences inherent in the sample matrix. If the matrix spike recovery does not fall within the specified acceptance limits, it may be an indication of sample matrix interference in the specific project sample used for the MS. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

BLANK SPIKES: BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

CERTIFIED REFERENCE MATERIALS: CRMs are pre-homogenized materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of a preparation and analytical method. CRMs are analyzed to provide evidence that the laboratory method produces results that are comparable to those obtained by an independent organization.

SURROGATES: Where CRMs are unavailable, target analyte recovery can be assessed by monitoring added surrogate compounds/elements. A surrogate is a pure analyte unlikely to be found in any project sample and most often used with organic analytical procedures. Percent recovery is calculated for each surrogate and is used to monitor method performance within each discrete sample and is indicative of the procedure's ability to recover the actual analytes of interest.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored

under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes. Physis' QM requires that all samples analyzed beyond the method recommended holding time be flagged in the sample results with an H qualifier.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
*	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified recovery and/or RPD acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore MS recovery and/or RPD acceptance limits do not apply
SL	analyte results for R1 and/or R2 were lower than 10 times the MDL, therefore RPD acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore MS recovery and/or RPD were outside the specified acceptance limits
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples



CASE NARRATIVE

QUALIFIER NOTES

In addition to the use of analyte specific Physis Qualifier Codes where applicable, the following were also noted.

ELEMENTS CRM: Five elements, Aluminum (Al), Antimony (Sb), Beryllium (Be), Chromium (Cr), and Iron (Fe) were above the specified acceptance limits in one or more CRM - RTC 016-050 and/or CRM - ERA 540. This occurred as a result of a more rigorous digestion employed by Physis, which causes a higher yield for some lithogenous elements. These values are in agreement with past internal results for CRM - RTC 016-050 and CRM - ERA 540.

ORGANICS TUNE: Physis uses the software supplied with its Agilent GCMS systems to tune its instruments. Moreover, with today's technology software algorithms provided by the instrument manufacturer provide a more stable system across a wider mass range than manual tuning to achieve specific tuning targets such as DFTPP. The following quote is from EPA Method 8270D Section 11.3.1.

"The analyst is always free to choose criteria that are tighter than those included in this method or to use other documented criteria provided they are used consistently throughout the initial calibration, calibration verification, and sample analyses."

The key here is that the instrument is tuned and that those tune settings are used for the subsequent analysis of the calibration curve, calibration verification, and samples. Moreover, another key reason for tuning to specific criteria is to insure that the GCMS is generating spectra that match the spectra in the NIST Library for confirming the identification of the target analyte. Physis can provide library search results for our calibration standards indicating a very high match quality with the NIST library spectra.

Physis did analyze the DFTPP tune solution with each batch (except for the first batch where the tune solution was mis-injected) and the passing tune reports have been provided indicating that using the instrument tuning software is closely matched to DFTPP tune requirements.

ORGANICS: The samples from this batch contained an unusual amount of humic acids and other compounds that interfered with the pyrethroid analysis of the "non-cleaned" extracts. Therefore pyrethroid quantitation was performed on the "cleaned up" extracts and not all the pyrethroid compounds successfully make it through the cleanup system. Therefore we are reporting the results for the blank spikes for the "cleaned up" extracts because they more closely represent what happened with the samples.



ORGANICS CALIBRATION: A calibration point in the middle of the curve (100 ng) for PCB201 was not used for the calibration of the instrument. This was an error of the analyst that has since been corrected.

Revisions 6/11/2014-

- Aroclors:
 - Updated Aroclor MDLs/RLs from 10/20 to 1/2
 - Added Aroclor 1262 and Aroclor 1268
 - After review of the data, the Technical Director made a decision to revise the data for the Aroclors
- RPDs:
 - Reviewed and updated all RPDs to 25%, per the RHMP QAPP. Revised Passes to Fails and added QA Qualifiers, where needed due to update.
- Acceptance Ranges
 - Reviewed and updated all Acceptance ranges per the RHMP QAPP. Revised Passes to Fails and added QA Qualifier, where needed due to update.
- After review of the QC, the Technical Director re-quantified and updated the results for BS1/BS2, Toxaphene and Benzo[a]pyrene.
- Added verbiage to the case narrative regarding Blank Spike fails for Organics for 006 and 008. For 008, added verbiage for Blank Spike fails for Conventionals.
- Fixed a formatting issue with the QAQC section of the report where “PASS” was incorrectly shown for B1 and R2 in the acceptance range column.

Revisions 8/20/2014-

- Analytical Report:
 - Added Time Analyzed to all analysis.
- Revised QC for Pyrethroids
 - Upon reviewing the data, we noted an error in the QC data for pyrethroids. The values have been corrected.

Performance-Based Chemistry-

The chemistry results provided in this report are derived from “performance-based” chemistry rather than the use of specific EPA published laboratory methods. This does not eliminate our responsibility to use Good Laboratory Practices. It does allow for incorporation of improvements in technology or the use of laboratory preferences for techniques that improve the efficiency and sensitivity of the laboratory and maintain or enhance the quality of the data.



“The Environmental Protection Agency (EPA) is actively working to implement the President’s program for reinventing government and reforming regulatory policy. As part of this program, EPA has been working at breaking down barriers to using new monitoring techniques. One barrier is the requirement to use specific measurement methods or technologies in complying with some of the Agency’s regulations. EPA’s Environmental Monitoring Management Council (EMMC), members of the regulated community, and Congress agree that EPA needs to change the way it specifies monitoring requirements in regulations and permits. There is broad acceptance for Agency-wide use of a nonprescriptive performance-based measurement system (PBMS)”. PBMS conveys "what" needs to be accomplished, but not prescriptively "how" to do it. EPA defines PBMS as a set of processes wherein the data needs, mandates, or limitations of a program or project are specified, and serve as criteria for selecting appropriate methods to meet those needs in a cost-effective manner. The criteria may be published in regulations, technical guidance documents, permits, work plans, or enforcement orders. Under a performance-based approach, EPA would specify:

- Questions to be answered by monitoring.
- Decisions to be supported by the data.
- Level of uncertainty acceptable for making decisions.
- Documentation to be generated to support this approach in the RCRA monitoring program.

(Taken from OSWER PBMS Implementation Plan, October 9, 1998, A Cooperative Effort Among: OSW, OERR, OUST, TIO, FFROL and CEPPO).”

The US EPA has included references to being “performance-based” in many of their newer methods. The use of performance-based methods is even more critical for programs like this study in order to allow the laboratory to adapt methods that optimize the goal of the project in terms of achieving ultra-low sensitivity and analysis of new chemicals of concern. I would also like to quote US EPA Method 8270-

“In addition, SW-846 methods, with the exception of required method use for the analysis of method-defined parameters, are intended to be guidance methods which contain general information on how to perform an analytical procedure or technique which a laboratory can use as a basic starting point for generating its own detailed Standard Operating Procedure (SOP), either for its own general use or for a specific project application.”

Performance-based chemistry was first used for NOAA’s National Status and Trends Program in the early 1980’s which is now operated under the US EPA as the National Coastal Condition Assessment



Program (NCCA). The NS&T program included 3 large well-established laboratories for the analysis of samples from each of 3 regions of the United States. It was concluded at the beginning of this program that a significant improvement in the quality and comparability of the results would be achieved by allowing the participating laboratories to optimize their own individual methods. The key to this approach and any subsequent performance-based chemistry programs is the successful inclusion of an interlaboratory comparison as well as the clear detailed specification of data quality objectives (DQOs) for the project. All the Bight Survey projects from 1994 to 2013 have been performance-based and each of the surveys included interlaboratory comparisons as a key component for ensuring high quality data that is comparable between laboratories over time.

The one area that has not evolved along with the advent of performance-based chemistry is the data validation process. Today's data validation process still relies upon collecting and evaluating laboratory analytical information and comparing it to the details of a specific EPA analytical method such as EPA 8270 for GCMS analysis or EPA 6020 for ICPMS analysis. This can occur even when the requirement in the method is out-dated and based on old technology. Data validation procedures need to be adapted to performance-based chemistry allowing for any individual laboratory to use or not use any method or any part of a method they choose as long as they can demonstrate their ability to successfully pass interlaboratory comparisons, performance evaluation samples, and meet the data quality objectives of the project QA Plan.

EPA Method Modifications-

With reference to performance-based methods, the following information is provided as a basis of comparison between the Physis methods used for this study and the associated EPA Method. Its purpose is solely to provide information and is not intended to highlight errors. Physis has successfully participated in several interlaboratory comparison studies including the Bight 13 Project demonstrating the viability of our analytical process. Physis has included the QAQC data in this report necessary to show that the results comply with the project QA Plan and indicate acceptable accuracy and precision.

1. Internal Laboratory QAQC Frequency for GCMS Analyses- Physis uses GC columns that are longer and narrower and the GC oven is programmed at a very slow rate of 2.5°C per minute both of which are not typically used by most laboratories. The purpose for this is to maximize separation of the 100's to 1000's of compounds present in environmental samples reducing co-elution with interfering compounds, reducing background noise, and enhancing the accuracy of quantitation. At the same time this process extends the run-time for each sample to ca. 90 minutes as compared to the 15-30 minutes with typical conditions. At 90



minutes per run, the maximum number of runs for any 12-hour period is 8. Each batch of samples typically includes the DFTPP tune solution and the initial calibration verification of from 1 to 4 solutions (Depending on the target parameters) for a total of 2-5 runs leaving an opening for 3-6 samples before having to redo the QA samples if the 12-hour constraint is applied. At this rate it's not economically viable to follow the 12-hour rule and complete the analyses of the samples.

Since the 12-hour criteria was established when the state-of-the-art was GCs equipped with packed columns and GCMS systems were not anywhere near as stable as the electronics of today. Physis does follow the criteria's intent by analyzing the calibration verification standards at the beginning, middle, and end of each batch of no more than 20 samples rather than every 12 hours.

2. Calibration and Quantitation- Physis bases its calibration curve on the mass of each compound rather than concentration. Using the internal standard method of quantitation, use of mass rather than concentration eliminates the extract or digestate volume term from the formula used to calculate concentrations in the samples. Therefore there is no need to measure the precise volume of the extract or digestate. For GCMS analysis, extract volumes can be quite low and small volume changes will be reflected in increased variation of the internal standard response from sample to sample due to differences in the extract volume and not due to the instability of the GCMS. Through long-term experience, Physis chemists are trained to take into consideration this change in volume when evaluating whether a change in the internal standard response is caused by a change in the GCMS sensitivity or extract volume.

The "recovery" of the Internal Standard and its variability is reported in Form VII SV-1 for reporting IS peak areas. For the sample IS compared to the ICV/CCV IS peak area, this form has a wide acceptance range at 50-200% which is considerably larger than the variation in the nominal estimate made of our extract volumes. Therefore significant deviations from expected IS responses are clearly obvious to the analyst and would require corrective action and re-analysis. The difficulty is the fact that Form VII SV-1 does not accommodate volumes and therefore does not allow for evaluation of the sample IS as it compares to the ICV/CCV on an even basis.

3. Negative Chemical Ionization- Some target analytes are analyzed using the GCMS in the Negative Chemical Ionization Mode (NCI). This results in non-standard mass spectra that cannot be compared to the EI spectra in the NIST library.



4. Aroclor PCBs- Physis analyzes PCBs using a congener-based calibration standard composed of 52 or more different congeners representing ca. 75-80% of the PCBs discharged into the environment. Physis uses the results from the congener analysis to estimate Aroclor concentrations. To do this, Physis determines the Aroclor mixture present in the sample, sums the results for the congeners present in that Aroclor mixture then corrects the result to account for the missing mass based on a previous comparison of an Aroclor calibration standard to the congener mixture. Physis does not perform blank or matrix spikes using Aroclor mixtures since PCB spiking is done via the congener solution. Aroclor-based quantitation is inherently inaccurate and imprecise and results based on our process are as accurate if not more accurate than the Aroclor-based process since the quantitation is based on individual peaks rather than summing peaks.
5. Pyrethroid/Fipronil Surrogates- Physis spikes all samples with a surrogate solution containing TCMX, PCB030, PCB112, and PCB198 for the Chlorinated Pesticides, Congener PCBs, Pyrethroids, and Fipronils; d8-Naphthalene, d10-Acenaphthene, d10-Phenanthrene, d12-Chrysene, and d12-Perylene for the PAHs; and FBDE-3002, FBDE-5004, and FBDE-8001 for the PBDEs. Since Pyrethroids and Fipronils are quantified using NCI, only the PCB112 and PCB198 surrogates are used as surrogates for these compounds.
6. Sample Preservation - According to the Standard Operating Procedure for Sample Logistics, sediment and tissue samples were placed in a freezer maintained at $-20 \pm 4^{\circ}\text{C}$ until preserved or processed.

ANALYTICAL REPORT

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CA ELAP #2769

Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22100-R1 B13-8077 Grab Matrix: Sediment Sampled: 13-Aug-13 12:01 Received: 13-Aug-13 Method: EPA 8270C Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 17-Apr-14 0:00						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	124.9	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	
Sample ID: 22101-R1 B13-8076 Grab Matrix: Sediment Sampled: 13-Aug-13 10:48 Received: 13-Aug-13 Method: EPA 8270C Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 17-Apr-14 0:00						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	64.2	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	
Sample ID: 22102-R1 B13-8075 Grab Matrix: Sediment Sampled: 13-Aug-13 8:15 Received: 13-Aug-13 Method: EPA 8270C Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 17-Apr-14 0:00						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	



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Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1260	NA	57.9	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22103-R1**B13-8074 Grab****Matrix: Sediment****Sampled: 13-Aug-13 9:24****Received: 13-Aug-13**

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 17-Apr-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	45	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22100-R1 B13-8077 Grab Matrix: Sediment Sampled: 13-Aug-13 12:01 Received: 13-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5030 Prepared: 30-Oct-13 Analyzed: 06-Nov-13 7:31						
Toxaphene	NA	ND	0.1	0.2	ng/dry g	
Method: EPA 8270C Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 17-Apr-14 7:15						
(PCB030)	NA	80			% Recovery	
(PCB112)	NA	75			% Recovery	
(PCB198)	NA	89			% Recovery	
(TCMX)	NA	82			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	2.05	0.05	0.1	ng/dry g	J
4,4'-DDE	NA	5.23	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	10.72	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	5.93	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	7.39	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	2.5	0.05	0.1	ng/dry g	J
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlorthane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	5.41	0.05	0.1	ng/dry g	

Sample ID: 22101-R1**B13-8076 Grab****Matrix: Sediment****Sampled: 13-Aug-13 10:48****Received: 13-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5030

Prepared: 30-Oct-13

Analyzed: 06-Nov-13 8:35

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5125	Prepared: 27-Mar-14	Analyzed: 17-Apr-14 8:49		
(PCB030)	NA	85			% Recovery	
(PCB112)	NA	89			% Recovery	
(PCB198)	NA	97			% Recovery	
(TCMX)	NA	51			% Recovery	
2,4'-DDD	NA	0.68	0.05	0.1	ng/dry g	J
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	12	0.05	0.1	ng/dry g	
4,4'-DDD	NA	5.2	0.05	0.1	ng/dry g	
4,4'-DDE	NA	1.37	0.05	0.1	ng/dry g	J
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	6.8	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	0.7	0.05	0.1	ng/dry g	J
Chlordane-gamma	NA	1.09	0.05	0.1	ng/dry g	J
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlorthane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	0.75	0.05	0.1	ng/dry g	J

Sample ID: 22102-R1**B13-8075 Grab****Matrix: Sediment****Sampled: 13-Aug-13 8:15****Received: 13-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5030

Prepared: 30-Oct-13

Analyzed: 06-Nov-13 9:39

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5125	Prepared: 27-Mar-14	Analyzed: 17-Apr-14 10:24		
(PCB030)	NA	88			% Recovery	
(PCB112)	NA	95			% Recovery	
(PCB198)	NA	100			% Recovery	
(TCMX)	NA	76			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	0.82	0.05	0.1	ng/dry g	J
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	5.99	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	5.33	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	5.29	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	5.18	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	1.49	0.05	0.1	ng/dry g	J
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	4.74	0.05	0.1	ng/dry g	J

Sample ID: 22103-R1**B13-8074 Grab****Matrix: Sediment****Sampled: 13-Aug-13 9:24****Received: 13-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5030

Prepared: 30-Oct-13

Analyzed: 06-Nov-13 10:43

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C		Batch ID: O-5125		Prepared: 27-Mar-14	
(PCB030)	NA	92			% Recovery	Analyzed: 17-Apr-14 11:59
(PCB112)	NA	91			% Recovery	
(PCB198)	NA	100			% Recovery	
(TCMX)	NA	76			% Recovery	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	2.12	0.05	0.1	ng/dry g	J
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	8.33	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	1.69	0.05	0.1	ng/dry g	J
Chlordane-gamma	NA	2.13	0.05	0.1	ng/dry g	J
cis-Nonachlor	NA	0.43	0.05	0.1	ng/dry g	J
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	0.82	0.05	0.1	ng/dry g	J



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Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22100-R1		B13-8077 Grab	Matrix: Sediment	Sampled: 13-Aug-13 12:01	Received: 13-Aug-13	
	Method: SM 2540B	Batch ID: C-14037		Prepared: 27-Sep-13	Analyzed: 28-Sep-13 0:00	
Percent Solids	NA	54.3	0.1	0.1	% Dry Weight	
	Method: SM 4500-NH ₃ D	Batch ID: C-14040		Prepared: 27-Sep-13	Analyzed: 28-Sep-13 0:00	
Ammonia as N		1.91	0.02	0.03	mg/dry kg	
	Method: Plumb, 1981 and TER	Batch ID: C-14042		Prepared: 01-Oct-13	Analyzed: 01-Oct-13 0:00	
Acid Volatile Sulfides	NA	7.11	0.05	0.1	mg/dry kg	
	Method: EPA 6020	Batch ID: E-5148		Prepared: 01-Oct-13	Analyzed: 04-Oct-13 20:09	
Total Phosphorus	NA	393.918	0.016	0.05	µg/dry g	
Sample ID: 22101-R1		B13-8076 Grab	Matrix: Sediment	Sampled: 13-Aug-13 10:48	Received: 13-Aug-13	
	Method: SM 2540B	Batch ID: C-14037		Prepared: 27-Sep-13	Analyzed: 28-Sep-13 0:00	
Percent Solids	NA	40.3	0.1	0.1	% Dry Weight	
	Method: SM 4500-NH ₃ D	Batch ID: C-14040		Prepared: 27-Sep-13	Analyzed: 28-Sep-13 0:00	
Ammonia as N		7.72	0.02	0.03	mg/dry kg	
	Method: Plumb, 1981 and TER	Batch ID: C-14042		Prepared: 01-Oct-13	Analyzed: 01-Oct-13 0:00	
Acid Volatile Sulfides	NA	63.27	0.05	0.1	mg/dry kg	
	Method: EPA 6020	Batch ID: E-5148		Prepared: 01-Oct-13	Analyzed: 04-Oct-13 20:18	
Total Phosphorus	NA	705.43	0.016	0.05	µg/dry g	
Sample ID: 22102-R1		B13-8075 Grab	Matrix: Sediment	Sampled: 13-Aug-13 8:15	Received: 13-Aug-13	
	Method: SM 2540B	Batch ID: C-14037		Prepared: 27-Sep-13	Analyzed: 28-Sep-13 0:00	
Percent Solids	NA	46.1	0.1	0.1	% Dry Weight	
	Method: SM 4500-NH ₃ D	Batch ID: C-14040		Prepared: 27-Sep-13	Analyzed: 28-Sep-13 0:00	
Ammonia as N		1.89	0.02	0.03	mg/dry kg	
	Method: Plumb, 1981 and TER	Batch ID: C-14042		Prepared: 01-Oct-13	Analyzed: 01-Oct-13 0:00	
Acid Volatile Sulfides	NA	74.95	0.05	0.1	mg/dry kg	
	Method: EPA 6020	Batch ID: E-5148		Prepared: 01-Oct-13	Analyzed: 04-Oct-13 20:22	
Total Phosphorus	NA	514.206	0.016	0.05	µg/dry g	
Sample ID: 22103-R1		B13-8074 Grab	Matrix: Sediment	Sampled: 13-Aug-13 9:24	Received: 13-Aug-13	
	Method: SM 2540B	Batch ID: C-14037		Prepared: 27-Sep-13	Analyzed: 28-Sep-13 0:00	
Percent Solids	NA	44.7	0.1	0.1	% Dry Weight	



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Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
	Method: SM 4500-NH ₃ D	Batch ID: C-14040		Prepared: 27-Sep-13		Analyzed: 28-Sep-13 0:00
Ammonia as N		3.1	0.02	0.03	mg/dry kg	
	Method: Plumb, 1981 and TER	Batch ID: C-14042		Prepared: 01-Oct-13		Analyzed: 01-Oct-13 0:00
Acid Volatile Sulfides	NA	10.71	0.05	0.1	mg/dry kg	
	Method: EPA 6020	Batch ID: E-5148		Prepared: 01-Oct-13		Analyzed: 04-Oct-13 20:27
Total Phosphorus	NA	531.463	0.016	0.05	µg/dry g	



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22100-R1 B13-8077 Grab Matrix: Sediment Sampled: 13-Aug-13 12:01 Received: 13-Aug-13 Method: EPA 6020 Batch ID: E-5148 Prepared: 01-Oct-13 Analyzed: 05-Oct-13 0:22						
Aluminum (Al)	NA	29657.6	1	5	µg/dry g	
Antimony (Sb)	NA	0.905	0.025	0.05	µg/dry g	
Arsenic (As)	NA	9.334	0.025	0.05	µg/dry g	
Barium (Ba)	NA	104.582	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.607	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.5408	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	45.4244	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	118.1048	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	28232.5	1	5	µg/dry g	
Lead (Pb)	NA	57.3019	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	13.27	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.317	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.66	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	236.259	0.025	0.05	µg/dry g	
Method: EPA 245.7 Batch ID: E-6030 Prepared: 08-Oct-13 Analyzed: 08-Oct-13 0:00						
Mercury (Hg)	NA	0.6241	0.00001	0.00002	µg/dry g	
Sample ID: 22101-R1 B13-8076 Grab Matrix: Sediment Sampled: 13-Aug-13 10:48 Received: 13-Aug-13 Method: EPA 6020 Batch ID: E-5148 Prepared: 01-Oct-13 Analyzed: 05-Oct-13 0:32						
Aluminum (Al)	NA	39540.8	1	5	µg/dry g	
Antimony (Sb)	NA	0.811	0.025	0.05	µg/dry g	
Arsenic (As)	NA	12.19	0.025	0.05	µg/dry g	
Barium (Ba)	NA	106.622	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.789	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.3843	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	74.5065	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	203.6671	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	36338.8	1	5	µg/dry g	
Lead (Pb)	NA	59.0768	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	19.57	0.01	0.02	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	NA	0.446	0.025	0.05	µg/dry g	
Silver (Ag)	NA	1.15	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	287.241	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6030

Prepared: 08-Oct-13

Analyzed: 08-Oct-13 0:00

Mercury (Hg)	NA	0.6429	0.00001	0.00002	µg/dry g	
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Sample ID: 22102-R1**B13-8075 Grab****Matrix: Sediment****Sampled: 13-Aug-13 8:15****Received: 13-Aug-13**

Method: EPA 6020

Batch ID: E-5148

Prepared: 01-Oct-13

Analyzed: 05-Oct-13 0:36

Aluminum (Al)	NA	30889.5	1	5	µg/dry g	
Antimony (Sb)	NA	2.014	0.025	0.05	µg/dry g	
Arsenic (As)	NA	11.257	0.025	0.05	µg/dry g	
Barium (Ba)	NA	102.506	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.722	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.4493	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	63.9778	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	194.9361	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	33451.2	1	5	µg/dry g	
Lead (Pb)	NA	64.4034	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	18.18	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.347	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.93	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	292.315	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6030

Prepared: 08-Oct-13

Analyzed: 08-Oct-13 0:00

Mercury (Hg)	NA	0.5498	0.00001	0.00002	µg/dry g	
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Sample ID: 22103-R1**B13-8074 Grab****Matrix: Sediment****Sampled: 13-Aug-13 9:24****Received: 13-Aug-13**

Method: EPA 6020

Batch ID: E-5148

Prepared: 01-Oct-13

Analyzed: 05-Oct-13 0:41

Aluminum (Al)	NA	39344.4	1	5	µg/dry g	
Antimony (Sb)	NA	1.241	0.025	0.05	µg/dry g	
Arsenic (As)	NA	12.595	0.025	0.05	µg/dry g	
Barium (Ba)	NA	109.43	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.811	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.3784	0.0025	0.005	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	NA	68.5466	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	186.8619	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	36674.7	1	5	µg/dry g	
Lead (Pb)	NA	60.4971	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	18.23	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.323	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.98	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	337.214	0.025	0.05	µg/dry g	
Method: EPA 245.7		Batch ID: E-6030	Prepared: 08-Oct-13		Analyzed: 08-Oct-13 0:00	
Mercury (Hg)	NA	0.5865	0.00001	0.00002	µg/dry g	



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22100-R1 B13-8077 Grab Matrix: Sediment Sampled: 13-Aug-13 12:01 Received: 13-Aug-13 Method: EPA 200.8 Batch ID: E-5155 Prepared: 08-Oct-13 Analyzed: 10-Oct-13 18:33						
Cadmium (Cd) - SEM	NA	0.0022	0.0018	0.0036	µmol/dry g	J
Copper (Cu) - SEM	NA	0.3629	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.1872	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0204	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.5813	0.0015	0.003	µmol/dry g	
Sample ID: 22101-R1 B13-8076 Grab Matrix: Sediment Sampled: 13-Aug-13 10:48 Received: 13-Aug-13 Method: EPA 200.8 Batch ID: E-5155 Prepared: 08-Oct-13 Analyzed: 10-Oct-13 18:43						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.7545	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.1933	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0242	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	2.2446	0.0015	0.003	µmol/dry g	
Sample ID: 22102-R1 B13-8075 Grab Matrix: Sediment Sampled: 13-Aug-13 8:15 Received: 13-Aug-13 Method: EPA 200.8 Batch ID: E-5155 Prepared: 08-Oct-13 Analyzed: 10-Oct-13 18:47						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.468	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.2037	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0272	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	2.0596	0.0015	0.003	µmol/dry g	
Sample ID: 22103-R1 B13-8074 Grab Matrix: Sediment Sampled: 13-Aug-13 9:24 Received: 13-Aug-13 Method: EPA 200.8 Batch ID: E-5155 Prepared: 08-Oct-13 Analyzed: 10-Oct-13 18:52						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.7675	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.2016	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.02	0.0033	0.0066	µmol/dry g	



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CA ELAP #2769

Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	μmol/dry g	
Zinc (Zn) - SEM	NA	1.9309	0.0015	0.003	μmol/dry g	



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Fipronil & Degradates**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22100-R1 B13-8077 Grab Matrix: Sediment Sampled: 13-Aug-13 12:01 Received: 13-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 04-Apr-14 11:07						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22101-R1 B13-8076 Grab Matrix: Sediment Sampled: 13-Aug-13 10:48 Received: 13-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 04-Apr-14 12:12						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22102-R1 B13-8075 Grab Matrix: Sediment Sampled: 13-Aug-13 8:15 Received: 13-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 04-Apr-14 13:16						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22103-R1 B13-8074 Grab Matrix: Sediment Sampled: 13-Aug-13 9:24 Received: 13-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 04-Apr-14 14:21						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22100-R1 B13-8077 Grab Matrix: Sediment Sampled: 13-Aug-13 12:01 Received: 13-Aug-13 Method: EPA 8270C Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 17-Apr-14 7:15						
PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	4.66	0.05	0.1	ng/dry g	J
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	3.21	0.05	0.1	ng/dry g	J
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	1.76	0.05	0.1	ng/dry g	J
PCB101	NA	4.55	0.05	0.1	ng/dry g	J
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	3.32	0.05	0.1	ng/dry g	J
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	2.43	0.05	0.1	ng/dry g	J
PCB119	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	6.1	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	4.5	0.05	0.1	ng/dry g	J
PCB151	NA	1.68	0.05	0.1	ng/dry g	J
PCB153	NA	5.78	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	1.7	0.1	0.2	ng/dry g	J
PCB169	NA	5.02	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	1.72	0.05	0.1	ng/dry g	J
PCB177	NA	1.3	0.05	0.1	ng/dry g	J
PCB180	NA	3.22	0.05	0.1	ng/dry g	J
PCB183	NA	1.1	0.05	0.1	ng/dry g	J
PCB187	NA	2.58	0.05	0.1	ng/dry g	J
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	0.93	0.05	0.1	ng/dry g	J
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22101-R1

B13-8076 Grab

Matrix: Sediment

Sampled: 13-Aug-13 10:48

Received: 13-Aug-13

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 17-Apr-14 8:49

PCB003	NA	ND	0.05	0.1	ng/dry g	
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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	4.04	0.05	0.1	ng/dry g	J
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	4.12	0.05	0.1	ng/dry g	J
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	0.86	0.05	0.1	ng/dry g	J
PCB095	NA	2.45	0.05	0.1	ng/dry g	J
PCB097	NA	0.7	0.05	0.1	ng/dry g	J
PCB099	NA	1.46	0.05	0.1	ng/dry g	J
PCB101	NA	3.76	0.05	0.1	ng/dry g	J
PCB105	NA	0.71	0.05	0.1	ng/dry g	J
PCB110	NA	2.76	0.05	0.1	ng/dry g	J
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	2.19	0.05	0.1	ng/dry g	J
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	5.84	0.05	0.1	ng/dry g	
PCB141	NA	0.94	0.05	0.1	ng/dry g	J
PCB149	NA	3.73	0.05	0.1	ng/dry g	J
PCB151	NA	0.84	0.05	0.1	ng/dry g	J
PCB153	NA	5.03	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	1.1	0.1	0.2	ng/dry g	J
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	1.62	0.05	0.1	ng/dry g	J
PCB174	NA	1.15	0.05	0.1	ng/dry g	J
PCB177	NA	1.07	0.05	0.1	ng/dry g	J
PCB180	NA	2.98	0.05	0.1	ng/dry g	J
PCB183	NA	0.66	0.05	0.1	ng/dry g	J
PCB187	NA	2.11	0.05	0.1	ng/dry g	J
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	1.75	0.05	0.1	ng/dry g	J
PCB209	NA	0.95	0.05	0.1	ng/dry g	J

Sample ID: 22102-R1**B13-8075 Grab****Matrix: Sediment****Sampled: 13-Aug-13 8:15****Received: 13-Aug-13**

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 17-Apr-14 10:24

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	2.97	0.05	0.1	ng/dry g	J
PCB097	NA	1.44	0.05	0.1	ng/dry g	J
PCB099	NA	2.25	0.05	0.1	ng/dry g	J
PCB101	NA	5.14	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	2.96	0.05	0.1	ng/dry g	J
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	2.05	0.05	0.1	ng/dry g	J
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	7.29	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB149	NA	5.22	0.05	0.1	ng/dry g	
PCB151	NA	1.2	0.05	0.1	ng/dry g	J
PCB153	NA	7.51	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	2.03	0.05	0.1	ng/dry g	J
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	3.11	0.05	0.1	ng/dry g	J
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	3.45	0.05	0.1	ng/dry g	J
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22103-R1**B13-8074 Grab****Matrix: Sediment****Sampled: 13-Aug-13 9:24****Received: 13-Aug-13**

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 17-Apr-14 11:59

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	1.02	0.05	0.1	ng/dry g	J
PCB095	NA	2.84	0.05	0.1	ng/dry g	J
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	1.47	0.05	0.1	ng/dry g	J
PCB101	NA	4.04	0.05	0.1	ng/dry g	J
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	2.93	0.05	0.1	ng/dry g	J
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	1.93	0.05	0.1	ng/dry g	J
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	6.5	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	3.39	0.05	0.1	ng/dry g	J
PCB151	NA	0.85	0.05	0.1	ng/dry g	J
PCB153	NA	5.56	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	1.11	0.05	0.1	ng/dry g	J
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	1.7	0.1	0.2	ng/dry g	J
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	0.97	0.05	0.1	ng/dry g	J
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	2.14	0.05	0.1	ng/dry g	J
PCB183	NA	0.61	0.05	0.1	ng/dry g	J
PCB187	NA	1.96	0.05	0.1	ng/dry g	J
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22100-R1		B13-8077 Grab	Matrix: Sediment		Sampled: 13-Aug-13 12:01	Received: 13-Aug-13
		Method: EPA 8270C-NCI	Batch ID: O-5125		Prepared: 27-Mar-14	Analyzed: 10-Apr-14 0:34
(DFPBDE)	NA	106			% Recovery	
(FTBDE)	NA	110			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.77	0.05	0.1	ng/dry g	J
PBDE049	NA	0.6	0.05	0.1	ng/dry g	J
PBDE066	NA	0.92	0.05	0.1	ng/dry g	J
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	1.38	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	0.26	0.05	0.1	ng/dry g	J
PBDE154	NA	0.38	0.05	0.1	ng/dry g	J
PBDE183	NA	0.61	0.05	0.1	ng/dry g	J
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	26.04	0.05	0.1	ng/dry g	

Sample ID: 22101-R1		B13-8076 Grab	Matrix: Sediment		Sampled: 13-Aug-13 10:48	Received: 13-Aug-13
		Method: EPA 8270C-NCI	Batch ID: O-5125		Prepared: 27-Mar-14	Analyzed: 10-Apr-14 1:21
(DFPBDE)	NA	104			% Recovery	
(FTBDE)	NA	99			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.83	0.05	0.1	ng/dry g	J
PBDE049	NA	0.48	0.05	0.1	ng/dry g	J
PBDE066	NA	0.76	0.05	0.1	ng/dry g	J
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	1.08	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE100	NA	0.24	0.05	0.1	ng/dry g	J
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	0.35	0.05	0.1	ng/dry g	J
PBDE154	NA	0.25	0.05	0.1	ng/dry g	J
PBDE183	NA	0.64	0.05	0.1	ng/dry g	J
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	36.51	0.05	0.1	ng/dry g	

Sample ID: 22102-R1

B13-8075 Grab

Matrix: Sediment

Sampled: 13-Aug-13 8:15

Received: 13-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 10-Apr-14 2:08

(DFPBDE)	NA	102			% Recovery	
(FTBDE)	NA	104			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	2.03	0.05	0.1	ng/dry g	
PBDE049	NA	1.41	0.05	0.1	ng/dry g	
PBDE066	NA	1	0.05	0.1	ng/dry g	J
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	4.08	0.05	0.1	ng/dry g	
PBDE100	NA	0.87	0.05	0.1	ng/dry g	J
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	1.01	0.05	0.1	ng/dry g	
PBDE154	NA	0.9	0.05	0.1	ng/dry g	J
PBDE183	NA	0.66	0.05	0.1	ng/dry g	J
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	46.51	0.05	0.1	ng/dry g	

Sample ID: 22103-R1

B13-8074 Grab

Matrix: Sediment

Sampled: 13-Aug-13 9:24

Received: 13-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 10-Apr-14 2:55

(DFPBDE)	NA	106			% Recovery	
(FTBDE)	NA	109			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.9	0.05	0.1	ng/dry g	J
PBDE049	NA	0.44	0.05	0.1	ng/dry g	J
PBDE066	NA	0.83	0.05	0.1	ng/dry g	J
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	1.16	0.05	0.1	ng/dry g	
PBDE100	NA	0.3	0.05	0.1	ng/dry g	J
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	0.32	0.05	0.1	ng/dry g	J
PBDE154	NA	0.26	0.05	0.1	ng/dry g	J
PBDE183	NA	0.65	0.05	0.1	ng/dry g	J
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	44.09	0.05	0.1	ng/dry g	



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22100-R1 B13-8077 Grab Method: EPA 8270C		Matrix: Sediment Batch ID: O-5125		Sampled: 13-Aug-13 12:01 Prepared: 27-Mar-14		Received: 13-Aug-13 Analyzed: 17-Apr-14 7:15
(d10-Acenaphthene)	NA	81			% Recovery	
(d10-Phenanthrene)	NA	96			% Recovery	
(d12-Chrysene)	NA	78			% Recovery	
(d8-Naphthalene)	NA	71			% Recovery	
1-Methylnaphthalene	NA	2.3	1	5	ng/dry g	J
1-Methylphenanthrene	NA	8.5	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	1.1	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	2.8	1	5	ng/dry g	J
2-Methylnaphthalene	NA	5.1	1	5	ng/dry g	
Acenaphthene	NA	2.2	1	5	ng/dry g	J
Acenaphthylene	NA	12.7	1	5	ng/dry g	
Anthracene	NA	26.6	1	5	ng/dry g	
Benz[a]anthracene	NA	44.9	1	5	ng/dry g	
Benzo[a]pyrene	NA	117.8	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	133.1	1	5	ng/dry g	
Benzo[e]pyrene	NA	95.6	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	215.9	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	92.9	1	5	ng/dry g	
Biphenyl	NA	2	1	5	ng/dry g	J
Chrysene	NA	88.3	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	44.3	1	5	ng/dry g	
Dibenzothiophene	NA	3.8	1	5	ng/dry g	J
Fluoranthene	NA	108.7	1	5	ng/dry g	
Fluorene	NA	4.4	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	180.3	1	5	ng/dry g	
Naphthalene	NA	8.5	1	5	ng/dry g	
Perylene	NA	16.6	1	5	ng/dry g	
Phenanthrene	NA	54.8	1	5	ng/dry g	
Pyrene	NA	136.8	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22101-R1</div> <div>B13-8076 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5125</div> </div> <div> <div>Sampled: 13-Aug-13 10:48</div> <div>Prepared: 27-Mar-14</div> </div> <div> <div>Received: 13-Aug-13</div> <div>Analyzed: 17-Apr-14 8:49</div> </div>						
(d10-Acenaphthene)	NA	98			% Recovery	
(d10-Phenanthrene)	NA	115			% Recovery	
(d12-Chrysene)	NA	89			% Recovery	
(d8-Naphthalene)	NA	70			% Recovery	
1-Methylnaphthalene	NA	1.1	1	5	ng/dry g	J
1-Methylphenanthrene	NA	7.7	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	1.4	1	5	ng/dry g	J
2-Methylnaphthalene	NA	1.8	1	5	ng/dry g	J
Acenaphthene	NA	2.2	1	5	ng/dry g	J
Acenaphthylene	NA	20.5	1	5	ng/dry g	
Anthracene	NA	41.7	1	5	ng/dry g	
Benz[a]anthracene	NA	93.6	1	5	ng/dry g	
Benzo[a]pyrene	NA	216.7	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	209.1	1	5	ng/dry g	
Benzo[e]pyrene	NA	169.3	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	155.2	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	153	1	5	ng/dry g	
Biphenyl	NA	1.2	1	5	ng/dry g	J
Chrysene	NA	186.4	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	36.1	1	5	ng/dry g	
Dibenzothiophene	NA	3.1	1	5	ng/dry g	J
Fluoranthene	NA	131.9	1	5	ng/dry g	
Fluorene	NA	3.7	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	151.9	1	5	ng/dry g	
Naphthalene	NA	3.7	1	5	ng/dry g	J
Perylene	NA	43.2	1	5	ng/dry g	
Phenanthrene	NA	46.2	1	5	ng/dry g	
Pyrene	NA	167.7	1	5	ng/dry g	



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22102-R1 B13-8075 Grab Method: EPA 8270C		Matrix: Sediment Batch ID: O-5125		Sampled: 13-Aug-13 8:15 Prepared: 27-Mar-14		Received: 13-Aug-13 Analyzed: 17-Apr-14 10:24
(d10-Acenaphthene)	NA	104			% Recovery	
(d10-Phenanthrene)	NA	87			% Recovery	
(d12-Chrysene)	NA	87			% Recovery	
(d8-Naphthalene)	NA	48			% Recovery	
1-Methylnaphthalene	NA	2.3	1	5	ng/dry g	J
1-Methylphenanthrene	NA	8.5	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	1.1	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	3	1	5	ng/dry g	J
2-Methylnaphthalene	NA	5.1	1	5	ng/dry g	
Acenaphthene	NA	3.6	1	5	ng/dry g	J
Acenaphthylene	NA	9.9	1	5	ng/dry g	
Anthracene	NA	18.5	1	5	ng/dry g	
Benz[a]anthracene	NA	45.1	1	5	ng/dry g	
Benzo[a]pyrene	NA	77.6	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	87	1	5	ng/dry g	
Benzo[e]pyrene	NA	69.8	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	218.7	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	55.7	1	5	ng/dry g	
Biphenyl	NA	2.1	1	5	ng/dry g	J
Chrysene	NA	83.8	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	42.1	1	5	ng/dry g	
Dibenzothiophene	NA	4.9	1	5	ng/dry g	J
Fluoranthene	NA	132.6	1	5	ng/dry g	
Fluorene	NA	5.2	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	180.7	1	5	ng/dry g	
Naphthalene	NA	11.3	1	5	ng/dry g	
Perylene	NA	17.6	1	5	ng/dry g	
Phenanthrene	NA	71.4	1	5	ng/dry g	
Pyrene	NA	163.5	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22103-R1</div> <div>B13-8074 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5125</div> </div> <div> <div>Sampled: 13-Aug-13 9:24</div> <div>Prepared: 27-Mar-14</div> </div> <div> <div>Received: 13-Aug-13</div> <div>Analyzed: 17-Apr-14 11:59</div> </div>						
(d10-Acenaphthene)	NA	77			% Recovery	
(d10-Phenanthrene)	NA	82			% Recovery	
(d12-Chrysene)	NA	82			% Recovery	
(d8-Naphthalene)	NA	68			% Recovery	
1-Methylnaphthalene	NA	1.7	1	5	ng/dry g	J
1-Methylphenanthrene	NA	5.7	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	1.1	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	2	1	5	ng/dry g	J
2-Methylnaphthalene	NA	3.4	1	5	ng/dry g	J
Acenaphthene	NA	2.1	1	5	ng/dry g	J
Acenaphthylene	NA	8.2	1	5	ng/dry g	
Anthracene	NA	15.5	1	5	ng/dry g	
Benz[a]anthracene	NA	32.7	1	5	ng/dry g	
Benzo[a]pyrene	NA	52.5	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	54.2	1	5	ng/dry g	
Benzo[e]pyrene	NA	43.6	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	137.5	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	41.4	1	5	ng/dry g	
Biphenyl	NA	1.5	1	5	ng/dry g	J
Chrysene	NA	59.9	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	27.2	1	5	ng/dry g	
Dibenzothiophene	NA	3.3	1	5	ng/dry g	J
Fluoranthene	NA	75.6	1	5	ng/dry g	
Fluorene	NA	4.1	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	119.3	1	5	ng/dry g	
Naphthalene	NA	6.6	1	5	ng/dry g	
Perylene	NA	11	1	5	ng/dry g	
Phenanthrene	NA	40.4	1	5	ng/dry g	
Pyrene	NA	95.8	1	5	ng/dry g	



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CA ELAP #2769

Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Sample ID: 22100-R1

B13-8077 Grab

Matrix: Sediment

Sampled: 13-Aug-13 12:01

Received: 13-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 04-Apr-14 11:07

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22101-R1

B13-8076 Grab

Matrix: Sediment

Sampled: 13-Aug-13 10:48

Received: 13-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 04-Apr-14 12:12

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	0.55	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Resmethrin	NA	ND	0.25	0.5	ng/dry g	
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Sample ID: 22102-R1

B13-8075 Grab

Matrix: Sediment

Sampled: 13-Aug-13 8:15

Received: 13-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 04-Apr-14 13:16

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	0.49	0.25	0.5	ng/dry g	J
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22103-R1

B13-8074 Grab

Matrix: Sediment

Sampled: 13-Aug-13 9:24

Received: 13-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 04-Apr-14 14:21

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	0.55	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

Pyrethroids**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

QUALITY CONTROL REPORT

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ENVIRONMENTAL LABORATORIES, INC.

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Aroclor PCBs**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22099-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-5125		Prepared: 27-Mar-14		Analyzed: 15-Apr-14 0:00		
Aroclor 1016	NA	ND	1	2	ng/dry g					
Aroclor 1221	NA	ND	1	2	ng/dry g					
Aroclor 1232	NA	ND	1	2	ng/dry g					
Aroclor 1242	NA	ND	1	2	ng/dry g					
Aroclor 1248	NA	ND	1	2	ng/dry g					
Aroclor 1254	NA	ND	1	2	ng/dry g					
Aroclor 1260	NA	ND	1	2	ng/dry g					
Aroclor 1262	NA	ND	1	2	ng/dry g					
Aroclor 1268	NA	ND	1	2	ng/dry g					



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Chlorinated Pesticides**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22099-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C-NCI		Batch ID: O-5030		Prepared: 30-Oct-13		Analyzed: 05-Nov-13 8:08		
Toxaphene	NA	ND	0.1	0.2	ng/dry g					
		Method: EPA 8270C		Batch ID: O-5125		Prepared: 27-Mar-14		Analyzed: 15-Apr-14 20:33		
(PCB030)	NA	102			% Recovery	100		102	50 - 150% PASS	
(PCB112)	NA	112			% Recovery	100		112	50 - 150% PASS	
(PCB198)	NA	94			% Recovery	100		94	50 - 150% PASS	
(TCMX)	NA	97			% Recovery	100		97	50 - 150% PASS	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g					
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g					
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g					
Aldrin	NA	ND	0.05	0.1	ng/dry g					
BHC-alpha	NA	ND	0.05	0.1	ng/dry g					
BHC-beta	NA	ND	0.05	0.1	ng/dry g					
BHC-delta	NA	ND	0.05	0.1	ng/dry g					
BHC-gamma	NA	ND	0.05	0.1	ng/dry g					
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g					
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g					
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g					
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g					
Dicofol	NA	ND	0.05	0.1	ng/dry g					
Dieldrin	NA	ND	0.05	0.1	ng/dry g					
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g					
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g					
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g					
Endrin	NA	ND	0.05	0.1	ng/dry g					
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g					



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g					
Heptachlor	NA	ND	0.05	0.1	ng/dry g					
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g					
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g					
Methoxychlor	NA	ND	0.05	0.1	ng/dry g					
Mirex	NA	ND	0.05	0.1	ng/dry g					
Oxychlorane	NA	ND	0.05	0.1	ng/dry g					
Perthane	NA	ND	0.05	0.1	ng/dry g					
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 22099-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5030

Prepared: 30-Oct-13

Analyzed: 05-Nov-13 9:12

Toxaphene	NA	10230	0.1	0.2	ng/dry g	10000	0	102	70 - 130%	PASS
Method: EPA 8270C Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 15-Apr-14 22:07										
(PCB030)	NA	111			% Recovery	100	0	111	70 - 130%	PASS
(PCB112)	NA	118			% Recovery	100	0	118	70 - 130%	PASS
(PCB198)	NA	98			% Recovery	100	0	98	70 - 130%	PASS
(TCMX)	NA	106			% Recovery	100	0	106	70 - 130%	PASS
2,4'-DDD	NA	97	0.05	0.1	ng/dry g	100	0	97	70 - 130%	PASS
2,4'-DDE	NA	97	0.05	0.1	ng/dry g	100	0	97	70 - 130%	PASS
2,4'-DDT	NA	114	0.05	0.1	ng/dry g	100	0	114	70 - 130%	PASS
4,4'-DDD	NA	91	0.05	0.1	ng/dry g	100	0	91	70 - 130%	PASS
4,4'-DDE	NA	97	0.05	0.1	ng/dry g	100	0	97	70 - 130%	PASS
4,4'-DDMU	NA	98	0.05	0.1	ng/dry g	100	0	98	70 - 130%	PASS
4,4'-DDT	NA	121	0.05	0.1	ng/dry g	100	0	121	70 - 130%	PASS
Aldrin	NA	97	0.05	0.1	ng/dry g	100	0	97	70 - 130%	PASS
BHC-alpha	NA	107	0.05	0.1	ng/dry g	100	0	107	70 - 130%	PASS
BHC-beta	NA	92	0.05	0.1	ng/dry g	100	0	92	70 - 130%	PASS
BHC-delta	NA	99	0.05	0.1	ng/dry g	100	0	99	70 - 130%	PASS
BHC-gamma	NA	115	0.05	0.1	ng/dry g	100	0	115	70 - 130%	PASS
Chlordane-alpha	NA	106	0.05	0.1	ng/dry g	100	0	106	70 - 130%	PASS
Chlordane-gamma	NA	112	0.05	0.1	ng/dry g	100	0	112	70 - 130%	PASS

CA ELAP #2769

QUALITY CONTROL REPORT

Sample ID: 22099-BS2		QAQC Procedural Blank			Matrix: DI Water			Sampled:			Received:		
		Method: EPA 8270C-NCI			Batch ID: O-5030			Prepared: 30-Oct-13			Analyzed: 05-Nov-13 10:16		
Toxaphene	NA	9780	0.1	0.2	ng/dry g	10000	0	98	70 - 130%	PASS	4	25	PASS
		Method: EPA 8270C			Batch ID: O-5125			Prepared: 27-Mar-14			Analyzed: 18-Apr-14 8:31		
(PCB030)	NA	107			% Recovery	100	0	107	70 - 130%	PASS	4	25	PASS
(PCB112)	NA	123			% Recovery	100	0	123	70 - 130%	PASS	4	25	PASS
(PCB198)	NA	80			% Recovery	100	0	80	70 - 130%	PASS	20	25	PASS
(TCMX)	NA	98			% Recovery	100	0	98	70 - 130%	PASS	8	25	PASS
2,4'-DDD	NA	97	0.05	0.1	ng/dry g	100	0	97	70 - 130%	PASS	0	25	PASS
2,4'-DDE	NA	104	0.05	0.1	ng/dry g	100	0	104	70 - 130%	PASS	7	25	PASS
2,4'-DDT	NA	105	0.05	0.1	ng/dry g	100	0	105	70 - 130%	PASS	8	25	PASS
4,4'-DDD	NA	87	0.05	0.1	ng/dry g	100	0	87	70 - 130%	PASS	4	25	PASS
4,4'-DDE	NA	99	0.05	0.1	ng/dry g	100	0	99	70 - 130%	PASS	2	25	PASS



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
4,4'-DDMU	NA	102	0.05	0.1	ng/dry g	100	0	102 70 - 130% PASS	4 25 PASS	
4,4'-DDT	NA	108	0.05	0.1	ng/dry g	100	0	108 70 - 130% PASS	11 25 PASS	
Aldrin	NA	93	0.05	0.1	ng/dry g	100	0	93 70 - 130% PASS	4 25 PASS	
BHC-alpha	NA	103	0.05	0.1	ng/dry g	100	0	103 70 - 130% PASS	4 25 PASS	
BHC-beta	NA	99	0.05	0.1	ng/dry g	100	0	99 70 - 130% PASS	7 25 PASS	
BHC-delta	NA	92	0.05	0.1	ng/dry g	100	0	92 70 - 130% PASS	7 25 PASS	
BHC-gamma	NA	103	0.05	0.1	ng/dry g	100	0	103 70 - 130% PASS	11 25 PASS	
Chlordane-alpha	NA	107	0.05	0.1	ng/dry g	100	0	107 70 - 130% PASS	1 25 PASS	
Chlordane-gamma	NA	112	0.05	0.1	ng/dry g	100	0	112 70 - 130% PASS	0 25 PASS	
cis-Nonachlor	NA	92	0.05	0.1	ng/dry g	100	0	92 70 - 130% PASS	5 25 PASS	
DCPA (Dacthal)	NA	100	0.05	0.1	ng/dry g	100	0	100 70 - 130% PASS	5 25 PASS	
Dicofol	NA	108	0.05	0.1	ng/dry g	100	0	108 70 - 130% PASS	18 25 PASS	
Dieldrin	NA	92	0.05	0.1	ng/dry g	100	0	92 70 - 130% PASS	1 25 PASS	
Endosulfan sulfate	NA	91	0.05	0.1	ng/dry g	100	0	91 70 - 130% PASS	8 25 PASS	
Endosulfan-I	NA	98	0.05	0.1	ng/dry g	100	0	98 70 - 130% PASS	51 25 FAIL	R
Endosulfan-II	NA	86	0.05	0.1	ng/dry g	100	0	86 70 - 130% PASS	8 25 PASS	
Endrin	NA	124	0.05	0.1	ng/dry g	100	0	124 70 - 130% PASS	7 25 PASS	
Endrin aldehyde	NA	76	0.05	0.1	ng/dry g	100	0	76 70 - 130% PASS	190 25 FAIL	R
Endrin ketone	NA	89	0.05	0.1	ng/dry g	100	0	89 70 - 130% PASS	14 25 PASS	
Heptachlor	NA	124	0.05	0.1	ng/dry g	100	0	124 70 - 130% PASS	20 25 PASS	
Heptachlor epoxide	NA	98	0.05	0.1	ng/dry g	100	0	98 70 - 130% PASS	10 25 PASS	
Hexachlorobenzene	NA	96	0.05	0.1	ng/dry g	100	0	96 70 - 130% PASS	5 25 PASS	
Methoxychlor	NA	103	0.05	0.1	ng/dry g	100	0	103 70 - 130% PASS	15 25 PASS	
Mirex	NA	75	0.05	0.1	ng/dry g	100	0	75 70 - 130% PASS	15 25 PASS	
Oxychlordane	NA	87	0.05	0.1	ng/dry g	100	0	87 70 - 130% PASS	16 25 PASS	
Perthane	NA	103	0.05	0.1	ng/dry g	100	0	103 70 - 130% PASS	7 25 PASS	
trans-Nonachlor	NA	105	0.05	0.1	ng/dry g	100	0	105 70 - 130% PASS	4 25 PASS	

Sample ID: 22104-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 16-Apr-14 4:26

(PCB030)	NA	128	% Recovery	100	128	60 - 140% PASS
(PCB112)	NA	121	% Recovery	100	121	60 - 140% PASS

PHYSIS Project ID: 1307002-008

Client: AMEC

Project: RHMP Bight '13

qcb - 5 of 29



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Chlorinated Pesticides**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
(PCB198)	NA	95			% Recovery	100		95 60 - 140% PASS		
(TCMX)	NA	137			% Recovery	100		137 60 - 140% PASS		
2,4'-DDD	NA	37.7	0.05	0.1	ng/dry g	38		99 60 - 140% PASS		
2,4'-DDE	NA	16.4	0.05	0.1	ng/dry g	19		86 60 - 140% PASS		
4,4'-DDD	NA	87.8	0.05	0.1	ng/dry g	108		81 60 - 140% PASS		
4,4'-DDE	NA	81.7	0.05	0.1	ng/dry g	86		95 60 - 140% PASS		
4,4'-DDT	NA	90	0.05	0.1	ng/dry g	170		53 60 - 140% FAIL		R
Chlordane-alpha	NA	16.8	0.05	0.1	ng/dry g	16.5		102 60 - 140% PASS		
Chlordane-gamma	NA	7.11	0.05	0.1	ng/dry g	19		37 60 - 140% FAIL		R
cis-Nonachlor	NA	3.66	0.05	0.1	ng/dry g	3.7		99 60 - 140% PASS		
Hexachlorobenzene	NA	6.17	0.05	0.1	ng/dry g	6		103 60 - 140% PASS		
trans-Nonachlor	NA	8.39	0.05	0.1	ng/dry g	8.2		102 60 - 140% PASS		



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Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
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Acid Volatile Sulfides

Method: Plumb, 1981 and TERL

Fraction: NA

22099-B1	QAQC Procedural Blank	C-14042 ND Prepared: 01-Oct-13	0.05	0.1	mg/dry kg							
		Analyzed: 01-Oct-13 0:00										
22099-BS1	QAQC Procedural Blank	C-14042 8.64 Prepared: 01-Oct-13	0.05	0.1	mg/dry kg	9.96	0	87	80 - 120% PASS			
		Analyzed: 01-Oct-13 0:00										
22099-BS2	QAQC Procedural Blank	C-14042 9.44 Prepared: 01-Oct-13	0.05	0.1	mg/dry kg	9.96	0	95	80 - 120% PASS	9	25	PASS
		Analyzed: 01-Oct-13 0:00										
22100-MS1	B13-8077	C-14042 15.63 Prepared: 01-Oct-13	0.05	0.1	mg/dry kg	9.61	7.99	80	50 - 130% PASS			
		Analyzed: 01-Oct-13 0:00										
22100-MS2	B13-8077	C-14042 15.39 Prepared: 01-Oct-13	0.05	0.1	mg/dry kg	8.9	7.99	83	50 - 130% PASS	4	25	PASS
		Analyzed: 01-Oct-13 0:00										
22100-R2	B13-8077	C-14042 8.87 Prepared: 01-Oct-13	0.05	0.1	mg/dry kg					22	25	PASS
		Analyzed: 01-Oct-13 0:00										

Ammonia as N

Method: SM 4500-NH₃ D

Fraction:

22099-B1	QAQC Procedural Blank	C-14040 ND Prepared: 27-Sep-13	0.02	0.03	mg/dry kg							
		Analyzed: 28-Sep-13 0:00										
22099-BS1	QAQC Procedural Blank	C-14040 4.59 Prepared: 27-Sep-13	0.02	0.03	mg/dry kg	4.86	0	94	80 - 120% PASS			
		Analyzed: 28-Sep-13 0:00										
22099-BS2	QAQC Procedural Blank	C-14040 4.8 Prepared: 27-Sep-13	0.02	0.03	mg/dry kg	4.86	0	99	80 - 120% PASS	5	25	PASS
		Analyzed: 28-Sep-13 0:00										
22100-MS1	B13-8077	C-14040 25 Prepared: 27-Sep-13	0.02	0.03	mg/dry kg	21.78	1.74	107	70 - 130% PASS			
		Analyzed: 28-Sep-13 0:00										
22100-MS2	B13-8077	C-14040 24.61 Prepared: 27-Sep-13	0.02	0.03	mg/dry kg	22.62	1.74	101	70 - 130% PASS	6	25	PASS
		Analyzed: 28-Sep-13 0:00										
22100-R2	B13-8077	C-14040 1.57 Prepared: 27-Sep-13	0.02	0.03	mg/dry kg					20	25	PASS
		Analyzed: 28-Sep-13 0:00										

Percent Solids

Method: SM 2540B

Fraction: NA

22099-B1	QAQC Procedural Blank	C-14037 ND Prepared: 27-Sep-13	0.1	0.1	% Dry Weight							
		Analyzed: 28-Sep-13 0:00										
22100-R2	B13-8077	C-14037 54.5 Prepared: 27-Sep-13	0.1	0.1	% Dry Weight					0	25	PASS
		Analyzed: 28-Sep-13 0:00										



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Conventional

QUALITY CONTROL REPORT

SAMPLE ID		BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE	
Total Phosphorus				Method: EPA 6020				Fraction: NA						
22099-B1	QAQC Procedural Blank	E-5148	ND	0.016	0.05	µg/dry g								
		Prepared: 01-Oct-13				Analyzed: 04-Oct-13 19:55								
22099-BS1	QAQC Procedural Blank	E-5148	63.672	0.016	0.05	µg/dry g	50	0	127	80 - 120% FAIL			*	
		Prepared: 01-Oct-13				Analyzed: 04-Oct-13 20:59								
22099-BS2	QAQC Procedural Blank	E-5148	64.699	0.016	0.05	µg/dry g	50	0	129	80 - 120% FAIL	2	25	PASS	*
		Prepared: 01-Oct-13				Analyzed: 04-Oct-13 21:04								
22100-R2	B13-8077	E-5148	395.858	0.016	0.05	µg/dry g						0	25	PASS
		Prepared: 01-Oct-13				Analyzed: 04-Oct-13 20:13								



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22099-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 6020

Batch ID: E-5148

Prepared: 01-Oct-13

Analyzed: 05-Oct-13 0:08

Aluminum (Al)	NA	ND	1	5	µg/dry g					
Antimony (Sb)	NA	ND	0.025	0.05	µg/dry g					
Arsenic (As)	NA	ND	0.025	0.05	µg/dry g					
Barium (Ba)	NA	ND	0.025	0.05	µg/dry g					
Beryllium (Be)	NA	ND	0.025	0.05	µg/dry g					
Cadmium (Cd)	NA	ND	0.0025	0.005	µg/dry g					
Chromium (Cr)	NA	ND	0.0025	0.005	µg/dry g					
Copper (Cu)	NA	ND	0.0025	0.005	µg/dry g					
Iron (Fe)	NA	ND	1	5	µg/dry g					
Lead (Pb)	NA	ND	0.0025	0.005	µg/dry g					
Nickel (Ni)	NA	ND	0.01	0.02	µg/dry g					
Selenium (Se)	NA	ND	0.025	0.05	µg/dry g					
Silver (Ag)	NA	ND	0.01	0.02	µg/dry g					
Zinc (Zn)	NA	ND	0.025	0.05	µg/dry g					

Method: EPA 245.7

Batch ID: E-6030

Prepared: 08-Oct-13

Analyzed: 08-Oct-13 0:00

Mercury (Hg)	NA	ND	0.00001	0.00002	µg/dry g					
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Sample ID: 22099-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 6020

Batch ID: E-5148

Prepared: 01-Oct-13

Analyzed: 05-Oct-13 1:05

Aluminum (Al)	NA	2	1	5	µg/dry g	2	0	100	80 - 120%	PASS
Antimony (Sb)	NA	2.176	0.025	0.05	µg/dry g	2	0	109	80 - 120%	PASS
Arsenic (As)	NA	2.099	0.025	0.05	µg/dry g	2	0	105	80 - 120%	PASS
Barium (Ba)	NA	2.15	0.025	0.05	µg/dry g	2	0	108	80 - 120%	PASS
Beryllium (Be)	NA	2.022	0.025	0.05	µg/dry g	2	0	101	80 - 120%	PASS
Cadmium (Cd)	NA	2.0662	0.0025	0.005	µg/dry g	2	0	103	80 - 120%	PASS
Chromium (Cr)	NA	2.1361	0.0025	0.005	µg/dry g	2	0	107	80 - 120%	PASS
Copper (Cu)	NA	2.1353	0.0025	0.005	µg/dry g	2	0	107	80 - 120%	PASS
Iron (Fe)	NA	2.1	1	5	µg/dry g	2	0	105	80 - 120%	PASS
Lead (Pb)	NA	2.0554	0.0025	0.005	µg/dry g	2	0	103	80 - 120%	PASS



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Nickel (Ni)	NA	2.1	0.01	0.02	µg/dry g	2	0	105 80 - 120%	PASS	
Selenium (Se)	NA	2.024	0.025	0.05	µg/dry g	2	0	101 80 - 120%	PASS	
Silver (Ag)	NA	0.21	0.01	0.02	µg/dry g	0.2	0	105 80 - 120%	PASS	
Zinc (Zn)	NA	2.081	0.025	0.05	µg/dry g	2	0	104 80 - 120%	PASS	

Method: EPA 245.7

Batch ID: E-6030

Prepared: 08-Oct-13

Analyzed: 08-Oct-13 0:00

Mercury (Hg)	NA	0.99	0.00001	0.00002	µg/dry g	1	0	99 80 - 120%	PASS	
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Sample ID: 22099-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 6020

Batch ID: E-5148

Prepared: 01-Oct-13

Analyzed: 05-Oct-13 1:09

Aluminum (Al)	NA	2	1	5	µg/dry g	2	0	100 80 - 120%	PASS	0 25 PASS
Antimony (Sb)	NA	2.153	0.025	0.05	µg/dry g	2	0	108 80 - 120%	PASS	1 25 PASS
Arsenic (As)	NA	2.073	0.025	0.05	µg/dry g	2	0	104 80 - 120%	PASS	1 25 PASS
Barium (Ba)	NA	2.104	0.025	0.05	µg/dry g	2	0	105 80 - 120%	PASS	3 25 PASS
Beryllium (Be)	NA	2.04	0.025	0.05	µg/dry g	2	0	102 80 - 120%	PASS	1 25 PASS
Cadmium (Cd)	NA	2.0548	0.0025	0.005	µg/dry g	2	0	103 80 - 120%	PASS	0 25 PASS
Chromium (Cr)	NA	2.1043	0.0025	0.005	µg/dry g	2	0	105 80 - 120%	PASS	2 25 PASS
Copper (Cu)	NA	2.1125	0.0025	0.005	µg/dry g	2	0	106 80 - 120%	PASS	1 25 PASS
Iron (Fe)	NA	2	1	5	µg/dry g	2	0	100 80 - 120%	PASS	5 25 PASS
Lead (Pb)	NA	2.0628	0.0025	0.005	µg/dry g	2	0	103 80 - 120%	PASS	0 25 PASS
Nickel (Ni)	NA	2.07	0.01	0.02	µg/dry g	2	0	103 80 - 120%	PASS	1 25 PASS
Selenium (Se)	NA	2.031	0.025	0.05	µg/dry g	2	0	102 80 - 120%	PASS	1 25 PASS
Silver (Ag)	NA	0.21	0.01	0.02	µg/dry g	0.2	0	105 80 - 120%	PASS	0 25 PASS
Zinc (Zn)	NA	2.04	0.025	0.05	µg/dry g	2	0	102 80 - 120%	PASS	2 25 PASS

Method: EPA 245.7

Batch ID: E-6030

Prepared: 08-Oct-13

Analyzed: 08-Oct-13 0:00

Mercury (Hg)	NA	0.991	0.00001	0.00002	µg/dry g	1	0	99 80 - 120%	PASS	0 25 PASS
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Sample ID: 22100-MS1**B13-8077 Grab****Matrix: Sediment****Sampled: 13-Aug-13 12:01****Received: 13-Aug-13**

Method: EPA 6020

Batch ID: E-5148

Prepared: 01-Oct-13

Analyzed: 05-Oct-13 1:14

Aluminum (Al)	NA	29722.9	1	5	µg/dry g	717	28935.7	110 75 - 125%	PASS	
Antimony (Sb)	NA	74.835	0.025	0.05	µg/dry g	71.74	0.874	103 75 - 125%	PASS	
Arsenic (As)	NA	85.664	0.025	0.05	µg/dry g	71.74	9.094	107 75 - 125%	PASS	
Barium (Ba)	NA	176.684	0.025	0.05	µg/dry g	71.74	101.957	104 75 - 125%	PASS	



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Beryllium (Be)	NA	79.119	0.025	0.05	µg/dry g	71.74	0.593	109	75 - 125% PASS	
Cadmium (Cd)	NA	72.5237	0.0025	0.005	µg/dry g	71.74	0.5156	100	75 - 125% PASS	
Chromium (Cr)	NA	126.4928	0.0025	0.005	µg/dry g	71.74	45.4104	113	75 - 125% PASS	
Copper (Cu)	NA	192.4163	0.0025	0.005	µg/dry g	71.74	117.3823	105	75 - 125% PASS	
Iron (Fe)	NA	28241.6	1	5	µg/dry g	717	27559.7	95	75 - 125% PASS	
Lead (Pb)	NA	123.5819	0.0025	0.005	µg/dry g	71.74	55.017	96	75 - 125% PASS	
Nickel (Ni)	NA	88.56	0.01	0.02	µg/dry g	71.74	13.35	105	75 - 125% PASS	
Selenium (Se)	NA	81.584	0.025	0.05	µg/dry g	71.74	0.3	113	75 - 125% PASS	
Silver (Ag)	NA	7.97	0.01	0.02	µg/dry g	7.17	0.66	102	75 - 125% PASS	
Zinc (Zn)	NA	287.466	0.025	0.05	µg/dry g	71.74	225.364	87	75 - 125% PASS	

Method: EPA 245.7

Batch ID: E-6030

Prepared: 08-Oct-13

Analyzed: 08-Oct-13 0:00

Mercury (Hg)	NA	1.01238	0.00001	0.00002	µg/dry g	0.359	0.46945	151	75 - 125% FAIL	M
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Sample ID: 22100-MS2**B13-8077 Grab****Matrix: Sediment****Sampled: 13-Aug-13****12:01****Received: 13-Aug-13**

Method: EPA 6020

Batch ID: E-5148

Prepared: 01-Oct-13

Analyzed: 05-Oct-13 1:19

Aluminum (Al)	NA	29580.9	1	5	µg/dry g	717	28935.7	90	75 - 125% PASS	20	25	PASS	
Antimony (Sb)	NA	74.904	0.025	0.05	µg/dry g	71.74	0.874	103	75 - 125% PASS	0	25	PASS	
Arsenic (As)	NA	84.952	0.025	0.05	µg/dry g	71.74	9.094	106	75 - 125% PASS	1	25	PASS	
Barium (Ba)	NA	177.294	0.025	0.05	µg/dry g	71.74	101.957	105	75 - 125% PASS	1	25	PASS	
Beryllium (Be)	NA	78.133	0.025	0.05	µg/dry g	71.74	0.593	108	75 - 125% PASS	1	25	PASS	
Cadmium (Cd)	NA	72.4349	0.0025	0.005	µg/dry g	71.74	0.5156	100	75 - 125% PASS	0	25	PASS	
Chromium (Cr)	NA	126.2484	0.0025	0.005	µg/dry g	71.74	45.4104	113	75 - 125% PASS	0	25	PASS	
Copper (Cu)	NA	191.6898	0.0025	0.005	µg/dry g	71.74	117.3823	104	75 - 125% PASS	1	25	PASS	
Iron (Fe)	NA	28064.4	1	5	µg/dry g	717	27559.7	70	75 - 125% FAIL	30	25	FAIL	SH
Lead (Pb)	NA	124.6605	0.0025	0.005	µg/dry g	71.74	55.017	97	75 - 125% PASS	1	25	PASS	
Nickel (Ni)	NA	88.81	0.01	0.02	µg/dry g	71.74	13.35	105	75 - 125% PASS	0	25	PASS	
Selenium (Se)	NA	81.475	0.025	0.05	µg/dry g	71.74	0.3	113	75 - 125% PASS	0	25	PASS	
Silver (Ag)	NA	7.93	0.01	0.02	µg/dry g	7.17	0.66	101	75 - 125% PASS	1	25	PASS	
Zinc (Zn)	NA	285.466	0.025	0.05	µg/dry g	71.74	225.364	84	75 - 125% PASS	4	25	PASS	

Method: EPA 245.7

Batch ID: E-6030

Prepared: 08-Oct-13

Analyzed: 08-Oct-13 0:00

Mercury (Hg)	NA	1.00879	0.00001	0.00002	µg/dry g	0.359	0.46945	150	75 - 125% FAIL	1	25	PASS	M
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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22100-R2		B13-8077 Grab		Matrix: Sediment		Sampled: 13-Aug-13 12:01		Received: 13-Aug-13		
		Method: EPA 6020		Batch ID: E-5148		Prepared: 01-Oct-13		Analyzed: 05-Oct-13 0:27		
Aluminum (Al)	NA	28213.8	1	5	µg/dry g			5	25	PASS
Antimony (Sb)	NA	0.844	0.025	0.05	µg/dry g			7	25	PASS
Arsenic (As)	NA	8.854	0.025	0.05	µg/dry g			5	25	PASS
Barium (Ba)	NA	99.331	0.025	0.05	µg/dry g			5	25	PASS
Beryllium (Be)	NA	0.579	0.025	0.05	µg/dry g			5	25	PASS
Cadmium (Cd)	NA	0.4905	0.0025	0.005	µg/dry g			10	25	PASS
Chromium (Cr)	NA	45.3965	0.0025	0.005	µg/dry g			0	25	PASS
Copper (Cu)	NA	116.6599	0.0025	0.005	µg/dry g			1	25	PASS
Iron (Fe)	NA	26886.9	1	5	µg/dry g			5	25	PASS
Lead (Pb)	NA	52.7321	0.0025	0.005	µg/dry g			8	25	PASS
Nickel (Ni)	NA	13.44	0.01	0.02	µg/dry g			1	25	PASS
Selenium (Se)	NA	0.282	0.025	0.05	µg/dry g			12	25	PASS
Silver (Ag)	NA	0.66	0.01	0.02	µg/dry g			0	25	PASS
Zinc (Zn)	NA	214.47	0.025	0.05	µg/dry g			10	25	PASS
		Method: EPA 245.7		Batch ID: E-6030		Prepared: 08-Oct-13		Analyzed: 08-Oct-13 0:00		
Mercury (Hg)	NA	0.3148	0.00001	0.00002	µg/dry g			66	25	FAIL M

Sample ID: 22105-CRM1		QAQC CRM - RTC 016-050		Matrix: Sediment		Sampled:		Received:		
		Method: EPA 6020		Batch ID: E-5148		Prepared: 01-Oct-13		Analyzed: 05-Oct-13 0:46		
Aluminum (Al)	NA	20656.4	1	5	µg/dry g	8920	232	80 - 120%	FAIL	*
Arsenic (As)	NA	8.274	0.025	0.05	µg/dry g	7.76	107	80 - 120%	PASS	
Beryllium (Be)	NA	0.772	0.025	0.05	µg/dry g	0.49	158	80 - 120%	FAIL	*
Cadmium (Cd)	NA	0.2875	0.0025	0.005	µg/dry g	0.47	61	80 - 120%	FAIL	R
Chromium (Cr)	NA	33.0146	0.0025	0.005	µg/dry g	14.5	228	80 - 120%	FAIL	*
Copper (Cu)	NA	15.8578	0.0025	0.005	µg/dry g	15.5	102	80 - 120%	PASS	
Iron (Fe)	NA	18693.2	1	5	µg/dry g	16800	111	80 - 120%	PASS	
Lead (Pb)	NA	14.8191	0.0025	0.005	µg/dry g	14.01	106	80 - 120%	PASS	
Nickel (Ni)	NA	19.16	0.01	0.02	µg/dry g	16.7	115	80 - 120%	PASS	
Zinc (Zn)	NA	81.248	0.025	0.05	µg/dry g	69.7	117	80 - 120%	PASS	



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
<div> <div>Method: EPA 245.7</div> <div>Batch ID: E-6030</div> <div>Prepared: 08-Oct-13</div> <div>Analyzed: 08-Oct-13 0:00</div> </div>										
Mercury (Hg)	NA	0.1707	0.00001	0.00002	µg/dry g	0.158		108 80 - 120% PASS		
<div> <div>Sample ID: 22106-CRM1</div> <div>QAQC CRM - ERA 540</div> <div>Method: EPA 6020</div> <div>Matrix: Sediment</div> <div>Batch ID: E-5148</div> <div>Sampled: 01-Oct-13</div> <div>Received: 05-Oct-13 0:50</div> </div>										
Aluminum (Al)	NA	14368.7	1	5	µg/dry g	9060		159 80 - 120% FAIL		*
Antimony (Sb)	NA	184.997	0.025	0.05	µg/dry g	106		175 80 - 120% FAIL		*
Arsenic (As)	NA	178.02	0.025	0.05	µg/dry g	182		98 80 - 120% PASS		
Beryllium (Be)	NA	96.142	0.025	0.05	µg/dry g	98.3		98 80 - 120% PASS		
Cadmium (Cd)	NA	58.1673	0.0025	0.005	µg/dry g	60.4		96 80 - 120% PASS		
Chromium (Cr)	NA	133.698	0.0025	0.005	µg/dry g	125		107 80 - 120% PASS		
Copper (Cu)	NA	77.2582	0.0025	0.005	µg/dry g	80.1		96 80 - 120% PASS		
Iron (Fe)	NA	16317.4	1	5	µg/dry g	12900		126 80 - 120% FAIL		*
Lead (Pb)	NA	120.6987	0.0025	0.005	µg/dry g	136		89 80 - 120% PASS		
Nickel (Ni)	NA	125.89	0.01	0.02	µg/dry g	128		98 80 - 120% PASS		
Selenium (Se)	NA	86.316	0.025	0.05	µg/dry g	85.9		100 80 - 120% PASS		
Silver (Ag)	NA	56.48	0.01	0.02	µg/dry g	61.3		92 80 - 120% PASS		
Zinc (Zn)	NA	196.979	0.025	0.05	µg/dry g	204		97 80 - 120% PASS		
<div> <div>Method: EPA 245.7</div> <div>Batch ID: E-6030</div> <div>Prepared: 08-Oct-13</div> <div>Analyzed: 08-Oct-13 0:00</div> </div>										
Mercury (Hg)	NA	9.2433	0.00001	0.00002	µg/dry g	9.25		100 80 - 120% PASS		



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Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Sample ID: 22099-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 200.8		Batch ID: E-5155		Prepared: 08-Oct-13		Analyzed: 10-Oct-13 13:47		
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g					
Copper (Cu) - SEM	NA	ND	0.0062	0.0124	µmol/dry g					
Lead (Pb) - SEM	NA	ND	0.0002	0.0004	µmol/dry g					
Nickel (Ni) - SEM	NA	ND	0.0033	0.0066	µmol/dry g					
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g					
Zinc (Zn) - SEM	NA	ND	0.0015	0.003	µmol/dry g					
Sample ID: 22099-BS1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 200.8		Batch ID: E-5155		Prepared: 08-Oct-13		Analyzed: 10-Oct-13 19:02		
Cadmium (Cd) - SEM	NA	0.0187	0.0018	0.0036	µmol/dry g	0.0178	0	105	75 - 130% PASS	
Copper (Cu) - SEM	NA	0.0316	0.0062	0.0124	µmol/dry g	0.0315	0	100	70 - 130% PASS	
Lead (Pb) - SEM	NA	0.01	0.0002	0.0004	µmol/dry g	0.0097	0	103	65 - 135% PASS	
Nickel (Ni) - SEM	NA	0.0339	0.0033	0.0066	µmol/dry g	0.0341	0	99	70 - 130% PASS	
Silver (Ag) - SEM	NA	0.0019	0.0047	0.0094	µmol/dry g	0.0019	0	100	50 - 155% PASS	
Zinc (Zn) - SEM	NA	0.0316	0.0015	0.003	µmol/dry g	0.0306	0	103	50 - 150% PASS	
Sample ID: 22099-BS2		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 200.8		Batch ID: E-5155		Prepared: 08-Oct-13		Analyzed: 10-Oct-13 19:06		
Cadmium (Cd) - SEM	NA	0.0187	0.0018	0.0036	µmol/dry g	0.0178	0	105	75 - 130% PASS	0 25 PASS
Copper (Cu) - SEM	NA	0.0316	0.0062	0.0124	µmol/dry g	0.0315	0	100	70 - 130% PASS	0 25 PASS
Lead (Pb) - SEM	NA	0.0101	0.0002	0.0004	µmol/dry g	0.0097	0	104	65 - 135% PASS	1 25 PASS
Nickel (Ni) - SEM	NA	0.0338	0.0033	0.0066	µmol/dry g	0.0341	0	99	70 - 130% PASS	0 25 PASS
Silver (Ag) - SEM	NA	0.0019	0.0047	0.0094	µmol/dry g	0.0019	0	100	50 - 155% PASS	0 25 PASS
Zinc (Zn) - SEM	NA	0.0315	0.0015	0.003	µmol/dry g	0.0306	0	103	50 - 150% PASS	0 25 PASS
Sample ID: 22100-MS1		B13-8077 Grab		Matrix: Sediment		Sampled: 13-Aug-13 12:01		Received: 13-Aug-13		
		Method: EPA 200.8		Batch ID: E-5155		Prepared: 08-Oct-13		Analyzed: 10-Oct-13 19:11		
Cadmium (Cd) - SEM	NA	0.8635	0.0018	0.0036	µmol/dry g	0.8113	0.0022	106	75 - 130% PASS	
Copper (Cu) - SEM	NA	1.8018	0.0062	0.0124	µmol/dry g	1.4353	0.3928	98	70 - 130% PASS	
Lead (Pb) - SEM	NA	0.6268	0.0002	0.0004	µmol/dry g	0.4402	0.189	99	65 - 135% PASS	



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Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Nickel (Ni) - SEM	NA	1.5881	0.0033	0.0066	µmol/dry g	1.5539	0.0215	101	70 - 130%	PASS		
Silver (Ag) - SEM	NA	0.0841	0.0047	0.0094	µmol/dry g	0.0845	0	100	50 - 155%	PASS		
Zinc (Zn) - SEM	NA	2.8998	0.0015	0.003	µmol/dry g	1.3949	1.6541	89	50 - 150%	PASS		

Sample ID: 22100-MS2**B13-8077 Grab****Matrix: Sediment****Sampled: 13-Aug-13****12:01****Received: 13-Aug-13**

Method: EPA 200.8

Batch ID: E-5155

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 19:16

Cadmium (Cd) - SEM	NA	0.867	0.0018	0.0036	µmol/dry g	0.8113	0.0022	107	75 - 130%	PASS	1	25	PASS
Copper (Cu) - SEM	NA	1.7897	0.0062	0.0124	µmol/dry g	1.4353	0.3928	97	70 - 130%	PASS	1	25	PASS
Lead (Pb) - SEM	NA	0.627	0.0002	0.0004	µmol/dry g	0.4402	0.189	100	65 - 135%	PASS	1	25	PASS
Nickel (Ni) - SEM	NA	1.5931	0.0033	0.0066	µmol/dry g	1.5539	0.0215	101	70 - 130%	PASS	0	25	PASS
Silver (Ag) - SEM	NA	0.083	0.0047	0.0094	µmol/dry g	0.0845	0	98	50 - 155%	PASS	2	25	PASS
Zinc (Zn) - SEM	NA	2.9954	0.0015	0.003	µmol/dry g	1.3949	1.6541	96	50 - 150%	PASS	8	25	PASS

Sample ID: 22100-R2**B13-8077 Grab****Matrix: Sediment****Sampled: 13-Aug-13****12:01****Received: 13-Aug-13**

Method: EPA 200.8

Batch ID: E-5155

Prepared: 08-Oct-13

Analyzed: 10-Oct-13 18:38

Cadmium (Cd) - SEM	NA	0.0022	0.0018	0.0036	µmol/dry g						0	25	PASS	J
Copper (Cu) - SEM	NA	0.4227	0.0062	0.0124	µmol/dry g						15	25	PASS	
Lead (Pb) - SEM	NA	0.1908	0.0002	0.0004	µmol/dry g						2	25	PASS	
Nickel (Ni) - SEM	NA	0.0225	0.0033	0.0066	µmol/dry g						10	25	PASS	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g						0	25	PASS	
Zinc (Zn) - SEM	NA	1.727	0.0015	0.003	µmol/dry g						9	25	PASS	



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Fipronil & Degradates

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22099-B1

QAQC Procedural Blank

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5125

Sampled:

Prepared: 27-Mar-14

Received:

Analyzed: 03-Apr-14 13:36

Fipronil	NA	ND	0.25	0.5	ng/dry g					
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g					
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g					
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g					

Sample ID: 22099-BS1

QAQC Procedural Blank

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5125

Sampled:

Prepared: 27-Mar-14

Received:

Analyzed: 03-Apr-14 14:40

Fipronil	NA	1634.01	0.25	0.5	ng/dry g	1000	0	163	50 - 150%	FAIL		*
Fipronil Desulfinyl	NA	1219.34	0.25	0.5	ng/dry g	1000	0	122	50 - 150%	PASS		
Fipronil Sulfide	NA	1117.05	0.25	0.5	ng/dry g	1000	0	112	50 - 150%	PASS		
Fipronil Sulfone	NA	1222.93	0.25	0.5	ng/dry g	1000	0	122	50 - 150%	PASS		

Sample ID: 22099-BS2

QAQC Procedural Blank

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5125

Sampled:

Prepared: 27-Mar-14

Received:

Analyzed: 03-Apr-14 15:45

Fipronil	NA	1695.71	0.25	0.5	ng/dry g	1000	0	170	50 - 150%	FAIL	4	25	PASS	*
Fipronil Desulfinyl	NA	1176.03	0.25	0.5	ng/dry g	1000	0	118	50 - 150%	PASS	3	25	PASS	
Fipronil Sulfide	NA	1080.33	0.25	0.5	ng/dry g	1000	0	108	50 - 150%	PASS	4	25	PASS	
Fipronil Sulfone	NA	1249.23	0.25	0.5	ng/dry g	1000	0	125	50 - 150%	PASS	2	25	PASS	



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22099-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-5125		Prepared: 27-Mar-14		Analyzed: 15-Apr-14 20:33		
PCB003	NA	ND	0.05	0.1	ng/dry g					
PCB005	NA	ND	0.05	0.1	ng/dry g					
PCB008	NA	ND	0.05	0.1	ng/dry g					
PCB015	NA	ND	0.05	0.1	ng/dry g					
PCB018	NA	ND	0.05	0.1	ng/dry g					
PCB027	NA	ND	0.05	0.1	ng/dry g					
PCB028	NA	ND	0.05	0.1	ng/dry g					
PCB029	NA	ND	0.05	0.1	ng/dry g					
PCB031	NA	ND	0.05	0.1	ng/dry g					
PCB033	NA	ND	0.05	0.1	ng/dry g					
PCB037	NA	ND	0.05	0.1	ng/dry g					
PCB044	NA	ND	0.05	0.1	ng/dry g					
PCB049	NA	ND	0.05	0.1	ng/dry g					
PCB052	NA	ND	0.05	0.1	ng/dry g					
PCB056(060)	NA	ND	0.1	0.2	ng/dry g					
PCB066	NA	ND	0.05	0.1	ng/dry g					
PCB070	NA	ND	0.05	0.1	ng/dry g					
PCB074	NA	ND	0.05	0.1	ng/dry g					
PCB077	NA	ND	0.05	0.1	ng/dry g					
PCB081	NA	ND	0.05	0.1	ng/dry g					
PCB087	NA	ND	0.05	0.1	ng/dry g					
PCB095	NA	ND	0.05	0.1	ng/dry g					
PCB097	NA	ND	0.05	0.1	ng/dry g					
PCB099	NA	ND	0.05	0.1	ng/dry g					
PCB101	NA	ND	0.05	0.1	ng/dry g					
PCB105	NA	ND	0.05	0.1	ng/dry g					
PCB110	NA	ND	0.05	0.1	ng/dry g					
PCB114	NA	ND	0.05	0.1	ng/dry g					
PCB118	NA	ND	0.05	0.1	ng/dry g					



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB119	NA	ND	0.05	0.1	ng/dry g					
PCB123	NA	ND	0.05	0.1	ng/dry g					
PCB126	NA	ND	0.05	0.1	ng/dry g					
PCB128	NA	ND	0.05	0.1	ng/dry g					
PCB137	NA	ND	0.05	0.1	ng/dry g					
PCB138	NA	ND	0.05	0.1	ng/dry g					
PCB141	NA	ND	0.05	0.1	ng/dry g					
PCB149	NA	ND	0.05	0.1	ng/dry g					
PCB151	NA	ND	0.05	0.1	ng/dry g					
PCB153	NA	ND	0.05	0.1	ng/dry g					
PCB156	NA	ND	0.05	0.1	ng/dry g					
PCB157	NA	ND	0.05	0.1	ng/dry g					
PCB158	NA	ND	0.05	0.1	ng/dry g					
PCB167	NA	ND	0.05	0.1	ng/dry g					
PCB168+132	NA	ND	0.1	0.2	ng/dry g					
PCB169	NA	ND	0.05	0.1	ng/dry g					
PCB170	NA	ND	0.05	0.1	ng/dry g					
PCB174	NA	ND	0.05	0.1	ng/dry g					
PCB177	NA	ND	0.05	0.1	ng/dry g					
PCB180	NA	ND	0.05	0.1	ng/dry g					
PCB183	NA	ND	0.05	0.1	ng/dry g					
PCB187	NA	ND	0.05	0.1	ng/dry g					
PCB189	NA	ND	0.05	0.1	ng/dry g					
PCB194	NA	ND	0.05	0.1	ng/dry g					
PCB195	NA	ND	0.05	0.1	ng/dry g					
PCB199(200)	NA	ND	0.1	0.2	ng/dry g					
PCB201	NA	ND	0.05	0.1	ng/dry g					
PCB203	NA	ND	0.05	0.1	ng/dry g					
PCB206	NA	ND	0.05	0.1	ng/dry g					
PCB209	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 22099-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

PHYSIS Project ID: 1307002-008

Client: AMEC

Project: RHMP Bight '13

qcb - 16 of 29



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION LIMITS	QA CODE
Method: EPA 8270C Batch ID: O-5125 Prepared: 27-Mar-14 Analyzed: 15-Apr-14 22:07										
PCB003	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS	
PCB005	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130% PASS	
PCB008	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS	
PCB015	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130% PASS	
PCB018	NA	25	0.05	0.1	ng/dry g	20	0	125	70 - 130% PASS	
PCB027	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS	
PCB028	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB029	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130% PASS	
PCB031	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130% PASS	
PCB033	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS	
PCB037	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB044	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB049	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB052	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB056(060)	NA	22	0.1	0.2	ng/dry g	20	0	110	70 - 130% PASS	
PCB066	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130% PASS	
PCB070	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB074	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB077	NA	25	0.05	0.1	ng/dry g	20	0	125	70 - 130% PASS	
PCB081	NA	25	0.05	0.1	ng/dry g	20	0	125	70 - 130% PASS	
PCB087	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB095	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS	
PCB097	NA	20	0.05	0.1	ng/dry g	20	0	100	70 - 130% PASS	
PCB099	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB101	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB105	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130% PASS	
PCB110	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB114	NA	27	0.05	0.1	ng/dry g	20	0	135	70 - 130% FAIL	R
PCB118	NA	27	0.05	0.1	ng/dry g	20	0	135	70 - 130% FAIL	R
PCB119	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB123	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130% PASS	
PCB126	NA	26	0.05	0.1	ng/dry g	20	0	130	70 - 130% PASS	
PCB128	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB137	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB138	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB141	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS	
PCB149	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130% PASS	
PCB151	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB153	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB156	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB157	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB158	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB167	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB168+132	NA	46	0.1	0.2	ng/dry g	40	0	115	70 - 130% PASS	
PCB169	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130% PASS	
PCB170	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130% PASS	
PCB174	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS	
PCB177	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130% PASS	
PCB180	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB183	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130% PASS	
PCB187	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB189	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB194	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130% PASS	
PCB195	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS	
PCB199(200)	NA	24	0.1	0.2	ng/dry g	20	0	120	70 - 130% PASS	
PCB201	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS	
PCB203	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130% PASS	
PCB206	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130% PASS	
PCB209	NA	18	0.05	0.1	ng/dry g	20	0	90	70 - 130% PASS	

Sample ID: 22099-BS2

QAQC Procedural Blank

Method: EPA 8270C

Matrix: DI Water

Batch ID: O-5125

Sampled:

Prepared: 27-Mar-14

Received:

Analyzed: 18-Apr-14 8:31



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY			PRECISION			QA CODE
								%	LIMITS		%	LIMITS		
PCB003	NA	19	0.05	0.1	ng/dry g	20	0	95	70 - 130%	PASS	10	25	PASS	
PCB005	NA	20	0.05	0.1	ng/dry g	20	0	100	70 - 130%	PASS	10	25	PASS	
PCB008	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130%	PASS	0	25	PASS	
PCB015	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS	0	25	PASS	
PCB018	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS	13	25	PASS	
PCB027	NA	20	0.05	0.1	ng/dry g	20	0	100	70 - 130%	PASS	5	25	PASS	
PCB028	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130%	PASS	4	25	PASS	
PCB029	NA	20	0.05	0.1	ng/dry g	20	0	100	70 - 130%	PASS	10	25	PASS	
PCB031	NA	19	0.05	0.1	ng/dry g	20	0	95	70 - 130%	PASS	19	25	PASS	
PCB033	NA	19	0.05	0.1	ng/dry g	20	0	95	70 - 130%	PASS	10	25	PASS	
PCB037	NA	24	0.05	0.1	ng/dry g	20	0	120	70 - 130%	PASS	0	25	PASS	
PCB044	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS	9	25	PASS	
PCB049	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS	9	25	PASS	
PCB052	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130%	PASS	4	25	PASS	
PCB056(060)	NA	19	0.1	0.2	ng/dry g	20	0	95	70 - 130%	PASS	15	25	PASS	
PCB066	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130%	PASS	9	25	PASS	
PCB070	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130%	PASS	4	25	PASS	
PCB074	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130%	PASS	4	25	PASS	
PCB077	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130%	PASS	17	25	PASS	
PCB081	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS	13	25	PASS	
PCB087	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS	9	25	PASS	
PCB095	NA	19	0.05	0.1	ng/dry g	20	0	95	70 - 130%	PASS	10	25	PASS	
PCB097	NA	19	0.05	0.1	ng/dry g	20	0	95	70 - 130%	PASS	5	25	PASS	
PCB099	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS	9	25	PASS	
PCB101	NA	23	0.05	0.1	ng/dry g	20	0	115	70 - 130%	PASS	4	25	PASS	
PCB105	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS	4	25	PASS	
PCB110	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS	9	25	PASS	
PCB114	NA	20	0.05	0.1	ng/dry g	20	0	100	70 - 130%	PASS	30	25	FAIL	R
PCB118	NA	20	0.05	0.1	ng/dry g	20	0	100	70 - 130%	PASS	30	25	FAIL	R
PCB119	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS	9	25	PASS	
PCB123	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130%	PASS	9	25	PASS	



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB126	NA	23	0.05	0.1	ng/dry g	20	0	115 70 - 130% PASS	12 25 PASS	
PCB128	NA	17	0.05	0.1	ng/dry g	20	0	85 70 - 130% PASS	34 25 FAIL	R
PCB137	NA	19	0.05	0.1	ng/dry g	20	0	95 70 - 130% PASS	23 25 PASS	
PCB138	NA	21	0.05	0.1	ng/dry g	20	0	105 70 - 130% PASS	13 25 PASS	
PCB141	NA	21	0.05	0.1	ng/dry g	20	0	105 70 - 130% PASS	0 25 PASS	
PCB149	NA	20	0.05	0.1	ng/dry g	20	0	100 70 - 130% PASS	14 25 PASS	
PCB151	NA	21	0.05	0.1	ng/dry g	20	0	105 70 - 130% PASS	13 25 PASS	
PCB153	NA	22	0.05	0.1	ng/dry g	20	0	110 70 - 130% PASS	9 25 PASS	
PCB156	NA	20	0.05	0.1	ng/dry g	20	0	100 70 - 130% PASS	18 25 PASS	
PCB157	NA	21	0.05	0.1	ng/dry g	20	0	105 70 - 130% PASS	13 25 PASS	
PCB158	NA	23	0.05	0.1	ng/dry g	20	0	115 70 - 130% PASS	4 25 PASS	
PCB167	NA	21	0.05	0.1	ng/dry g	20	0	105 70 - 130% PASS	13 25 PASS	
PCB168+132	NA	40	0.1	0.2	ng/dry g	40	0	100 70 - 130% PASS	14 25 PASS	
PCB169	NA	17	0.05	0.1	ng/dry g	20	0	85 70 - 130% PASS	30 25 FAIL	R
PCB170	NA	19	0.05	0.1	ng/dry g	20	0	95 70 - 130% PASS	19 25 PASS	
PCB174	NA	20	0.05	0.1	ng/dry g	20	0	100 70 - 130% PASS	5 25 PASS	
PCB177	NA	20	0.05	0.1	ng/dry g	20	0	100 70 - 130% PASS	14 25 PASS	
PCB180	NA	20	0.05	0.1	ng/dry g	20	0	100 70 - 130% PASS	18 25 PASS	
PCB183	NA	22	0.05	0.1	ng/dry g	20	0	110 70 - 130% PASS	4 25 PASS	
PCB187	NA	21	0.05	0.1	ng/dry g	20	0	105 70 - 130% PASS	13 25 PASS	
PCB189	NA	23	0.05	0.1	ng/dry g	20	0	115 70 - 130% PASS	4 25 PASS	
PCB194	NA	18	0.05	0.1	ng/dry g	20	0	90 70 - 130% PASS	20 25 PASS	
PCB195	NA	20	0.05	0.1	ng/dry g	20	0	100 70 - 130% PASS	5 25 PASS	
PCB199(200)	NA	18	0.1	0.2	ng/dry g	20	0	90 70 - 130% PASS	29 25 FAIL	R
PCB201	NA	20	0.05	0.1	ng/dry g	20	0	100 70 - 130% PASS	5 25 PASS	
PCB203	NA	21	0.05	0.1	ng/dry g	20	0	105 70 - 130% PASS	0 25 PASS	
PCB206	NA	18	0.05	0.1	ng/dry g	20	0	90 70 - 130% PASS	29 25 FAIL	R
PCB209	NA	13	0.05	0.1	ng/dry g	20	0	65 70 - 130% FAIL	32 25 FAIL	R

Sample ID: 22104-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 16-Apr-14 4:26

PCB008	NA	22.7	0.05	0.1	ng/dry g	22.3	102	60 - 140% PASS		
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PHYSIS Project ID: 1307002-008

Client: AMEC

Project: RHMP Bight '13

qcb - 20 of 29



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB018	NA	53.5	0.05	0.1	ng/dry g	51		105 60 - 140% PASS		
PCB028	NA	80.3	0.05	0.1	ng/dry g	80.8		99 60 - 140% PASS		
PCB031	NA	77.7	0.05	0.1	ng/dry g	78.7		99 60 - 140% PASS		
PCB044	NA	49	0.05	0.1	ng/dry g	60.2		81 60 - 140% PASS		
PCB049	NA	46.7	0.05	0.1	ng/dry g	53		88 60 - 140% PASS		
PCB052	NA	81	0.05	0.1	ng/dry g	79.4		102 60 - 140% PASS		
PCB066	NA	55.9	0.05	0.1	ng/dry g	71.9		78 60 - 140% PASS		
PCB087	NA	28.8	0.05	0.1	ng/dry g	29.9		96 60 - 140% PASS		
PCB095	NA	47.1	0.05	0.1	ng/dry g	65		72 60 - 140% PASS		
PCB099	NA	27.2	0.05	0.1	ng/dry g	37.5		73 60 - 140% PASS		
PCB101	NA	66.8	0.05	0.1	ng/dry g	73.4		91 60 - 140% PASS		
PCB105	NA	18.6	0.05	0.1	ng/dry g	24.5		76 60 - 140% PASS		
PCB110	NA	48.5	0.05	0.1	ng/dry g	63.5		76 60 - 140% PASS		
PCB118	NA	27.8	0.05	0.1	ng/dry g	58		48 60 - 140% FAIL		R
PCB128	NA	8.67	0.05	0.1	ng/dry g	8.5		102 60 - 140% PASS		
PCB138	NA	56.6	0.05	0.1	ng/dry g	62.1		91 60 - 140% PASS		
PCB149	NA	46	0.05	0.1	ng/dry g	49.7		93 60 - 140% PASS		
PCB151	NA	17.7	0.05	0.1	ng/dry g	16.9		105 60 - 140% PASS		
PCB153	NA	54	0.05	0.1	ng/dry g	74		73 60 - 140% PASS		
PCB156	NA	4.99	0.05	0.1	ng/dry g	6.5		77 60 - 140% PASS		
PCB170	NA	22	0.05	0.1	ng/dry g	22.6		97 60 - 140% PASS		
PCB180	NA	43.3	0.05	0.1	ng/dry g	44.3		98 60 - 140% PASS		
PCB183	NA	12.6	0.05	0.1	ng/dry g	12.2		103 60 - 140% PASS		
PCB187	NA	25.8	0.05	0.1	ng/dry g	25.1		103 60 - 140% PASS		
PCB194	NA	11.1	0.05	0.1	ng/dry g	11.2		99 60 - 140% PASS		
PCB195	NA	3.61	0.05	0.1	ng/dry g	3.8		95 60 - 140% PASS		
PCB206	NA	9.35	0.05	0.1	ng/dry g	9.2		102 60 - 140% PASS		
PCB209	NA	6.52	0.05	0.1	ng/dry g	6.8		96 60 - 140% PASS		



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22099-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 09-Apr-14 10:31

(DFPBDE)	NA	105			% Recovery	100		105	50 - 150%	PASS
(FTBDE)	NA	117			% Recovery	100		117	50 - 150%	PASS
PBDE017	NA	ND	0.05	0.1	ng/dry g					
PBDE028	NA	ND	0.05	0.1	ng/dry g					
PBDE047	NA	ND	0.05	0.1	ng/dry g					
PBDE049	NA	ND	0.05	0.1	ng/dry g					
PBDE066	NA	ND	0.05	0.1	ng/dry g					
PBDE071	NA	ND	0.05	0.1	ng/dry g					
PBDE085	NA	ND	0.05	0.1	ng/dry g					
PBDE099	NA	ND	0.05	0.1	ng/dry g					
PBDE100	NA	ND	0.05	0.1	ng/dry g					
PBDE138	NA	ND	0.05	0.1	ng/dry g					
PBDE153	NA	ND	0.05	0.1	ng/dry g					
PBDE154	NA	ND	0.05	0.1	ng/dry g					
PBDE183	NA	ND	0.05	0.1	ng/dry g					
PBDE190	NA	ND	0.05	0.1	ng/dry g					
PBDE209	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 22099-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 09-Apr-14 11:18

(DFPBDE)	NA	99			% Recovery	100	0	99	70 - 130%	PASS
(FTBDE)	NA	105			% Recovery	100	0	105	70 - 130%	PASS
PBDE017	NA	15	0.05	0.1	ng/dry g	20	0	75	70 - 130%	PASS
PBDE028	NA	18	0.05	0.1	ng/dry g	20	0	90	70 - 130%	PASS
PBDE047	NA	15	0.05	0.1	ng/dry g	20	0	75	70 - 130%	PASS
PBDE049	NA	11	0.05	0.1	ng/dry g	20	0	55	70 - 130%	FAIL
PBDE066	NA	21	0.05	0.1	ng/dry g	20	0	105	70 - 130%	PASS
PBDE071	NA	13	0.05	0.1	ng/dry g	20	0	65	70 - 130%	FAIL
PBDE085	NA	22	0.05	0.1	ng/dry g	20	0	110	70 - 130%	PASS



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PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PBDE099	NA	22	0.05	0.1	ng/dry g	20	0	110 70 - 130%	PASS	
PBDE100	NA	21	0.05	0.1	ng/dry g	20	0	105 70 - 130%	PASS	
PBDE138	NA	22	0.05	0.1	ng/dry g	20	0	110 70 - 130%	PASS	
PBDE153	NA	23	0.05	0.1	ng/dry g	20	0	115 70 - 130%	PASS	
PBDE154	NA	22	0.05	0.1	ng/dry g	20	0	110 70 - 130%	PASS	
PBDE183	NA	21	0.05	0.1	ng/dry g	20	0	105 70 - 130%	PASS	
PBDE190	NA	20	0.05	0.1	ng/dry g	20	0	100 70 - 130%	PASS	
PBDE209	NA	78	0.05	0.1	ng/dry g	100	0	78 70 - 130%	PASS	

Sample ID: 22099-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 09-Apr-14 12:05

(DFPBDE)	NA	142			% Recovery	100	0	142 70 - 130%	FAIL	36	25	FAIL	R
(FTBDE)	NA	111			% Recovery	100	0	111 70 - 130%	PASS	6	25	PASS	
PBDE017	NA	11	0.05	0.1	ng/dry g	20	0	55 70 - 130%	FAIL	31	25	FAIL	R
PBDE028	NA	18	0.05	0.1	ng/dry g	20	0	90 70 - 130%	PASS	0	25	PASS	
PBDE047	NA	15	0.05	0.1	ng/dry g	20	0	75 70 - 130%	PASS	0	25	PASS	
PBDE049	NA	16	0.05	0.1	ng/dry g	20	0	80 70 - 130%	PASS	37	25	FAIL	R
PBDE066	NA	24	0.05	0.1	ng/dry g	20	0	120 70 - 130%	PASS	13	25	PASS	
PBDE071	NA	15	0.05	0.1	ng/dry g	20	0	75 70 - 130%	PASS	14	25	PASS	
PBDE085	NA	20	0.05	0.1	ng/dry g	20	0	100 70 - 130%	PASS	10	25	PASS	
PBDE099	NA	28	0.05	0.1	ng/dry g	20	0	140 70 - 130%	FAIL	24	25	PASS	R
PBDE100	NA	27	0.05	0.1	ng/dry g	20	0	135 70 - 130%	FAIL	25	25	PASS	R
PBDE138	NA	23	0.05	0.1	ng/dry g	20	0	115 70 - 130%	PASS	4	25	PASS	
PBDE153	NA	21	0.05	0.1	ng/dry g	20	0	105 70 - 130%	PASS	9	25	PASS	
PBDE154	NA	19	0.05	0.1	ng/dry g	20	0	95 70 - 130%	PASS	15	25	PASS	
PBDE183	NA	21	0.05	0.1	ng/dry g	20	0	105 70 - 130%	PASS	0	25	PASS	
PBDE190	NA	23	0.05	0.1	ng/dry g	20	0	115 70 - 130%	PASS	14	25	PASS	
PBDE209	NA	105	0.05	0.1	ng/dry g	100	0	105 70 - 130%	PASS	30	25	FAIL	R



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22099-B1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5125		Prepared: 27-Mar-14		Analyzed: 15-Apr-14 20:33	
(d10-Acenaphthene)	NA	73			% Recovery	100	73	50 - 150% PASS		
(d10-Phenanthrene)	NA	84			% Recovery	100	84	50 - 150% PASS		
(d12-Chrysene)	NA	79			% Recovery	100	79	50 - 150% PASS		
(d8-Naphthalene)	NA	70			% Recovery	100	70	25 - 125% PASS		
1-Methylnaphthalene	NA	ND	1	5	ng/dry g					
1-Methylphenanthrene	NA	ND	1	5	ng/dry g					
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g					
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g					
2-Methylnaphthalene	NA	ND	1	5	ng/dry g					
Acenaphthene	NA	ND	1	5	ng/dry g					
Acenaphthylene	NA	ND	1	5	ng/dry g					
Anthracene	NA	ND	1	5	ng/dry g					
Benz[a]anthracene	NA	ND	1	5	ng/dry g					
Benzo[a]pyrene	NA	ND	1	5	ng/dry g					
Benzo[b]fluoranthene	NA	ND	1	5	ng/dry g					
Benzo[e]pyrene	NA	ND	1	5	ng/dry g					
Benzo[g,h,i]perylene	NA	ND	1	5	ng/dry g					
Benzo[k]fluoranthene	NA	ND	1	5	ng/dry g					
Biphenyl	NA	ND	1	5	ng/dry g					
Chrysene	NA	ND	1	5	ng/dry g					
Dibenz[a,h]anthracene	NA	ND	1	5	ng/dry g					
Dibenzothiophene	NA	ND	1	5	ng/dry g					
Fluoranthene	NA	ND	1	5	ng/dry g					
Fluorene	NA	ND	1	5	ng/dry g					
Indeno[1,2,3-c,d]pyrene	NA	ND	1	5	ng/dry g					
Naphthalene	NA	ND	1	5	ng/dry g					
Perylene	NA	ND	1	5	ng/dry g					
Phenanthrene	NA	ND	1	5	ng/dry g					
Pyrene	NA	ND	1	5	ng/dry g					



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22099-BS1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5125		Prepared: 27-Mar-14		Analyzed: 15-Apr-14 22:07	
(d10-Acenaphthene)	NA	74			% Recovery	100	0	74 70 - 130%	PASS	
(d10-Phenanthrene)	NA	74			% Recovery	100	0	74 70 - 130%	PASS	
(d12-Chrysene)	NA	114			% Recovery	100	0	114 70 - 130%	PASS	
(d8-Naphthalene)	NA	125			% Recovery	100	0	125 70 - 130%	PASS	
1-Methylnaphthalene	NA	106	1	5	ng/dry g	100	0	106 70 - 130%	PASS	
1-Methylphenanthrene	NA	124	1	5	ng/dry g	100	0	124 70 - 130%	PASS	
2,3,5-Trimethylnaphthalene	NA	124	1	5	ng/dry g	100	0	124 70 - 130%	PASS	
2,6-Dimethylnaphthalene	NA	113	1	5	ng/dry g	100	0	113 70 - 130%	PASS	
2-Methylnaphthalene	NA	107	1	5	ng/dry g	100	0	107 70 - 130%	PASS	
Acenaphthene	NA	111	1	5	ng/dry g	100	0	111 70 - 130%	PASS	
Acenaphthylene	NA	109	1	5	ng/dry g	100	0	109 70 - 130%	PASS	
Anthracene	NA	96	1	5	ng/dry g	100	0	96 70 - 130%	PASS	
Benz[a]anthracene	NA	102	1	5	ng/dry g	100	0	102 70 - 130%	PASS	
Benzo[a]pyrene	NA	76	1	5	ng/dry g	100	0	56 70 - 130%	PASS	
Benzo[b]fluoranthene	NA	91	1	5	ng/dry g	100	0	91 70 - 130%	PASS	
Benzo[e]pyrene	NA	94	1	5	ng/dry g	100	0	94 70 - 130%	PASS	
Benzo[g,h,i]perylene	NA	100	1	5	ng/dry g	100	0	100 70 - 130%	PASS	
Benzo[k]fluoranthene	NA	95	1	5	ng/dry g	100	0	95 70 - 130%	PASS	
Biphenyl	NA	114	1	5	ng/dry g	100	0	114 70 - 130%	PASS	
Chrysene	NA	112	1	5	ng/dry g	100	0	112 70 - 130%	PASS	
Dibenz[a,h]anthracene	NA	94	1	5	ng/dry g	100	0	94 70 - 130%	PASS	
Dibenzothiophene	NA	124	1	5	ng/dry g	100	0	124 70 - 130%	PASS	
Fluoranthene	NA	131	1	5	ng/dry g	100	0	131 70 - 130%	FAIL	R
Fluorene	NA	121	1	5	ng/dry g	100	0	121 70 - 130%	PASS	
Indeno[1,2,3-c,d]pyrene	NA	93	1	5	ng/dry g	100	0	93 70 - 130%	PASS	
Naphthalene	NA	97	1	5	ng/dry g	100	0	97 70 - 130%	PASS	
Perylene	NA	74	1	5	ng/dry g	100	0	74 70 - 130%	PASS	
Phenanthrene	NA	140	1	5	ng/dry g	100	0	140 70 - 130%	FAIL	R
Pyrene	NA	130	1	5	ng/dry g	100	0	130 70 - 130%	PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
		LIMITS								LIMITS
Sample ID: 22099-BS2		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-5125		Prepared: 27-Mar-14		Analyzed: 18-Apr-14 8:31		
(d10-Acenaphthene)	NA	70			% Recovery	100	0	70	70 - 130% PASS	6 25 PASS
(d10-Phenanthrene)	NA	125			% Recovery	100	0	125	70 - 130% PASS	51 25 FAIL R
(d12-Chrysene)	NA	106			% Recovery	100	0	106	70 - 130% PASS	7 25 PASS
(d8-Naphthalene)	NA	113			% Recovery	100	0	113	70 - 130% PASS	10 25 PASS
1-Methylnaphthalene	NA	95	1	5	ng/dry g	100	0	95	70 - 130% PASS	11 25 PASS
1-Methylphenanthrene	NA	97	1	5	ng/dry g	100	0	97	70 - 130% PASS	24 25 PASS
2,3,5-Trimethylnaphthalene	NA	102	1	5	ng/dry g	100	0	102	70 - 130% PASS	19 25 PASS
2,6-Dimethylnaphthalene	NA	95	1	5	ng/dry g	100	0	95	70 - 130% PASS	17 25 PASS
2-Methylnaphthalene	NA	87	1	5	ng/dry g	100	0	87	70 - 130% PASS	21 25 PASS
Acenaphthene	NA	86	1	5	ng/dry g	100	0	86	70 - 130% PASS	25 25 PASS
Acenaphthylene	NA	81	1	5	ng/dry g	100	0	81	70 - 130% PASS	29 25 FAIL R
Anthracene	NA	88	1	5	ng/dry g	100	0	88	70 - 130% PASS	9 25 PASS
Benz[a]anthracene	NA	84	1	5	ng/dry g	100	0	84	70 - 130% PASS	19 25 PASS
Benzo[a]pyrene	NA	73	1	5	ng/dry g	100	0	64	70 - 130% PASS	4 25 PASS
Benzo[b]fluoranthene	NA	102	1	5	ng/dry g	100	0	102	70 - 130% PASS	11 25 PASS
Benzo[e]pyrene	NA	97	1	5	ng/dry g	100	0	97	70 - 130% PASS	3 25 PASS
Benzo[g,h,i]perylene	NA	112	1	5	ng/dry g	100	0	112	70 - 130% PASS	11 25 PASS
Benzo[k]fluoranthene	NA	88	1	5	ng/dry g	100	0	88	70 - 130% PASS	8 25 PASS
Biphenyl	NA	97	1	5	ng/dry g	100	0	97	70 - 130% PASS	16 25 PASS
Chrysene	NA	95	1	5	ng/dry g	100	0	95	70 - 130% PASS	16 25 PASS
Dibenz[a,h]anthracene	NA	101	1	5	ng/dry g	100	0	101	70 - 130% PASS	7 25 PASS
Dibenzothiophene	NA	100	1	5	ng/dry g	100	0	100	70 - 130% PASS	21 25 PASS
Fluoranthene	NA	102	1	5	ng/dry g	100	0	102	70 - 130% PASS	25 25 PASS
Fluorene	NA	105	1	5	ng/dry g	100	0	105	70 - 130% PASS	14 25 PASS
Indeno[1,2,3-c,d]pyrene	NA	88	1	5	ng/dry g	100	0	88	70 - 130% PASS	6 25 PASS
Naphthalene	NA	84	1	5	ng/dry g	100	0	84	70 - 130% PASS	14 25 PASS
Perylene	NA	81	1	5	ng/dry g	100	0	81	70 - 130% PASS	9 25 PASS
Phenanthrene	NA	115	1	5	ng/dry g	100	0	115	70 - 130% PASS	20 25 PASS
Pyrene	NA	109	1	5	ng/dry g	100	0	109	70 - 130% PASS	18 25 PASS



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22104-CRM1		QAQC CRM - SRM 1944		Matrix: Sediment		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-5125		Prepared: 27-Mar-14		Analyzed: 16-Apr-14 4:26		
(d10-Acenaphthene)	NA	77			% Recovery	100	77	60 - 140%	PASS	
(d10-Phenanthrene)	NA	95			% Recovery	100	95	60 - 140%	PASS	
(d12-Chrysene)	NA	100			% Recovery	100	100	60 - 140%	PASS	
(d8-Naphthalene)	NA	98			% Recovery	100	98	60 - 140%	PASS	
1-Methylnaphthalene	NA	405	1	5	ng/dry g	470	86	60 - 140%	PASS	
1-Methylphenanthrene	NA	1216	1	5	ng/dry g	1700	72	60 - 140%	PASS	
2,6-Dimethylnaphthalene	NA	680	1	5	ng/dry g	790	86	60 - 140%	PASS	
2-Methylnaphthalene	NA	653	1	5	ng/dry g	740	88	60 - 140%	PASS	
Acenaphthene	NA	490	1	5	ng/dry g	390	126	60 - 140%	PASS	
Anthracene	NA	1476	1	5	ng/dry g	1130	131	60 - 140%	PASS	
Benz[a]anthracene	NA	4353	1	5	ng/dry g	4720	92	60 - 140%	PASS	
Benzo[a]pyrene	NA	4004	1	5	ng/dry g	4300	93	60 - 140%	PASS	
Benzo[b]fluoranthene	NA	3283	1	5	ng/dry g	3870	85	60 - 140%	PASS	
Benzo[e]pyrene	NA	3253	1	5	ng/dry g	3280	99	60 - 140%	PASS	
Benzo[g,h,i]perylene	NA	2856	1	5	ng/dry g	2840	101	60 - 140%	PASS	
Benzo[k]fluoranthene	NA	2111	1	5	ng/dry g	2300	92	60 - 140%	PASS	
Biphenyl	NA	254	1	5	ng/dry g	250	102	60 - 140%	PASS	
Chrysene	NA	4112	1	5	ng/dry g	4860	85	60 - 140%	PASS	
Dibenz[a,h]anthracene	NA	487	1	5	ng/dry g	424	115	60 - 140%	PASS	
Dibenzothiophene	NA	631	1	5	ng/dry g	500	126	60 - 140%	PASS	
Fluoranthene	NA	6650	1	5	ng/dry g	8920	75	60 - 140%	PASS	
Fluorene	NA	768	1	5	ng/dry g	480	160	60 - 140%	FAIL	R
Indeno[1,2,3-c,d]pyrene	NA	2752	1	5	ng/dry g	2780	99	60 - 140%	PASS	
Naphthalene	NA	1189	1	5	ng/dry g	1280	93	60 - 140%	PASS	
Perylene	NA	923	1	5	ng/dry g	1170	79	60 - 140%	PASS	
Phenanthrene	NA	5119	1	5	ng/dry g	5270	97	60 - 140%	PASS	
Pyrene	NA	8639	1	5	ng/dry g	9700	89	60 - 140%	PASS	



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CA ELAP #2769

Pyrethroids**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22099-B1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 03-Apr-14 13:36

Allethrin	NA	ND	0.25	0.5	ng/dry g					
Bifenthrin	NA	ND	0.25	0.5	ng/dry g					
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g					
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g					
Cypermethrin	NA	ND	0.25	0.5	ng/dry g					
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g					
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g					
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g					
Fenvalerate	NA	ND	0.25	0.5	ng/dry g					
Fluvalinate	NA	ND	0.25	0.5	ng/dry g					
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g					
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g					
Prallethrin	NA	ND	0.25	0.5	ng/dry g					
Resmethrin	NA	ND	0.25	0.5	ng/dry g					

Sample ID: 22099-B51**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 03-Apr-14 14:40

Allethrin	NA	1667.67	0.25	0.5	ng/dry g	1000	0	167	70 - 130%	FAIL	*
Bifenthrin	NA	1885.95	0.25	0.5	ng/dry g	1000	0	189	70 - 130%	FAIL	*
Cyfluthrin	NA	1167.08	0.25	0.5	ng/dry g	1000	0	117	70 - 130%	PASS	
Cyhalothrin, Total Lambda	NA	1544.61	0.25	0.5	ng/dry g	1000	0	154	70 - 130%	FAIL	*
Cypermethrin	NA	1142.51	0.25	0.5	ng/dry g	1000	0	114	70 - 130%	PASS	
Danitol (Fenpropathrin)	NA	2500.8	0.25	0.5	ng/dry g	1000	0	250	70 - 130%	FAIL	*
Deltamethrin/Tralomethrin	NA	2510.32	0.25	0.5	ng/dry g	2000	0	126	70 - 130%	PASS	
Esfenvalerate	NA	1384.49	0.25	0.5	ng/dry g	1000	0	138	70 - 130%	FAIL	*
Fenvalerate	NA	1314.37	0.25	0.5	ng/dry g	1000	0	131	70 - 130%	FAIL	*
Fluvalinate	NA	1181.02	0.25	0.5	ng/dry g	1000	0	118	70 - 130%	PASS	
Permethrin, cis-	NA	356.5	0.25	0.5	ng/dry g	267	0	134	70 - 130%	FAIL	*
Permethrin, trans-	NA	907.07	0.25	0.5	ng/dry g	716	0	127	70 - 130%	PASS	



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Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Prallethrin	NA	2189.46	0.25	0.5	ng/dry g	1000	0	219 70 - 130% FAIL		*
Resmethrin	NA	2697.77	0.25	0.5	ng/dry g	1000	0	270 70 - 130% FAIL		*

Sample ID: 22099-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5125

Prepared: 27-Mar-14

Analyzed: 03-Apr-14 15:45

Allethrin	NA	1991.5	0.25	0.5	ng/dry g	1000	0	199 70 - 130% FAIL	17 30 PASS	*
Bifenthrin	NA	2175.41	0.25	0.5	ng/dry g	1000	0	218 70 - 130% FAIL	14 30 PASS	*
Cyfluthrin	NA	1177.42	0.25	0.5	ng/dry g	1000	0	118 70 - 130% PASS	1 30 PASS	
Cyhalothrin, Total Lambda	NA	1606.74	0.25	0.5	ng/dry g	1000	0	161 70 - 130% FAIL	4 30 PASS	*
Cypermethrin	NA	1164.4	0.25	0.5	ng/dry g	1000	0	116 70 - 130% PASS	2 30 PASS	
Danitol (Fenpropathrin)	NA	2772.91	0.25	0.5	ng/dry g	1000	0	277 70 - 130% FAIL	10 30 PASS	*
Deltamethrin/Tralomethrin	NA	2485.44	0.25	0.5	ng/dry g	2000	0	124 70 - 130% PASS	2 30 PASS	
Esfenvalerate	NA	1407.95	0.25	0.5	ng/dry g	1000	0	141 70 - 130% FAIL	2 30 PASS	*
Fenvalerate	NA	1338.62	0.25	0.5	ng/dry g	1000	0	134 70 - 130% FAIL	2 30 PASS	*
Fluvalinate	NA	1184.11	0.25	0.5	ng/dry g	1000	0	118 70 - 130% PASS	0 30 PASS	
Permethrin, cis-	NA	393.06	0.25	0.5	ng/dry g	267	0	147 70 - 130% FAIL	9 30 PASS	*
Permethrin, trans-	NA	945.62	0.25	0.5	ng/dry g	716	0	132 70 - 130% FAIL	4 30 PASS	*
Prallethrin	NA	2488.61	0.25	0.5	ng/dry g	1000	0	249 70 - 130% FAIL	13 30 PASS	*
Resmethrin	NA	2574.5	0.25	0.5	ng/dry g	1000	0	257 70 - 130% FAIL	5 30 PASS	*

PHYSICS

CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8077	8/13/13	1201	General Chemistry	Grab	8 oz Glass	None	1
B13-8077			Metals	Grab	8 oz Glass	None	1
B13-8077			PBDE	Grab	8 oz Glass	None	1
B13-8077			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8077			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TH

Relinquished By: L (Burns)

Date/Time: 8/13/13 1515

Received By: M. L. Q. H.

Date/Time: 8/13/13 1515

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8076	8/13/13	1049	General Chemistry	Grab	8 oz Glass	None	1
B13-8076			Metals	Grab	8 oz Glass	None	1
B13-8076			PBDE	Grab	8 oz Glass	None	1
B13-8076			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8076			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TH

Relinquished By: L (BURNS) Date/Time: 8/13/13 1515 Received By: [Signature] Date/Time: 8/13/13 1515

Relinquished By: _____ Date/Time: _____ Received By: _____ Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8075	8/13/13	0815	General Chemistry	Grab	8 oz Glass	None	1
B13-8075			Metals	Grab	8 oz Glass	None	1
B13-8075			PBDE	Grab	8 oz Glass	None	1
B13-8075			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8075			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TH

Relinquished By: (Buens)

Date/Time: 8/13/13 1515

Received By: [Signature]

Date/Time: 8/13/13 15.15

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8074	8/13/13	0924	General Chemistry	Grab	8 oz Glass	None	1
B13-8074			Metals	Grab	8 oz Glass	None	1
B13-8074			PBDE	Grab	8 oz Glass	None	1
B13-8074			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8074			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TH

Relinquished By: LB (Burns) Date/Time: 8/13/13 1515 Received By: M L L M Date/Time: 8/13/13 1515

Relinquished By: _____ Date/Time: _____ Received By: _____ Date/Time: _____

Port of San Diego
Final Work Plan
Regional Harbor Monitoring Program
AMEC Project No. 1015101932
August 2013

to physis

Table 4-2.
Chemical Analyses of Sediment Samples

Analyte	Analysis Method	Sediment Target Reporting Limits ^{a,b}	Units
Total Solids	SM 2540 B ^c	0.1	%
Total Organic Carbon	9060	0.01	%
Grain Size	SM2560	0.1	%
Aluminum	6020/6010B ^d	5.0	mg/kg
Antimony	6020/6010B ^d	0.05	mg/kg
Arsenic	6020/6010B ^d	0.05	mg/kg
Barium	6020/6010B ^d	0.05	mg/kg
Beryllium	6020/6010B ^d	0.05	mg/kg
Cadmium	6020/6010B ^d	0.01	mg/kg
Chromium	6020/6010B ^d	0.05	mg/kg
Copper	6020/6010B ^d	0.01	mg/kg
Iron	6020/6010B ^d	5.0	mg/kg
Lead	6020/6010B ^d	0.01	mg/kg
Mercury	6020/6010B ^d	0.02	mg/kg
Nickel	6020/6010B ^d	0.02	mg/kg
Selenium	6020/6010B ^d	0.05	mg/kg
Silver	6020/6010B ^d	0.02	mg/kg
Zinc	6020/6010B ^d	0.05	mg/kg
Total Nitrogen	TKN / SM 4500-NO ³ E(M) / SM 4500-NO ² B(M)	4.0	mg/kg
Total Phosphorus	SM 4500-P B/E(M)	4.0	mg/kg
Ammonia	SM 4500-NH ³	0.2	mg/kg
Acid Volatile Sulfides	Plumb 1981 and TERL	0.1	mg/kg
Simultaneous Extracted Metals	EPA 200.8	0.0004-0.0124	µmol/g
PAHs ^e	EPA 8270C ^d	5.0	µg/kg
Chlorinated Pesticides ^f	EPA 8270C ^d	0.5-50	µg/kg
Pyrethroid Pesticides	EPA 8270 C NCI	0.5-10	µg/kg
PCB Congeners ^g	EPA 8270C ^d	0.2	µg/kg
PBDEs ^h	EPA 8270 C NCI	0.1	µg/kg
Alkylphenol ⁱ	GC/MS SIM	0.02-0.6	mg/kg
Perfluorinated Compounds ^{j,k}	EPA 537M	5.0	µg/kg

Notes:

^a Sediment minimum detection limits are on a dry-weight basis.

^b Reporting limits provided by Physis Environmental Laboratories.

^c Standard Methods for the Examination of Water and Wastewater, 19th Ed. American Public Health Association, 1995.

^d USEPA 1986-1996. SW-846. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 3rd Ed.

^e Includes Acenaphthene, Acenaphthylene, Anthracene, Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[e]pyrene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Biphenyl, Chrysene, Dibenzo[a,h]anthracene, Di benzo[thiophene, Fluoranthene, Fluorene, Indeno[1,2,3-c,d]pyrene, Naphthalene, Perylene, Phenanthrene, Pyrene, 2,6-Dimethylnaphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene, 1-Methylphenanthrene, 2,3,5-Trimethylnaphthalene, and 1,6,7-Trimethylnaphthalene.

^f Includes cis-chlordane, trans-chlordane, o,p'-DDT, p,p'-DDT, o,p'-DDD, p,p'-DDD, o,p'-DDE, p,p'-DDE, o,p'-DDMU, aldrin, BHC-alpha, BHC-beta, BHC-gamma, cis-nonachlor, trans-nonachlor, oxychlordane, DCPA (Dacthal), dicofol, dieldrin, toxaphene, endosulfan sulfate, endosulfan-I, endosulfan-II, endrin, endrin aldehyde, endrin ketone, heptachlor, heptachlor epoxide, methoxychlor, mirex, and perthane.

^g Includes congeners: PCB-3, 5, 8, 15, 18, 27-29, 31, 33, 37, 44, 49, 52, 56, 60, 66, 70, 74, 77, 81, 87, 95, 97, 99, 101, 105, 110, 114, 118-119, 123, 126, 128, 137-138, 141, 149, 151, 153, 156-158, 167-170, 174, 177, 180, 183, 187, 189, 194-195, 200-201, 203, 206, and 209.

^h Includes BDE-17, 28, 47, 49, 66, 85, 99, 100, 138, 153, 154, 183, and 209.

ⁱ Collected only at stations B13-8163, B13-8040, B13-8077; transferred to SCCWRP for analysis.

^j Includes nonylphenol, nonylphenol diethoxylate, nonylphenol monoethoxylate, 4-tert-octylphenol, and bisphenol A.

^k Includes perfluorooctanoic acid and perfluorooctane sulfonate.

µg/kg - micrograms per kilogram (parts per billion) SM - Standard Methods

mg/kg - milligrams per kilogram (parts per million) SOP - standard operating procedure

N/A - not applicable

SAMPLE RECEIPT SUMMARY

CLIENT: AMEC Date Received: 8/13/13 Received By: MB Inspected By: RGH

COURIER

☒ PHYSIS ☐ CLIENT ☐ FEDEX ☐ UPS
start end ☐ OTHER:

COOLER

☒ COOLER ☐ BOX total # 1
☐ OTHER:

TEMPERATURE

5.3 °C ☒ WET ICE ☐ BLUE ICE
☐ DRY ICE ☐ NONE

SAMPLE INTEGRITY UPON RECEIPT

1. COC(s) included and completely filled out..... **YES**
2. All sample containers arrived intact..... **YES**
3. All samples listed on COC(s) are present..... **YES**
4. Information on containers consistent with information on COC(s)..... **YES**
5. Correct containers and volume for all analyses indicated..... **YES**
6. All samples received within method holding time..... **YES**
7. Correct preservation used for all analyses indicated..... **YES**

NOTES

PHYSIS

LEVEL 3

DELIVERABLES

Innovative Solutions for Nature

PHYSIS

Conventionals

TERRA

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AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

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PHYSIS

Summary of Initial Calibration Data and

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

ICV/CCV

Innovative Solutions for Nature

1307002-008 AMEC RHMP General Chemistry Calibration Data							
Analysis	Method	Batch ID	Co-efficient	Equation	Slope	ICV/True Value	CCV/True Value
Acid Volatile Sulfides	Plumb, 1981	C-14042	0.9998	0.196x-0.001702	NA	NA	NA
Percent Solids	SM2540 B	C-14037	NA	NA	NA	NA	NA
Ammonia	SM 4500-NH3 D	C-14040	NA	NA	-57.4	.236/.25	.247/.25

Elements – ICP-MS

ICP-MS

TERRA FLO RUA AURA
ENVIRONMENTAL LABORATORIES, INC.

(EPA 6020 – High Metals)

PHYSIS

Instrument Blank

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name 0MIX_2131002R.D
File Path D:\DATA\2131002H.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/4/2013 18:01
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.000	ug/g	---	28.89	6.032E-05	Pulse	0.30	3
Ti	48	103	2	0.000	ug/g	---	15.55	3.238E-05	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	---	10.00	2.079E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	479,998.35	0.75	100.0	Analog	0.30	3
3	Rh	103	1,107,711.36	0.48	100.0	Analog	0.30	3

PHYSIS

Initial Calibration Data

TERRA

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Batch Folder: D:\DATA\2131002H.b\

 Analysis File: 2131002H.batch.xml

 DA Date-Time: 10/7/2013 10:03:32 AM

 Calibration Title:

 Calibration Method: External Calibration

 VIS Interpolation Fit:

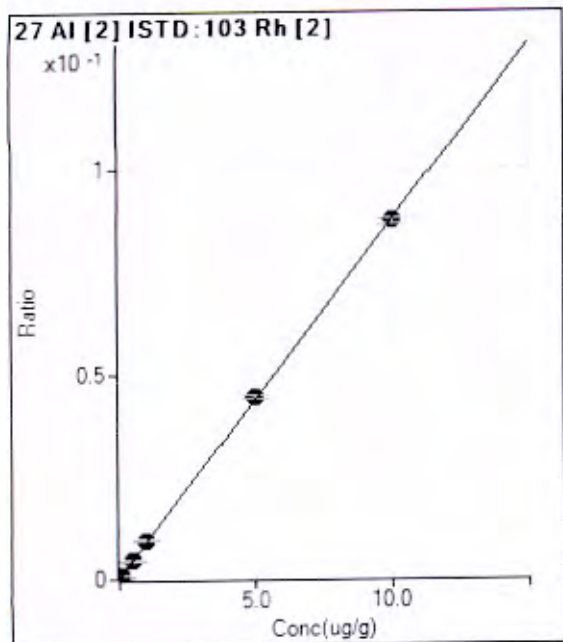
 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX_2131002R.D	0 ppb mix	10/4/2013 6:01:34 PM
2	1MIX_2131002R.D	1 ppb mix	10/4/2013 6:06:15 PM
3	5MIX_2131002R.D	5 ppb mix	10/4/2013 6:10:57 PM
4	10MIX_2131002R.D	10 ppb mix	10/4/2013 6:15:40 PM
5	50MIX_2131002R.D	50 ppb mix	10/4/2013 6:20:21 PM
6	100MIX_2131002R.D	100 ppb mix	10/4/2013 6:25:02 PM
7	500MIX_2131002R.D	500 ppb mix	10/4/2013 6:29:45 PM
8	1000MIX_2131002R.D	1000 ppb mix	10/4/2013 6:34:12 PM
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

Calibration for 5P_2131002R.D



$$y = 0.0088 * x + 6.0316E-005$$

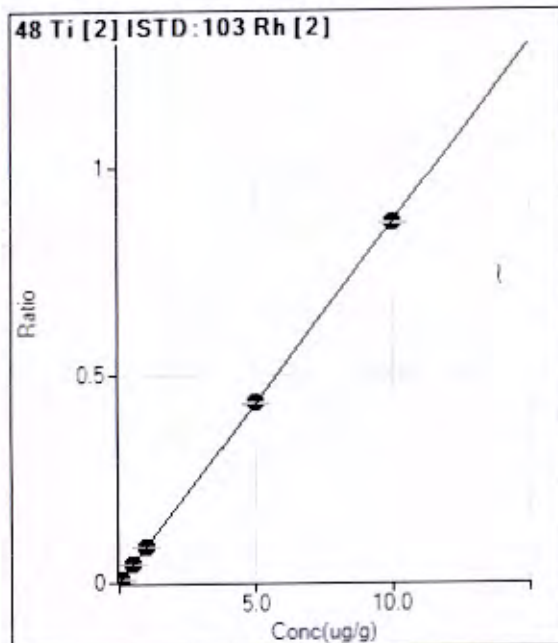
$$R = 1.0000$$

$$DL = 0.00977$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	28.89	0.0001	P	47.3
2	<input type="checkbox"/>	0.010	0.018	108.89	0.0002	P	12.1
3	<input type="checkbox"/>	0.050	0.048	240.01	0.0005	P	6.1
4	<input type="checkbox"/>	0.100	0.101	460.03	0.0009	P	8.3
5	<input type="checkbox"/>	0.500	0.506	2193.56	0.0045	P	6.3
6	<input type="checkbox"/>	1.000	1.061	4461.83	0.0094	P	3.6
7	<input type="checkbox"/>	5.000	5.063	20216.24	0.0445	P	2.5
8	<input type="checkbox"/>	10.00	9.962	40008.99	0.0874	P	1.9
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0868 * x + 3.2378E-005$$

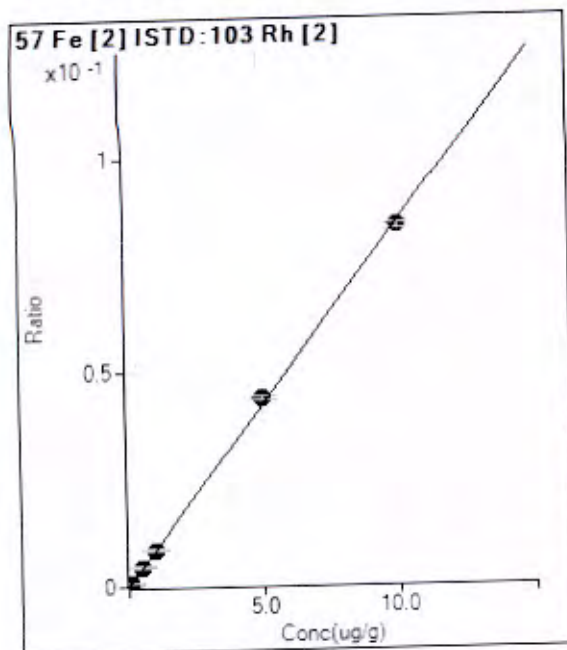
$$R = 1.0000$$

$$DL = 0.0002709$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	15.55	0.0000	P	24.2
2	<input type="checkbox"/>	0.010	0.011	492.26	0.0010	P	11.2
3	<input type="checkbox"/>	0.050	0.052	2262.47	0.0046	P	5.8
4	<input type="checkbox"/>	0.100	0.108	4607.48	0.0094	P	4.5
5	<input type="checkbox"/>	0.500	0.525	22242.18	0.0456	P	0.3
6	<input type="checkbox"/>	1.000	1.024	42380.97	0.0890	P	1.0
7	<input type="checkbox"/>	5.000	5.017	198088.78	0.4357	P	0.8
8	<input type="checkbox"/>	10.00	9.988	396905.24	0.8673	P	0.5
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0084 * x + 2.0788E-005$$

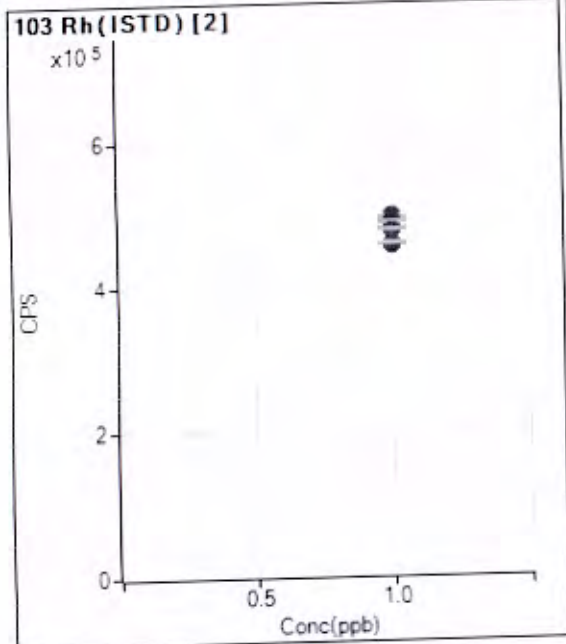
$$R = 0.9998$$

$$DL = 0.006472$$

Weight: None

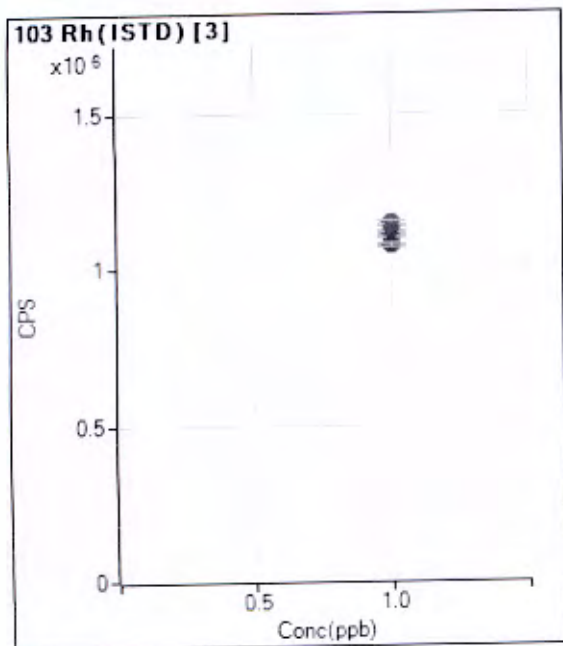
Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	10.00	0.0000	P	87.7
2	<input type="checkbox"/>	0.010	0.010	52.23	0.0001	P	45.1
3	<input type="checkbox"/>	0.050	0.050	221.12	0.0004	P	11.8
4	<input type="checkbox"/>	0.100	0.114	478.92	0.0010	P	5.9
5	<input type="checkbox"/>	0.500	0.532	2201.34	0.0045	P	8.1
6	<input type="checkbox"/>	1.000	1.020	4115.09	0.0086	P	5.6
7	<input type="checkbox"/>	5.000	5.186	19928.38	0.0438	P	2.6
8	<input type="checkbox"/>	10.00	9.903	38294.19	0.0837	P	1.4
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		479998.35		A	0.8
2	<input type="checkbox"/>	1.000		495702.16		A	0.3
3	<input type="checkbox"/>	1.000		495544.95		A	0.1
4	<input type="checkbox"/>	1.000		488690.81		A	1.4
5	<input type="checkbox"/>	1.000		487408.21		A	0.2
6	<input type="checkbox"/>	1.000		476418.59		A	0.8
7	<input type="checkbox"/>	1.000		454658.32		A	0.3
8	<input type="checkbox"/>	1.000		457638.15		A	0.7
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for 5P_2131002R.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		1107711.36		A	0.5
2	<input type="checkbox"/>	1.000		1137469.83		A	0.5
3	<input type="checkbox"/>	1.000		1144939.69		A	0.9
4	<input type="checkbox"/>	1.000		1123396.92		A	0.2
5	<input type="checkbox"/>	1.000		1109973.47		A	0.8
6	<input type="checkbox"/>	1.000		1097129.38		A	0.2
7	<input type="checkbox"/>	1.000		1071741.82		A	0.7
8	<input type="checkbox"/>	1.000		1075028.01		A	0.9
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

PHYSIS

Continuing Calibration Data

TERRA

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV1.D
File Path D:\DATA\2131002H.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/5/2013 1:28
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.103	ug/g	6.52	4,122.85	9.090E-03	Pulse	0.30	3
Ti	48	103	2	0.101	ug/g	0.72	39,596.83	8.732E-02	Pulse	0.30	3
Fe	57	103	2	0.103	ug/g	2.11	3,969.50	8.755E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	453,461.00	0.78	94.5	Mix	0.30	3
3	Rh	103	1,001,869.05	0.52	90.4	Analog	0.30	3

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ICPMS 7700x DATA REPORT

File Name CCV2.D
File Path D:\DATA\2131002H.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/5/2013 3:36
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.097	ug/g	5.52	3,486.03	8.568E-03	Pulse	0.30	3
Ti	48	103	2	0.098	ug/g	1.35	34,700.92	8.529E-02	Pulse	0.30	3
Fe	57	103	2	0.100	ug/g	1.28	3,452.69	8.487E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	406,848.47	0.33	84.8	Pulse	0.30	3
3	Rh	103	900,908.43	0.42	81.3	Analog	0.30	3

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Instrument Run Log

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	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1		Keyword		SMPL5EG	Start of SMPL									
2	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse5			1.000							
3	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse9			1.000							
4	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse10			1.000							
5	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse11			1.000							
6	C:\ICPMH\1\METHODS (Physis.m)	Sample	3101	22099	QAQC Procedural Blank B1	22099,NA,B1,10/1/2013,E-5148,	10.00							
7	C:\ICPMH\1\METHODS (Physis.m)	Sample	3102	22251	QAQC Procedural Blank B1	22251,NA,B1,10/1/2013,E-5149,	10.00							
8	C:\ICPMH\1\METHODS (Physis.m)	Sample	3103	22397	QAQC Procedural Blank B1	22397,NA,B1,10/1/2013,E-5149,	10.00							
9	C:\ICPMH\1\METHODS (Physis.m)	Sample	3104	22100	B13-8077 Grab	22100,NA,R1,10/1/2013,E-5148,	717.0							
10	C:\ICPMH\1\METHODS (Physis.m)	Sample	3105	22100r2	B13-8077 Grab Dup	22100,NA,R2,10/1/2013,E-5148,	737.0							
11	C:\ICPMH\1\METHODS (Physis.m)	Sample	3106	22101	B13-8078 Grab	22101,NA,R1,10/1/2013,E-5148,	529.0							
12	C:\ICPMH\1\METHODS (Physis.m)	Sample	3107	22102	B13-8075 Grab	22102,NA,R1,10/1/2013,E-5148,	859.0							
13	C:\ICPMH\1\METHODS (Physis.m)	Sample	3108	22103	B13-8074 Grab	22103,NA,R1,10/1/2013,E-5148,	856.0							
14	C:\ICPMH\1\METHODS (Physis.m)	Sample	3109	22105cm	QAQC CRM - RTC D15-0501	22105,NA,CRM1,10/1/2013,E-5148,	923.0							
15	C:\ICPMH\1\METHODS (Physis.m)	Sample	3110	22105cm	QAQC CRM - ERA 5401	22106,NA,CRM1,10/1/2013,E-5148,	958.0							
16	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R12			1.000							
17	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R13			1.000							
18	C:\ICPMH\1\METHODS (Physis.m)	Sample	3111	22099b1	QAQC Procedural Blank BS1	22099,NA,BS1,10/1/2013,E-5148,	1.000							
19	C:\ICPMH\1\METHODS (Physis.m)	Sample	3112	22099b2	QAQC Procedural Blank BS2	22099,NA,BS2,10/1/2013,E-5148,	1.000							
20	C:\ICPMH\1\METHODS (Physis.m)	Sample	3201	22100ms	B13-8077 Grab MS	22100,NA,MS1,10/1/2013,E-5148,	1.000							
21	C:\ICPMH\1\METHODS (Physis.m)	Sample	3202	22100msd	B13-8077 Grab MSD	22100,NA,MS2,10/1/2013,E-5148,	1.000							
22	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R14			1.000							
23	C:\ICPMH\1\METHODS (Physis.m)	Sample	1108	CCV1			1.000							
24	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R15			1.000							
25	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R16			1.000							
26	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	R17			1.000							
27	C:\ICPMH\1\METHODS (Physis.m)	Sample	3203	22259	CCWTMP-39-WOOD-007 Whole, unfiltered	22259,NA,R1,10/1/2013,E-5149,	592.0							
28	C:\ICPMH\1\METHODS (Physis.m)	Sample	3204	22259r2	CCWTMP-39-WOOD-007 Whole, unfiltered Dup	22259,NA,R2,10/1/2013,E-5149,	608.0							
29	C:\ICPMH\1\METHODS (Physis.m)	Sample	3205	22260	CCWTMP-39-WOOD-008 Whole, unfiltered	22260,NA,R1,10/1/2013,E-5149,	548.0							
30	C:\ICPMH\1\METHODS (Physis.m)	Sample	3206	22261	CCWTMP-39-UNIV-004 Whole, unfiltered	22261,NA,R1,10/1/2013,E-5149,	249.0							
31	C:\ICPMH\1\METHODS (Physis.m)	Sample	3207	22262	CCWTMP-39-ADOLF-018 Whole, unfiltered	22262,NA,R1,10/1/2013,E-5149,	229.0							
32	C:\ICPMH\1\METHODS (Physis.m)	Sample	3208	22263	CCWTMP-39-HOWAR-016 Whole, unfiltered	22263,NA,R1,10/1/2013,E-5149,	267.0							
33	C:\ICPMH\1\METHODS (Physis.m)	Sample	3209	22264	CCWTMP-39-SOMIS-012 Whole, unfiltered	22264,NA,R1,10/1/2013,E-5149,	791.0							
34	C:\ICPMH\1\METHODS (Physis.m)	Sample	3210	22265	CCWTMP-39-HITCH-014 Whole, unfiltered	22265,NA,R1,10/1/2013,E-5149,	484.0							
35	C:\ICPMH\1\METHODS (Physis.m)	Sample	3211	22266r1	QAQC CRM - RTC D15-0501	22266,NA,CRM1,10/1/2013,E-5149,	1.027E+03							
36	C:\ICPMH\1\METHODS (Physis.m)	Sample	3212	22266r2	QAQC CRM - RTC D15-0502	22266,NA,CRM2,10/1/2013,E-5149,	1.018E+03							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
37	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R1B			1.000							
38	C:\CPMH\1\METHODS (Physis.m)	Sample	3301	22251bs1	QAQC Procedural Blank BS1	22251.NA.BS1.10/1/2013.E-5149	1.000							
39	C:\CPMH\1\METHODS (Physis.m)	Sample	3302	22251bs2	QAQC Procedural Blank BS2	22251.NA.BS2.10/1/2013.E-5149	1.000							
40	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R1B			1.000							
41	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R20			1.000							
42	C:\CPMH\1\METHODS (Physis.m)	Sample	3303	22398	CCWTMP-35-PCH-001 Whole, unfiltered	22398.NA.R1.10/1/2013.E-5149	600.0							
43	C:\CPMH\1\METHODS (Physis.m)	Sample	3304	22398r2	CCWTMP-35-PCH-001 Whole, unfiltered Dua	22399.NA.R2.10/1/2013.E-5149	600.0							
44	C:\CPMH\1\METHODS (Physis.m)	Sample	3211	22401r1	QAQC CRM - RTC 015-0501	22401.NA.CRM1.10/1/2013.E-5149	1.027E+03							
45	C:\CPMH\1\METHODS (Physis.m)	Sample	3212	22401r2	QAQC CRM - RTC 015-0502	22401.NA.CRM2.10/1/2013.E-5149	1.018E+03							
46	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R21			1.000							
47	C:\CPMH\1\METHODS (Physis.m)	Sample	3301	22397bs1	QAQC Procedural Blank BS1	22397.NA.BS1.10/1/2013.E-5149	1.000							
48	C:\CPMH\1\METHODS (Physis.m)	Sample	3302	22397bs2	QAQC Procedural Blank BS2	22397.NA.BS2.10/1/2013.E-5149	1.000							
49	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R22			1.000							
50	C:\CPMH\1\METHODS (Physis.m)	Sample	1106	CCV2			1.000E-01							
51	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R23			1.000							
52	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R24			1.000							
53	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R25			1.000							
54		Keyword		StandBy										
55		Keyword		SAMPLEND	End of SMPLE									
56		Keyword		END	End of Sequence									
57		Keyword		CALBEG	Start of CALIB									
58	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse1			1.000							
59	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse2			1.000							
60	C:\CPMH\1\METHODS (Physis.m)	Sample	1101	Rinse			1.000							
61	C:\CPMH\1\METHODS (Physis.m)	CalStd	1101	0MIX	0 ppb mix	0 ng 0 ng Ag	Level 1							
62	C:\CPMH\1\METHODS (Physis.m)	CalStd	1102	1MIX	1 ppb mix	10 ng 1 ng Ag	Level 2							
63	C:\CPMH\1\METHODS (Physis.m)	CalStd	1103	5MIX	5 ppb mix	50 ng 5 ng Ag	Level 3							
64	C:\CPMH\1\METHODS (Physis.m)	CalStd	1104	10MIX	10 ppb mix	100 ng 10 ng Ag	Level 4							
65	C:\CPMH\1\METHODS (Physis.m)	CalStd	1105	50MIX	50 ppb mix	500 ng 50 ng Ag	Level 5							
66	C:\CPMH\1\METHODS (Physis.m)	CalStd	1106	100MIX	100 ppb mix	1000 ng 100 ng Ag	Level 6							
67	C:\CPMH\1\METHODS (Physis.m)	CalStd	1107	500MIX	500 ppb mix	5000 ng 500 ng Ag	Level 7							
68	C:\CPMH\1\METHODS (Physis.m)	CalStd	1108	1000MIX	1000 ppb mix	10000 ng 1000 ng Ag	Level 8							
69	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse3			1.000							
70	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse4			1.000							
71	C:\CPMH\1\METHODS (Physis.m)	CalStd	1109	1P	1 ppm P	10 ug P	Level 9							
72	C:\CPMH\1\METHODS (Physis.m)	CalStd	1110	2P	2 ppm P	20 ug P	Level 10							
73	C:\CPMH\1\METHODS (Physis.m)	CalStd	1111	5P	5 ppm P	50 ug P	Level 11							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
74	C:\VCPM\H1\METHODS\Physis.m	CalStd	1112	10P	10 ppm P	100 ug P	Level 12							
75	C:\VCPM\H1\METHODS\Physis.m	Sample	1	Rinse5			1.000							
76	C:\VCPM\H1\METHODS\Physis.m	Sample	1201	ICV	100 apb (10 apb Ag)		1.000E-01							
77	C:\VCPM\H1\METHODS\Physis.m	Sample	1111	CCVP	5 PPM Phosphorus		1.000E-01							
78	C:\VCPM\H1\METHODS\Physis.m	Sample	1202	2ndP	ERA Phosphorus 9.71 PPM		1.000E-01							
79	C:\VCPM\H1\METHODS\Physis.m	Sample	1	Rinse6			1.000							
80	C:\VCPM\H1\METHODS\Physis.m	Sample	1	Rinse7			1.000							
81		Keyword		CALEND	End of CALIB									
82		Keyword		BLKBEG	Start of BLANK									
83		Keyword		BLKEND	End of BLANK									
84		Keyword		ERRBEG	Start of ERRTERM									
85		Keyword		ERREND	End of ERRTERM									

Elements –

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**(EPA 6020 – Low Metals &
Phosphorous)**

PHYSIS

Instrument Blank

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ICPMS 7700x DATA REPORT

File Name OMIX.D
File Path D:\DATA\2131002R.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/4/2013 18:01
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.000	ug/g	---	50.00	4.517E-05	Pulse	0.30	3
Al	27	103	2	0.000	ug/g	---	28.89	6.032E-05	Pulse	0.30	3
P	31	103	2		ug/g	---	31.11	6.480E-05	Pulse	0.30	3
Ti	48	103	2	0.000	ug/g	---	15.55	3.238E-05	Pulse	0.30	3
V	51	103	2	0.000	ug/g	---	223.34	4.653E-04	Pulse	0.30	3
Cr	52	103	2	0.000	ug/g	---	55.56	1.157E-04	Pulse	0.30	3
Mn	55	103	2	0.000	ug/g	---	12.22	2.547E-05	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	---	10.00	2.079E-05	Pulse	0.30	3
Co	59	103	2	0.000	ug/g	---	37.78	7.880E-05	Pulse	0.30	3
Ni	60	103	2	0.000	ug/g	---	20.00	4.162E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	---	68.89	1.438E-04	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	---	47.78	9.957E-05	Pulse	0.30	3
As	75	103	2	0.000	ug/g	---	4.44	9.224E-06	Pulse	0.30	3
Se	78	103	1	0.000	ug/g	---	2.22	1.702E-05	Pulse	0.30	3
Sr	88	103	2	0.000	ug/g	---	5.56	1.152E-05	Pulse	0.30	3
Mo	98	103	2	0.000	ug/g	---	67.78	1.414E-04	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	---	23.34	4.857E-05	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	---	4.44	9.244E-06	Pulse	0.30	3
Sn	118	103	2	0.000	ug/g	---	131.12	2.731E-04	Pulse	0.30	3
Sb	121	169	2	0.000	ug/g	---	30.00	4.433E-05	Pulse	0.30	3
Ba	137	169	2	0.000	ug/g	---	1.11	1.637E-06	Pulse	0.30	3
Tl	205	169	2	0.000	ug/g	---	310.02	4.586E-04	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	---	78.89	1.166E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	132,013.42	1.01	100.0	Pulse	0.30	3
2	Rh	103	479,998.35	0.75	100.0	Analog	0.30	3
3	Rh	103	1,107,711.36	0.48	100.0	Analog	0.30	3
2	Tm	169	676,093.20	0.26	100.0	Analog	0.30	3

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Initial Calibration Data

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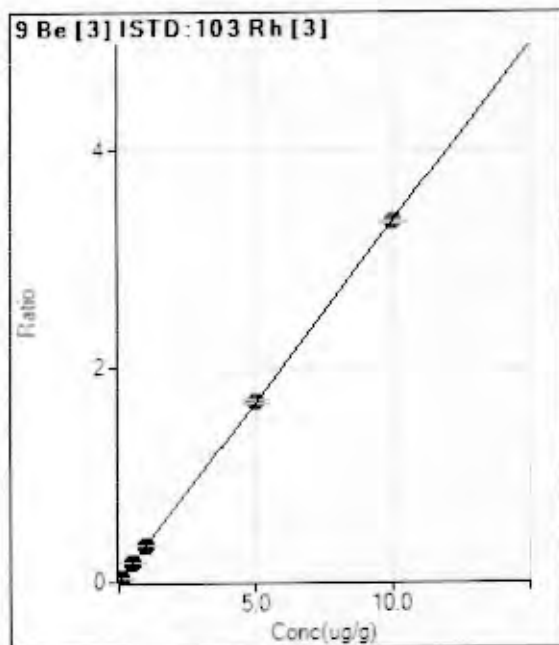
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Calibration for 10P.D

Batch Folder: D:\DATA\2131002R.b\
 Analysis File: 2131002R.batch.xml
 DA Date-Time: 4/8/2014 2:41:32 PM
 Calibration Title:
 Calibration Method: External Calibration
 VIS Interpolation Fit:
 Tune Step: #1 h2.u
 #2 he.u
 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX.D	0 ppb mix	10/4/2013 6:01:34 PM
2	1MIX.D	1 ppb mix	10/4/2013 6:06:15 PM
3	5MIX.D	5 ppb mix	10/4/2013 6:10:57 PM
4	10MIX.D	10 ppb mix	10/4/2013 6:15:40 PM
5	50MIX.D	50 ppb mix	10/4/2013 6:20:21 PM
6	100MIX.D	100 ppb mix	10/4/2013 6:25:02 PM
7	500MIX.D	500 ppb mix	10/4/2013 6:29:45 PM
8	1000MIX.D	1000 ppb mix	10/4/2013 6:34:12 PM
9	1P.D	1 ppm P	10/4/2013 6:48:21 PM
10	2P.D	2 ppm P	10/4/2013 6:53:04 PM
11	5P.D	5 ppm P	10/4/2013 6:57:46 PM
12	10P.D	10 ppm P	10/4/2013 7:02:28 PM
13			
14			
15			
16			
17			
18			

Calibration for 10P.D



$$y = 0.3335 * x + 4.5165E-005$$

$$R = 1.0000$$

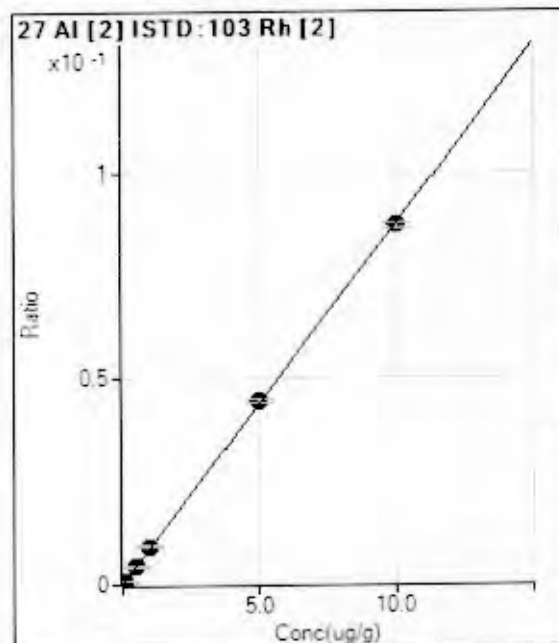
$$DL = 8.288E-05$$

$$BEC = 0.0001354$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	50.00	0.0000	P	20.4
2	<input type="checkbox"/>	0.010	0.011	4040.63	0.0036	P	7.1
3	<input type="checkbox"/>	0.050	0.053	20255.06	0.0177	P	1.4
4	<input type="checkbox"/>	0.100	0.105	39283.52	0.0350	P	1.2
5	<input type="checkbox"/>	0.500	0.526	194628.13	0.1754	P	0.7
6	<input type="checkbox"/>	1.000	1.013	370764.23	0.3379	P	0.4
7	<input type="checkbox"/>	5.000	5.026	1796187.94	1.6761	A	1.4
8	<input type="checkbox"/>	10.00	9.985	3579661.30	3.3299	A	0.6
9	<input type="checkbox"/>			206.68	0.0002	P	9.9
10	<input type="checkbox"/>			168.90	0.0002	P	10.2
11	<input type="checkbox"/>			150.01	0.0001	P	17.7
12	<input type="checkbox"/>			151.12	0.0001	P	28.5
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0088 * x + 6.0316E-005$$

$$R = 1.0000$$

$$DL = 0.00977$$

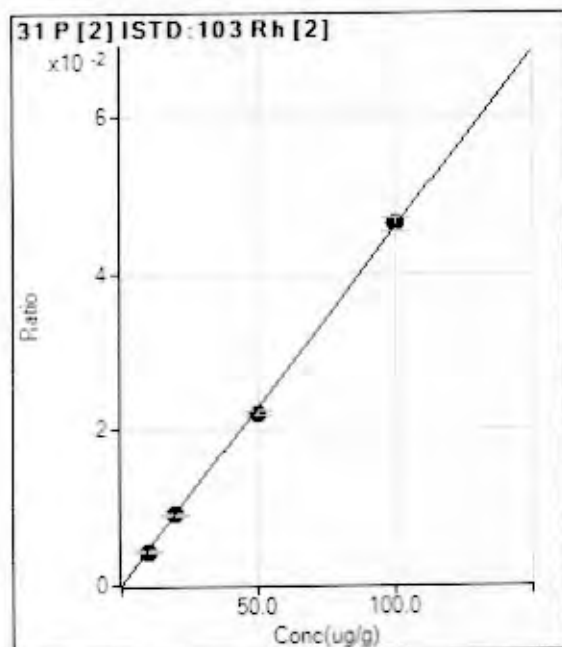
$$BEC = 0.006878$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	28.89	0.0001	P	47.3
2	<input type="checkbox"/>	0.010	0.018	108.89	0.0002	P	12.1
3	<input type="checkbox"/>	0.050	0.048	240.01	0.0005	P	6.1
4	<input type="checkbox"/>	0.100	0.101	460.03	0.0009	P	8.3
5	<input type="checkbox"/>	0.500	0.506	2193.56	0.0045	P	6.3
6	<input type="checkbox"/>	1.000	1.061	4461.83	0.0094	P	3.6
7	<input type="checkbox"/>	5.000	5.063	20216.24	0.0445	P	2.5
8	<input type="checkbox"/>	10.00	9.962	40008.99	0.0874	P	1.9
9	<input type="checkbox"/>			57.78	0.0001	P	30.9
10	<input type="checkbox"/>			25.55	0.0001	P	16.0
11	<input type="checkbox"/>			32.22	0.0001	P	32.8
12	<input type="checkbox"/>			32.22	0.0001	P	22.8
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 4.5819\text{E-}004 * x + 0.0000\text{E+}000$$

$$R = 0.9998$$

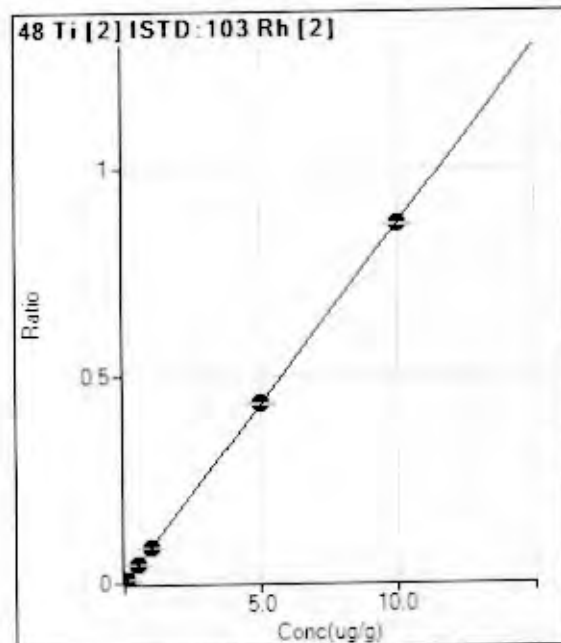
$$DL = 0$$

$$BEC = 0$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>			31.11	0.0001	P	16.0
2	<input type="checkbox"/>			44.44	0.0001	P	42.7
3	<input type="checkbox"/>			31.11	0.0001	P	34.4
4	<input type="checkbox"/>			45.56	0.0001	P	31.0
5	<input type="checkbox"/>			46.67	0.0001	P	55.7
6	<input type="checkbox"/>			52.22	0.0001	P	33.4
7	<input type="checkbox"/>			44.45	0.0001	P	64.1
8	<input type="checkbox"/>			35.56	0.0001	P	38.4
9	<input type="checkbox"/>	10.	9.238	1966	0.0042	P	5.9
10	<input type="checkbox"/>	20.	19.663	4201.	0.0090	P	1.6
11	<input type="checkbox"/>	50.	48.310	1031	0.0221	P	3.5
12	<input type="checkbox"/>	100	100.989	2230	0.0463	P	3.4
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0868 * x + 3.2378\text{E-}005$$

$$R = 1.0000$$

$$DL = 0.0002709$$

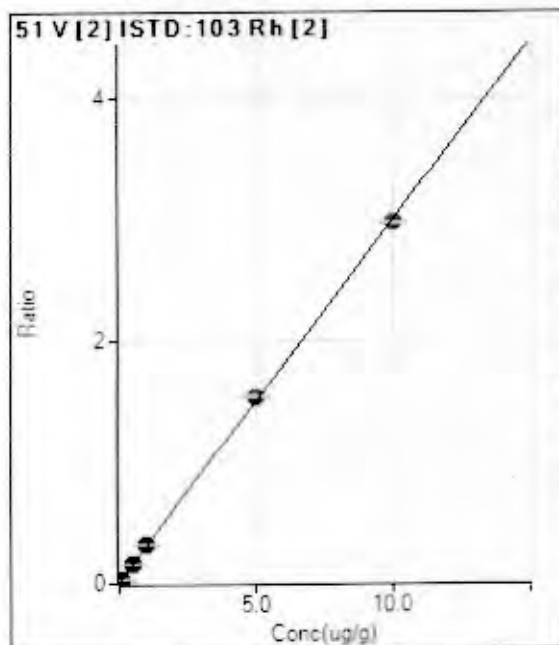
$$BEC = 0.0003729$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	15.55	0.0000	P	24.2
2	<input type="checkbox"/>	0.010	0.011	492.26	0.0010	P	11.2
3	<input type="checkbox"/>	0.050	0.052	2262.47	0.0046	P	5.8
4	<input type="checkbox"/>	0.100	0.108	4607.48	0.0094	P	4.5
5	<input type="checkbox"/>	0.500	0.525	22242.18	0.0456	P	0.3
6	<input type="checkbox"/>	1.000	1.024	42380.97	0.0890	P	1.0
7	<input type="checkbox"/>	5.000	5.017	198088.78	0.4357	P	0.8
8	<input type="checkbox"/>	10.00	9.988	396905.24	0.8673	P	0.5
9	<input type="checkbox"/>			91.13	0.0002	P	70.1
10	<input type="checkbox"/>			28.89	0.0001	P	7.3
11	<input type="checkbox"/>			27.78	0.0001	P	20.0
12	<input type="checkbox"/>			20.00	0.0000	P	15.7
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.2994 * x + 4.6534E-004$$

R = 0.9999

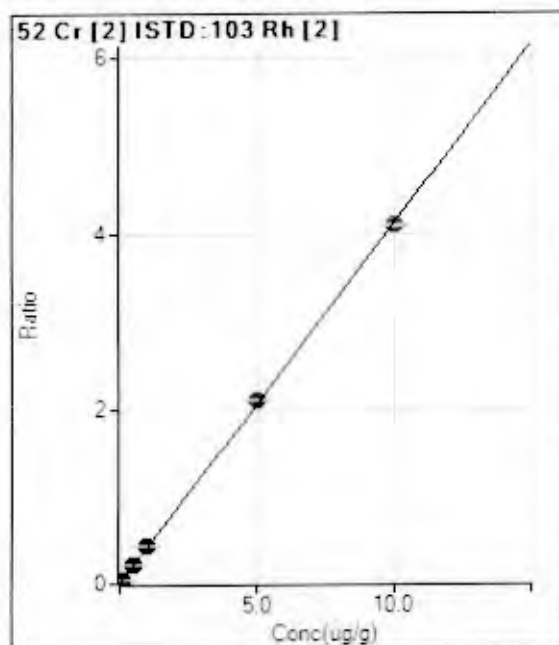
DL = 0.00116

BEC = 0.001554

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	223.34	0.0005	P	24.9
2	<input type="checkbox"/>	0.010	0.011	1825.72	0.0037	P	2.5
3	<input type="checkbox"/>	0.050	0.054	8209.97	0.0166	P	1.7
4	<input type="checkbox"/>	0.100	0.108	16007.75	0.0328	P	1.5
5	<input type="checkbox"/>	0.500	0.535	78248.18	0.1605	P	0.6
6	<input type="checkbox"/>	1.000	1.055	150722.42	0.3164	P	1.6
7	<input type="checkbox"/>	5.000	5.125	697700.62	1.5345	A	0.7
8	<input type="checkbox"/>	10.00	9.930	1360621.0	2.9732	A	0.6
9	<input type="checkbox"/>			132.23	0.0003	P	30.2
10	<input type="checkbox"/>			158.90	0.0003	P	11.3
11	<input type="checkbox"/>			133.34	0.0003	P	17.5
12	<input type="checkbox"/>			28.89	0.0001	P	53.9
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.4116 * x + 1.1571E-004$$

R = 0.9999

DL = 0.0002016

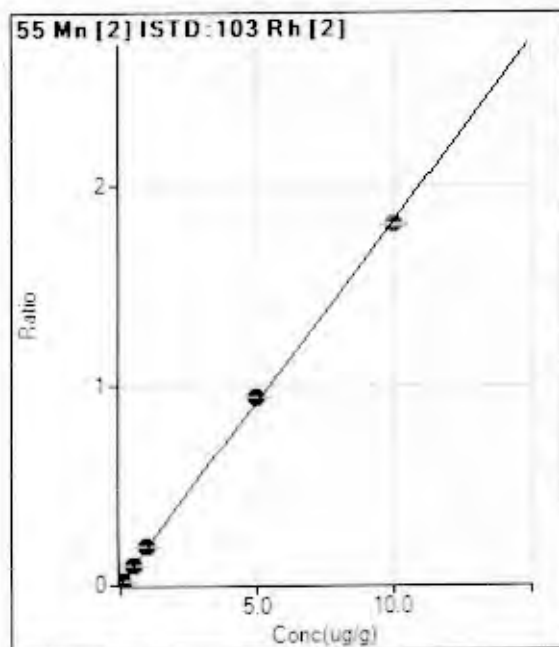
BEC = 0.0002811

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	55.56	0.0001	P	23.9
2	<input type="checkbox"/>	0.010	0.011	2283.58	0.0046	P	5.1
3	<input type="checkbox"/>	0.050	0.055	11323.98	0.0229	P	0.7
4	<input type="checkbox"/>	0.100	0.109	22048.84	0.0451	P	4.6
5	<input type="checkbox"/>	0.500	0.542	108869.31	0.2234	P	0.7
6	<input type="checkbox"/>	1.000	1.062	208302.57	0.4372	P	1.1
7	<input type="checkbox"/>	5.000	5.101	954675.55	2.0998	A	0.3
8	<input type="checkbox"/>	10.00	9.941	1872535.1	4.0919	A	0.6
9	<input type="checkbox"/>			125.56	0.0003	P	23.7
10	<input type="checkbox"/>			96.67	0.0002	P	55.9
11	<input type="checkbox"/>			101.12	0.0002	P	38.3
12	<input type="checkbox"/>			85.56	0.0002	P	46.4
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.1822 * x + 2.5473E-005$$

$$R = 0.9998$$

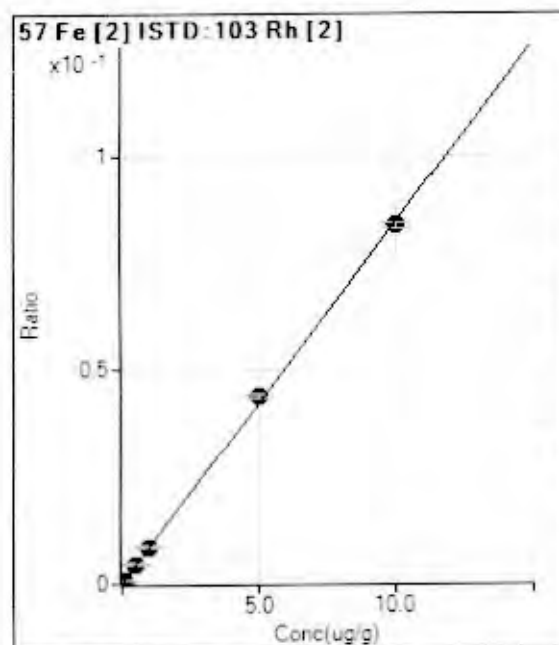
$$DL = 6.788E-05$$

$$BEC = 0.0001398$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	12.22	0.0000	P	16.2
2	<input type="checkbox"/>	0.010	0.011	994.51	0.0020	P	9.4
3	<input type="checkbox"/>	0.050	0.054	4878.67	0.0098	P	4.2
4	<input type="checkbox"/>	0.100	0.109	9730.82	0.0199	P	3.1
5	<input type="checkbox"/>	0.500	0.541	48025.17	0.0985	P	0.7
6	<input type="checkbox"/>	1.000	1.054	91494.45	0.1921	P	1.6
7	<input type="checkbox"/>	5.000	5.152	426866.74	0.9389	P	0.6
8	<input type="checkbox"/>	10.00	9.917	827074.95	1.8073	A	0.3
9	<input type="checkbox"/>			72.23	0.0002	P	29.6
10	<input type="checkbox"/>			48.89	0.0001	P	22.2
11	<input type="checkbox"/>			26.67	0.0001	P	44.8
12	<input type="checkbox"/>			44.45	0.0001	P	63.1
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0084 * x + 2.0788E-005$$

$$R = 0.9998$$

$$DL = 0.006472$$

$$BEC = 0.002461$$

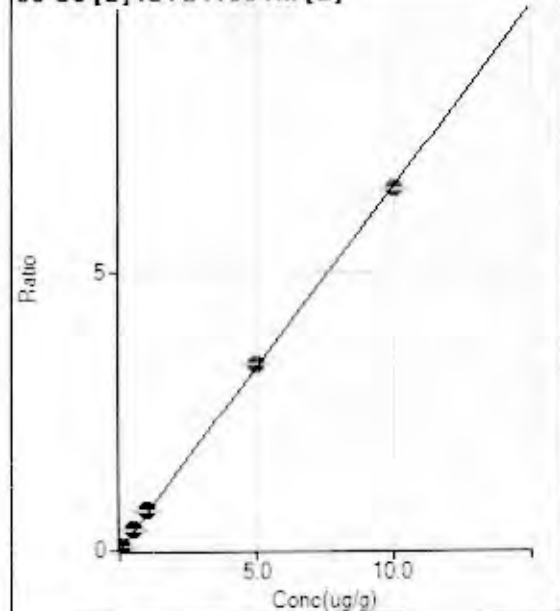
Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	10.00	0.0000	P	87.7
2	<input type="checkbox"/>	0.010	0.010	52.23	0.0001	P	45.1
3	<input type="checkbox"/>	0.050	0.050	221.12	0.0004	P	11.8
4	<input type="checkbox"/>	0.100	0.114	478.92	0.0010	P	5.9
5	<input type="checkbox"/>	0.500	0.532	2201.34	0.0045	P	8.1
6	<input type="checkbox"/>	1.000	1.020	4115.09	0.0086	P	5.6
7	<input type="checkbox"/>	5.000	5.186	19928.38	0.0438	P	2.6
8	<input type="checkbox"/>	10.00	9.903	38294.19	0.0837	P	1.4
9	<input type="checkbox"/>			122.23	0.0003	P	10.3
10	<input type="checkbox"/>			10.00	0.0000	P	33.4
11	<input type="checkbox"/>			15.56	0.0000	P	63.9
12	<input type="checkbox"/>			12.22	0.0000	P	30.8
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D

59 Co [2] ISTD:103 Rh [2]



$$y = 0.6540 * x + 7.8798E-005$$

$$R = 0.9999$$

$$DL = 8.305E-05$$

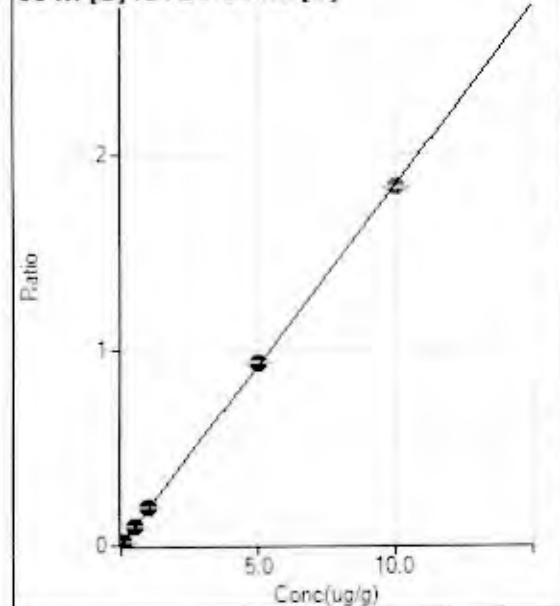
$$BEC = 0.0001205$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	37.78	0.0001	P	23.0
2	<input type="checkbox"/>	0.010	0.011	3650.51	0.0074	P	3.4
3	<input type="checkbox"/>	0.050	0.056	18154.40	0.0366	P	2.1
4	<input type="checkbox"/>	0.100	0.113	36264.29	0.0742	P	0.8
5	<input type="checkbox"/>	0.500	0.555	176867.42	0.3629	P	1.0
6	<input type="checkbox"/>	1.000	1.082	336998.43	0.7074	P	0.8
7	<input type="checkbox"/>	5.000	5.115	1521067.98	3.3455	A	0.1
8	<input type="checkbox"/>	10.00	9.931	2972331.49	6.4950	A	0.2
9	<input type="checkbox"/>			92.23	0.0002	P	36.0
10	<input type="checkbox"/>			52.23	0.0001	P	23.5
11	<input type="checkbox"/>			72.23	0.0002	P	24.1
12	<input type="checkbox"/>			70.00	0.0001	P	19.7
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

60 Ni [2] ISTD:103 Rh [2]



$$y = 0.1842 * x + 4.1622E-005$$

$$R = 0.9999$$

$$DL = 0.0003895$$

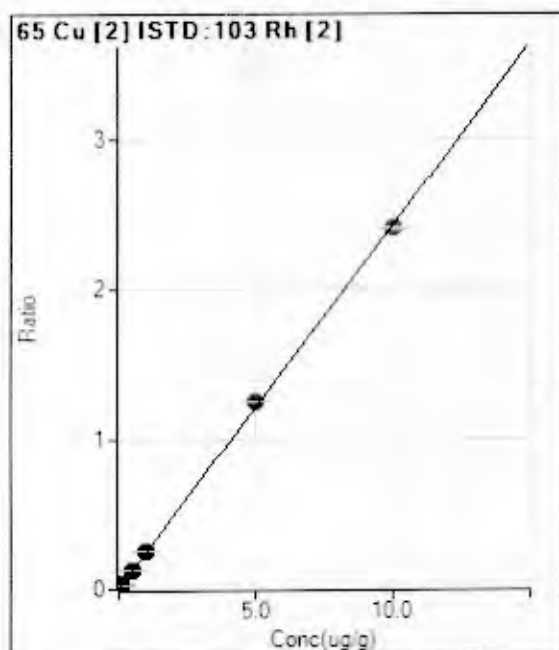
$$BEC = 0.0002259$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	20.00	0.0000	P	57.5
2	<input type="checkbox"/>	0.010	0.011	1064.52	0.0021	P	6.1
3	<input type="checkbox"/>	0.050	0.054	4994.23	0.0101	P	2.6
4	<input type="checkbox"/>	0.100	0.106	9579.57	0.0196	P	2.0
5	<input type="checkbox"/>	0.500	0.535	48049.01	0.0986	P	0.6
6	<input type="checkbox"/>	1.000	1.052	92337.30	0.1938	P	1.3
7	<input type="checkbox"/>	5.000	5.085	425967.17	0.9369	P	0.5
8	<input type="checkbox"/>	10.00	9.950	838965.49	1.8332	A	0.8
9	<input type="checkbox"/>			26.67	0.0001	P	34.2
10	<input type="checkbox"/>			18.89	0.0000	P	26.2
11	<input type="checkbox"/>			24.45	0.0001	P	27.7
12	<input type="checkbox"/>			15.56	0.0000	P	53.3
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.2426 * x + 1.4379E-004$$

$$R = 0.9999$$

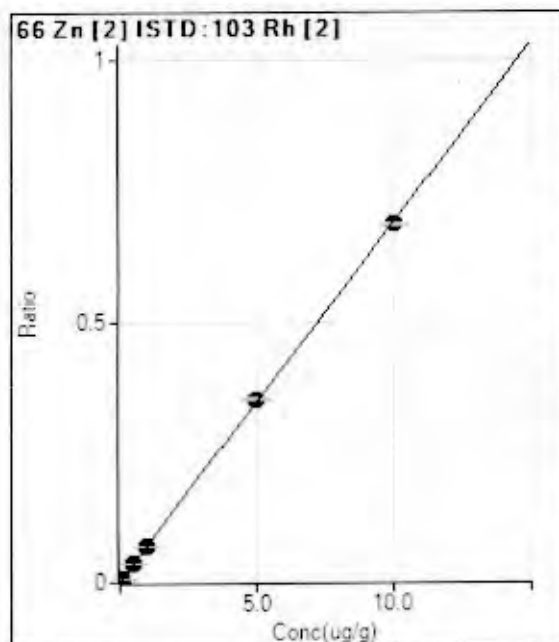
$$DL = 0.0006372$$

$$BEC = 0.0005927$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	68.89	0.0001	P	35.8
2	<input type="checkbox"/>	0.010	0.022	2665.86	0.0054	P	4.1
3	<input type="checkbox"/>	0.050	0.136	16394.77	0.0331	P	0.7
4	<input type="checkbox"/>	0.100	0.110	13124.30	0.0269	P	2.9
5	<input type="checkbox"/>	0.500	0.545	64550.08	0.1324	P	0.4
6	<input type="checkbox"/>	1.000	1.061	122721.74	0.2576	P	1.4
7	<input type="checkbox"/>	5.000	5.142	567233.42	1.2476	A	0.4
8	<input type="checkbox"/>	10.00	9.920	1101303.2	2.4065	A	0.7
9	<input type="checkbox"/>			213.35	0.0005	P	12.2
10	<input type="checkbox"/>			162.23	0.0003	P	15.1
11	<input type="checkbox"/>			118.89	0.0003	P	18.4
12	<input type="checkbox"/>			124.45	0.0003	P	1.4
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0690 * x + 9.9566E-005$$

$$R = 0.9999$$

$$DL = 0.0002071$$

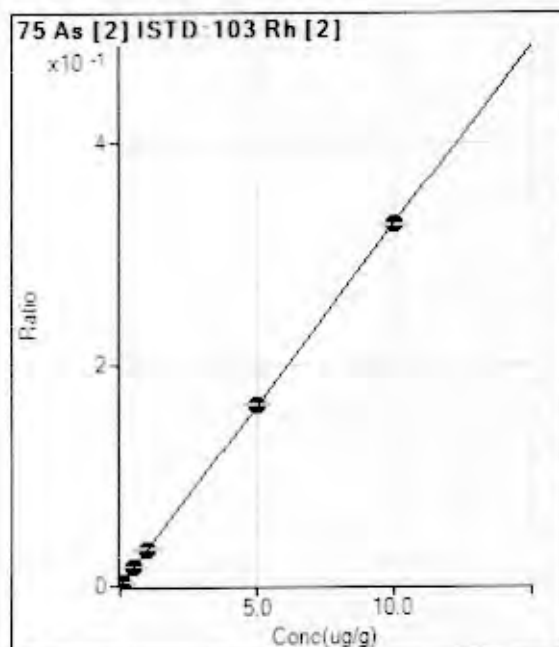
$$BEC = 0.001442$$

Weight: None

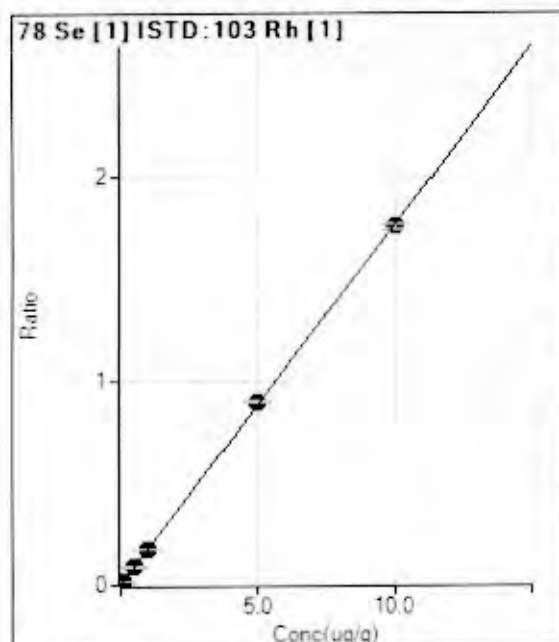
Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	47.78	0.0001	P	4.8
2	<input type="checkbox"/>	0.010	0.012	450.03	0.0009	P	9.8
3	<input type="checkbox"/>	0.050	0.053	1850.17	0.0037	P	2.1
4	<input type="checkbox"/>	0.100	0.112	3817.23	0.0078	P	1.6
5	<input type="checkbox"/>	0.500	0.534	18013.06	0.0370	P	1.6
6	<input type="checkbox"/>	1.000	1.018	33522.47	0.0704	P	1.8
7	<input type="checkbox"/>	5.000	5.087	159685.58	0.3512	P	0.3
8	<input type="checkbox"/>	10.00	9.953	314462.71	0.6872	P	0.4
9	<input type="checkbox"/>			3603.85	0.0078	P	4.6
10	<input type="checkbox"/>			61.12	0.0001	P	10.
11	<input type="checkbox"/>			128.90	0.0003	P	12.
12	<input type="checkbox"/>			5377.71	0.0112	P	5.8
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D

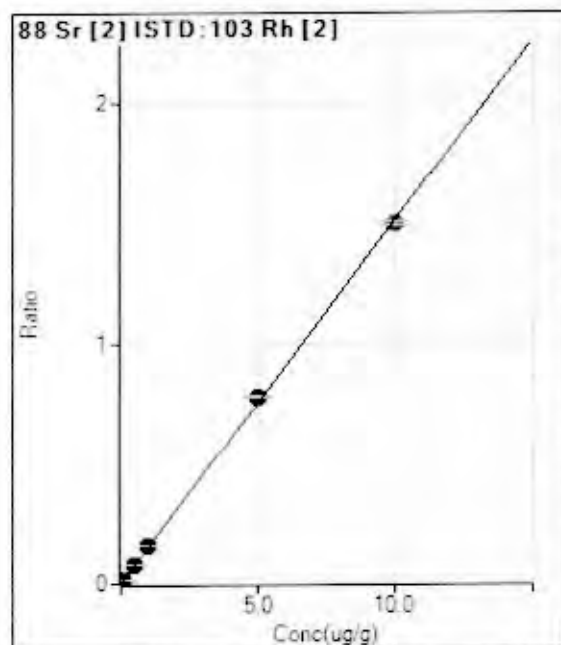


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	4.44	0.0000	P	114.7
2	<input type="checkbox"/>	0.010	0.011	184.45	0.0004	P	18.8
3	<input type="checkbox"/>	0.050	0.049	793.38	0.0016	P	14.3
4	<input type="checkbox"/>	0.100	0.101	1620.15	0.0033	P	6.8
5	<input type="checkbox"/>	0.500	0.531	8443.47	0.0173	P	4.4
6	<input type="checkbox"/>	1.000	1.025	15925.58	0.0334	P	1.6
7	<input type="checkbox"/>	5.000	5.039	74683.94	0.1643	P	1.0
8	<input type="checkbox"/>	10.00	9.977	148847.3	0.3252	P	0.4
9	<input type="checkbox"/>			16.67	0.0000	P	71.0
10	<input type="checkbox"/>			18.89	0.0000	P	54.7
11	<input type="checkbox"/>			10.00	0.0000	P	88.4
12	<input type="checkbox"/>			12.22	0.0000	P	68.3
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	2.22	0.0000	P	173.2
2	<input type="checkbox"/>	0.010	0.010	232.24	0.0017	P	8.1
3	<input type="checkbox"/>	0.050	0.049	1146.75	0.0086	P	5.7
4	<input type="checkbox"/>	0.100	0.107	2506.94	0.0189	P	4.1
5	<input type="checkbox"/>	0.500	0.502	11677.67	0.0886	P	3.6
6	<input type="checkbox"/>	1.000	1.002	23012.49	0.1769	P	1.3
7	<input type="checkbox"/>	5.000	5.081	109180.72	0.8969	P	1.2
8	<input type="checkbox"/>	10.00	9.959	215991.16	1.7578	P	1.3
9	<input type="checkbox"/>			10.00	0.0001	P	33.1
10	<input type="checkbox"/>			13.33	0.0001	P	90.0
11	<input type="checkbox"/>			8.89	0.0001	P	43.1
12	<input type="checkbox"/>			7.78	0.0001	P	89.1
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.1509 * x + 1.1524E-005$$

$$R = 0.9998$$

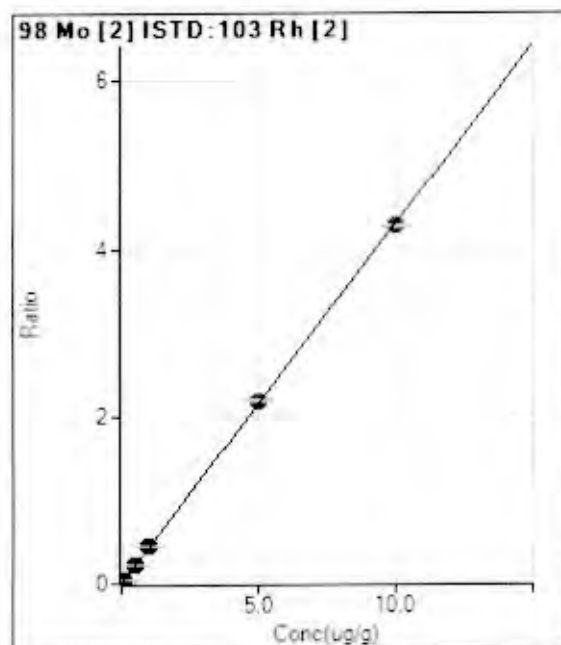
$$DL = 0.0002098$$

$$BEC = 7.383E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	5.56	0.0000	P	91.6
2	<input type="checkbox"/>	0.010	0.010	754.49	0.0015	P	11.4
3	<input type="checkbox"/>	0.050	0.054	4072.88	0.0082	P	2.1
4	<input type="checkbox"/>	0.100	0.108	7947.68	0.0163	P	4.7
5	<input type="checkbox"/>	0.500	0.541	39761.88	0.0816	P	1.6
6	<input type="checkbox"/>	1.000	1.038	74632.18	0.1567	P	1.0
7	<input type="checkbox"/>	5.000	5.170	354604.86	0.7799	P	0.4
8	<input type="checkbox"/>	10.00	9.909	684154.75	1.4950	A	1.0
9	<input type="checkbox"/>			16.67	0.0000	P	20.8
10	<input type="checkbox"/>			5.56	0.0000	P	35.2
11	<input type="checkbox"/>			10.00	0.0000	P	33.1
12	<input type="checkbox"/>			7.78	0.0000	P	89.6
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.4299 * x + 1.4139E-004$$

$$R = 0.9999$$

$$DL = 0.0003464$$

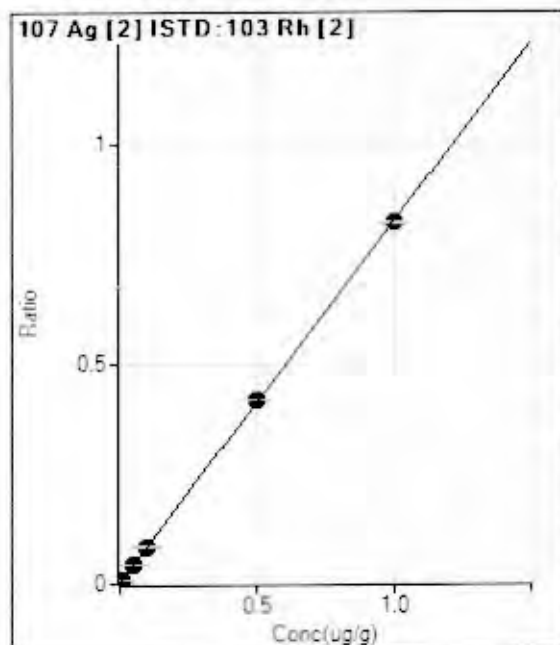
$$BEC = 0.0003289$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	67.78	0.0001	F	35.1
2	<input type="checkbox"/>	0.010	0.010	2209.12	0.0045	P	3.2
3	<input type="checkbox"/>	0.050	0.053	11324.18	0.0229	P	1.9
4	<input type="checkbox"/>	0.100	0.107	22542.15	0.0461	P	2.9
5	<input type="checkbox"/>	0.500	0.525	109969.47	0.2256	P	0.8
6	<input type="checkbox"/>	1.000	1.039	212922.62	0.4469	P	0.4
7	<input type="checkbox"/>	5.000	5.087	994218.51	2.1868	A	0.4
8	<input type="checkbox"/>	10.00	9.951	1957886.1	4.2781	A	0.7
9	<input type="checkbox"/>			1670.15	0.0036	P	6.2
10	<input type="checkbox"/>			995.62	0.0021	P	0.9
11	<input type="checkbox"/>			653.37	0.0014	P	7.2
12	<input type="checkbox"/>			437.80	0.0009	P	13.7
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.8226 * x + 4.8574E-005$$

$$R = 1.0000$$

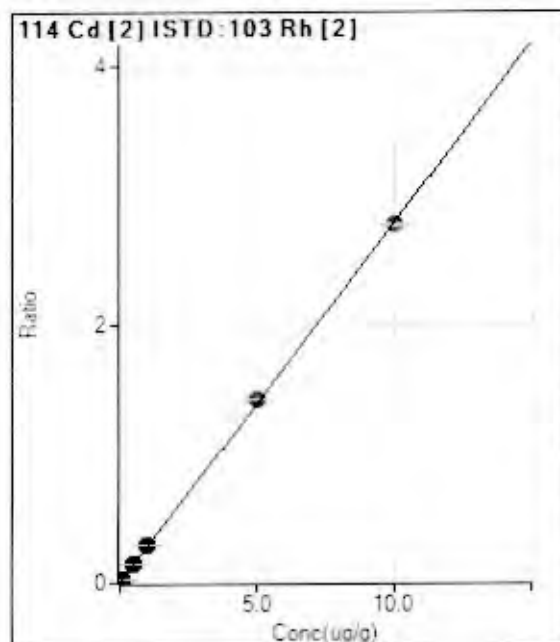
$$DL = 6.637E-05$$

$$BEC = 5.817E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	23.34	0.0000	P	37.5
2	<input type="checkbox"/>	0.001	0.001	417.80	0.0008	P	17.7
3	<input type="checkbox"/>	0.005	0.005	2162.45	0.0044	P	5.1
4	<input type="checkbox"/>	0.010	0.011	4358.51	0.0089	P	1.2
5	<input type="checkbox"/>	0.050	0.052	20772.17	0.0426	P	0.3
6	<input type="checkbox"/>	0.100	0.103	40266.87	0.0845	P	1.1
7	<input type="checkbox"/>	0.500	0.507	189701.26	0.4172	P	0.3
8	<input type="checkbox"/>	1.000	0.996	375005.51	0.8195	P	0.6
9	<input type="checkbox"/>			42.22	0.0001	P	18.3
10	<input type="checkbox"/>			24.44	0.0001	P	51.2
11	<input type="checkbox"/>			16.67	0.0000	P	72.8
12	<input type="checkbox"/>			10.00	0.0000	P	66.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2792 * x + 9.2440E-006$$

$$R = 0.9999$$

$$DL = 4.255E-05$$

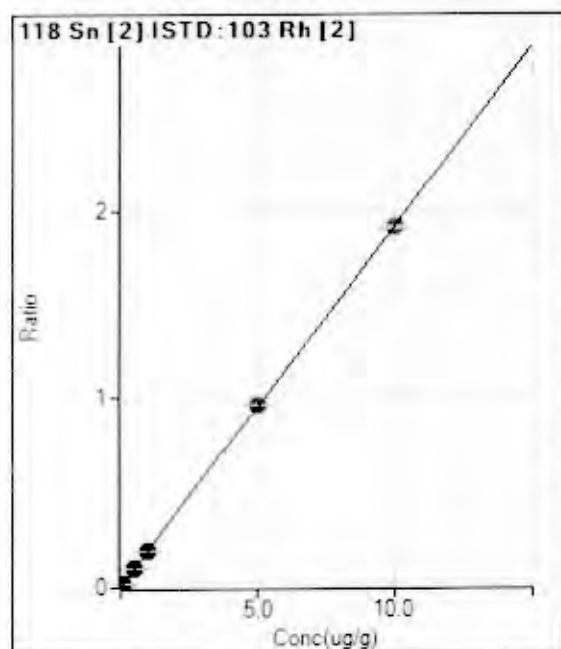
$$BEC = 3.239E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	4.44	0.0000	P	42.8
2	<input type="checkbox"/>	0.010	0.011	1493.46	0.0030	P	6.4
3	<input type="checkbox"/>	0.050	0.054	7411.88	0.0150	P	3.3
4	<input type="checkbox"/>	0.100	0.108	14765.77	0.0302	P	1.5
5	<input type="checkbox"/>	0.500	0.537	73127.96	0.1500	P	1.0
6	<input type="checkbox"/>	1.000	1.050	139669.69	0.2932	P	1.7
7	<input type="checkbox"/>	5.000	5.102	647661.54	1.4245	A	0.2
8	<input type="checkbox"/>	10.00	9.942	1270401.2	2.7760	A	0.4
9	<input type="checkbox"/>			40.00	0.0001	P	28.7
10	<input type="checkbox"/>			34.45	0.0001	P	56.0
11	<input type="checkbox"/>			18.89	0.0000	P	41.8
12	<input type="checkbox"/>			16.67	0.0000	P	39.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.1914 * x + 2.7314E-004$$

$$R = 1.0000$$

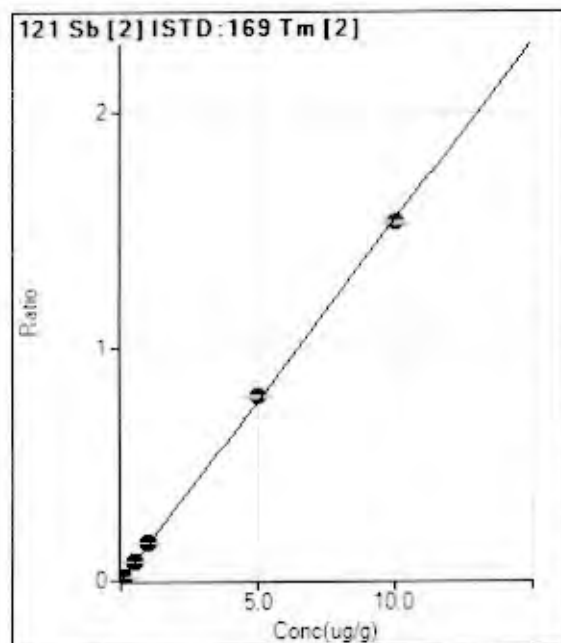
$$DL = 0.0003731$$

$$BEC = 0.001427$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	131.12	0.0003	P	8.7
2	<input type="checkbox"/>	0.010	0.010	1115.64	0.0023	P	4.9
3	<input type="checkbox"/>	0.050	0.052	5106.53	0.0103	P	1.5
4	<input type="checkbox"/>	0.100	0.104	9862.15	0.0202	P	2.3
5	<input type="checkbox"/>	0.500	0.513	47991.99	0.0985	P	0.4
6	<input type="checkbox"/>	1.000	1.017	92882.16	0.1950	P	0.7
7	<input type="checkbox"/>	5.000	5.020	436997.86	0.9612	A	0.6
8	<input type="checkbox"/>	10.00	9.988	874971.57	1.9120	A	0.4
9	<input type="checkbox"/>			647.82	0.0014	P	7.9
10	<input type="checkbox"/>			446.69	0.0010	P	14.
11	<input type="checkbox"/>			290.02	0.0006	P	11.
12	<input type="checkbox"/>			68.89	0.0001	P	45.
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.1542 * x + 4.4332E-005$$

$$R = 0.9999$$

$$DL = 0.0005806$$

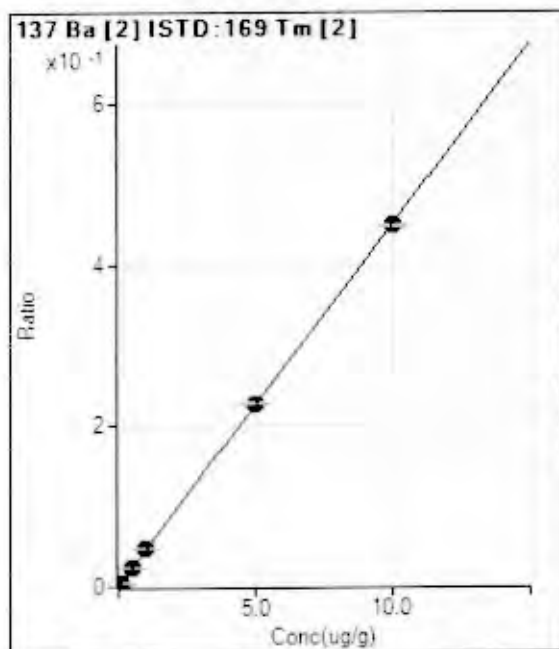
$$BEC = 0.0002791$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	30.00	0.0000	P	67.3
2	<input type="checkbox"/>	0.010	0.012	1292.33	0.0019	P	7.8
3	<input type="checkbox"/>	0.050	0.056	6064.65	0.0087	P	1.4
4	<input type="checkbox"/>	0.100	0.112	11945.74	0.0173	P	1.7
5	<input type="checkbox"/>	0.500	0.545	57607.30	0.0842	P	1.1
6	<input type="checkbox"/>	1.000	1.048	110498.31	0.1617	P	1.0
7	<input type="checkbox"/>	5.000	5.143	523002.98	0.7933	A	0.6
8	<input type="checkbox"/>	10.00	9.921	1017831.8	1.5303	A	0.4
9	<input type="checkbox"/>			163.34	0.0002	P	14.2
10	<input type="checkbox"/>			104.45	0.0002	P	24.4
11	<input type="checkbox"/>			178.90	0.0003	P	26.6
12	<input type="checkbox"/>			185.57	0.0004	P	21.8
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

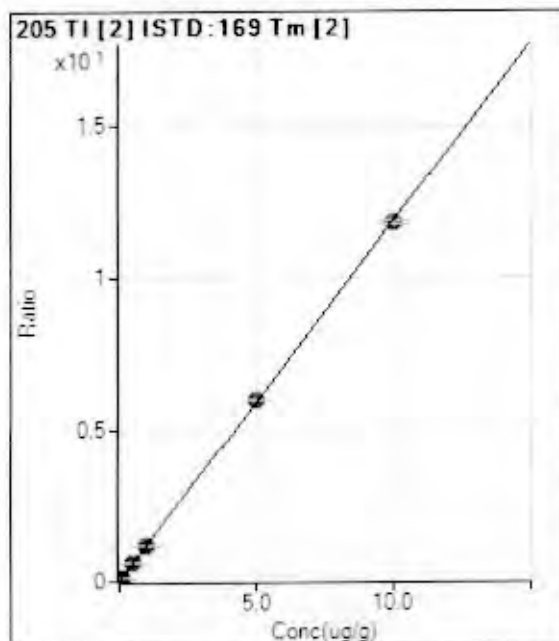
Calibration for 10P.D



Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	1.11	0.0000	P	173.2
2	<input type="checkbox"/>	0.010	0.010	315.57	0.0005	P	4.9
3	<input type="checkbox"/>	0.050	0.055	1719.05	0.0025	P	9.3
4	<input type="checkbox"/>	0.100	0.109	3383.81	0.0049	P	3.5
5	<input type="checkbox"/>	0.500	0.538	16617.68	0.0243	P	2.1
6	<input type="checkbox"/>	1.000	1.046	32253.00	0.0472	P	1.5
7	<input type="checkbox"/>	5.000	5.042	149971.70	0.2275	P	0.4
8	<input type="checkbox"/>	10.00	9.972	299242.35	0.4499	P	0.8
9	<input type="checkbox"/>			25.56	0.0000	P	71.9
10	<input type="checkbox"/>			5.56	0.0000	P	34.6
11	<input type="checkbox"/>			6.67	0.0000	P	49.8
12	<input type="checkbox"/>			4.44	0.0000	P	33.8
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

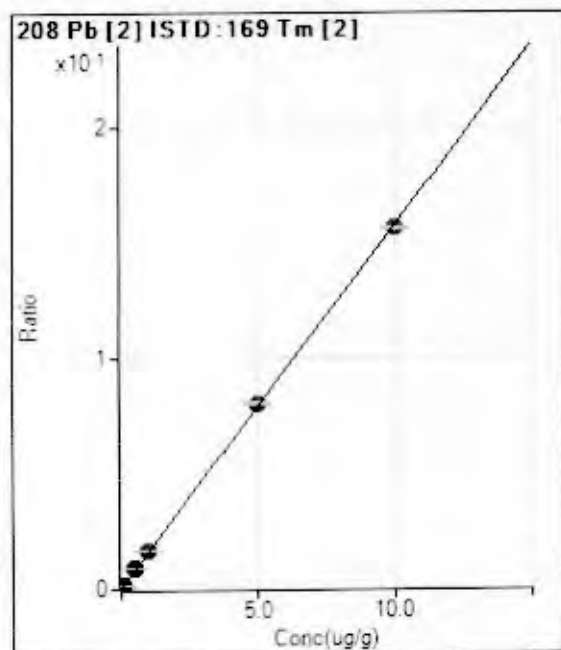


Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	310.02	0.0005	P	5.9
2	<input type="checkbox"/>	0.010	0.011	9602.17	0.0139	P	1.4
3	<input type="checkbox"/>	0.050	0.056	46847.77	0.0674	P	0.4
4	<input type="checkbox"/>	0.100	0.113	93183.98	0.1349	P	0.5
5	<input type="checkbox"/>	0.500	0.527	428512.76	0.6261	A	1.3
6	<input type="checkbox"/>	1.000	1.022	828882.63	1.2133	A	0.8
7	<input type="checkbox"/>	5.000	5.078	3971782.23	6.0243	A	0.2
8	<input type="checkbox"/>	10.00	9.957	7856026.41	11.811	A	0.9
9	<input type="checkbox"/>			3653.89	0.0054	P	4.9
10	<input type="checkbox"/>			2494.75	0.0037	P	2.8
11	<input type="checkbox"/>			1895.75	0.0028	P	3.6
12	<input type="checkbox"/>			1706.84	0.0037	P	12.
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 1.5767 * x + 1.1663E-004$$

$$R = 0.9999$$

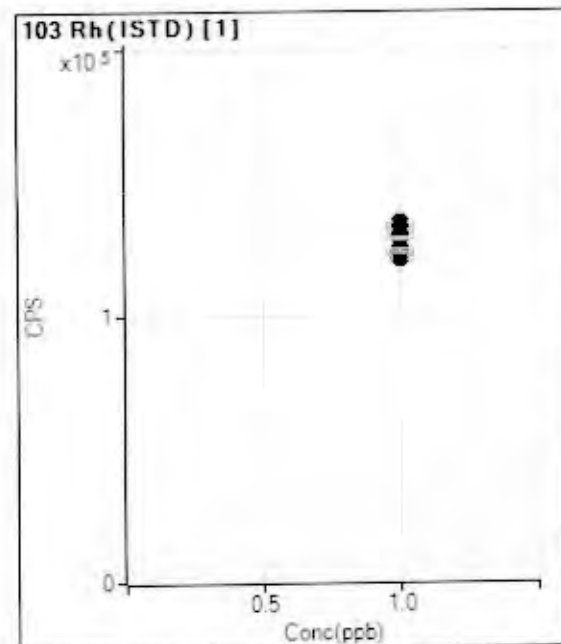
$$DL = 5.974E-05$$

$$BEC = 7.398E-05$$

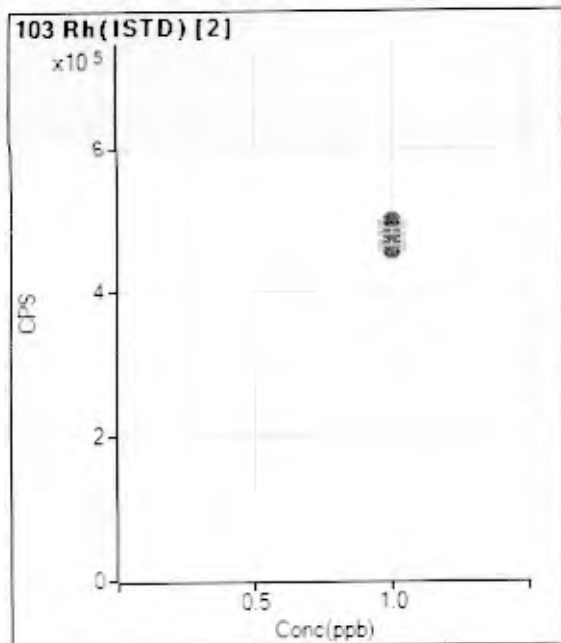
Weight: None

Min Conc: <None>

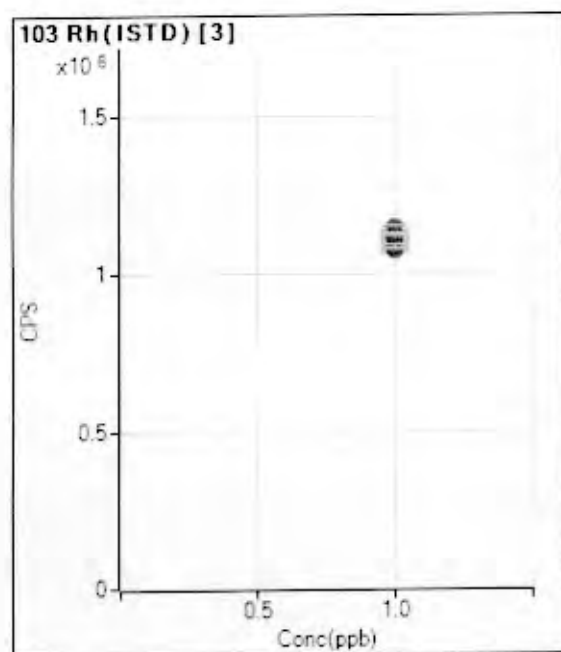
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	78.89	0.0001	P	26.9
2	<input type="checkbox"/>	0.010	0.012	12806.99	0.0185	P	2.5
3	<input type="checkbox"/>	0.050	0.057	62916.70	0.0905	P	1.8
4	<input type="checkbox"/>	0.100	0.114	124061.00	0.1796	P	0.3
5	<input type="checkbox"/>	0.500	0.562	606595.28	0.8863	P	0.7
6	<input type="checkbox"/>	1.000	1.051	1132294.88	1.6574	A	0.3
7	<input type="checkbox"/>	5.000	5.088	5288716.93	8.0217	A	0.4
8	<input type="checkbox"/>	10.00	9.948	10431592.5	15.684	A	0.5
9	<input type="checkbox"/>			1031.17	0.0015	P	3.8
10	<input type="checkbox"/>			524.47	0.0008	P	6.1
11	<input type="checkbox"/>			374.46	0.0006	P	4.4
12	<input type="checkbox"/>			320.02	0.0007	P	9.8
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	1.000		132013.42		P	1.0
2	<input type="checkbox"/>	1.000		134887.91		P	0.7
3	<input type="checkbox"/>	1.000		132870.04		P	1.6
4	<input type="checkbox"/>	1.000		132753.42		P	0.9
5	<input type="checkbox"/>	1.000		131773.93		P	0.2
6	<input type="checkbox"/>	1.000		130086.95		P	0.8
7	<input type="checkbox"/>	1.000		121743.69		P	1.2
8	<input type="checkbox"/>	1.000		122880.66		P	0.6
9	<input type="checkbox"/>	1.000		125294.98		P	0.2
10	<input type="checkbox"/>	1.000		124702.29		P	0.4
11	<input type="checkbox"/>	1.000		124441.63		P	1.3
12	<input type="checkbox"/>	1.000		129100.95		P	0.7
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

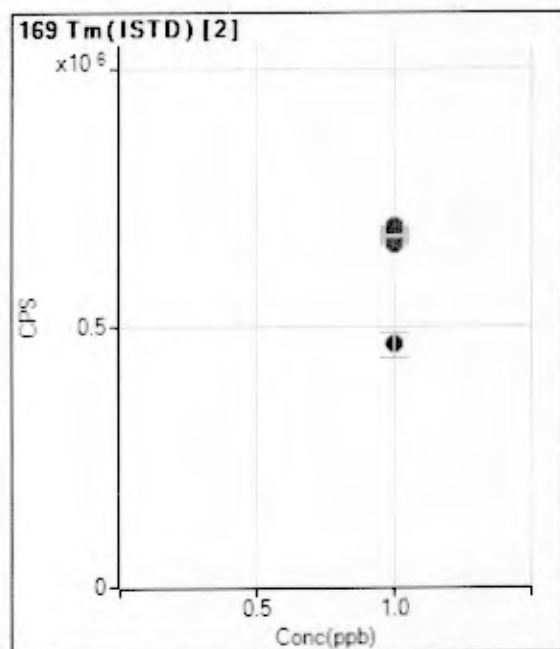


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		479998.35		A	0.8
2	<input type="checkbox"/>	1.000		495702.16		A	0.3
3	<input type="checkbox"/>	1.000		495544.95		A	0.1
4	<input type="checkbox"/>	1.000		488690.81		A	1.4
5	<input type="checkbox"/>	1.000		487408.21		A	0.2
6	<input type="checkbox"/>	1.000		476418.59		A	0.8
7	<input type="checkbox"/>	1.000		454658.32		A	0.3
8	<input type="checkbox"/>	1.000		457638.15		A	0.7
9	<input type="checkbox"/>	1.000		464502.09		A	1.3
10	<input type="checkbox"/>	1.000		466324.33		A	0.9
11	<input type="checkbox"/>	1.000		466162.04		A	1.7
12	<input type="checkbox"/>	1.000		482032.90		A	1.2
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		1107711.36		A	0.5
2	<input type="checkbox"/>	1.000		1137469.83		A	0.5
3	<input type="checkbox"/>	1.000		1144939.69		A	0.9
4	<input type="checkbox"/>	1.000		1123396.92		A	0.2
5	<input type="checkbox"/>	1.000		1109973.47		A	0.8
6	<input type="checkbox"/>	1.000		1097129.38		A	0.2
7	<input type="checkbox"/>	1.000		1071741.82		A	0.7
8	<input type="checkbox"/>	1.000		1075028.01		A	0.9
9	<input type="checkbox"/>	1.000		1076216.15		A	0.8
10	<input type="checkbox"/>	1.000		1086312.24		A	0.3
11	<input type="checkbox"/>	1.000		1087060.10		A	0.8
12	<input type="checkbox"/>	1.000		1124160.18		A	0.8
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for 10P.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		676093.20		A	0.3
2	<input type="checkbox"/>	1.000		690958.30		A	0.7
3	<input type="checkbox"/>	1.000		694989.21		A	0.6
4	<input type="checkbox"/>	1.000		690928.55		A	0.3
5	<input type="checkbox"/>	1.000		684445.45		A	0.6
6	<input type="checkbox"/>	1.000		683171.39		A	0.4
7	<input type="checkbox"/>	1.000		659295.08		A	0.5
8	<input type="checkbox"/>	1.000		665099.69		A	0.2
9	<input type="checkbox"/>	1.000		670652.14		A	0.2
10	<input type="checkbox"/>	1.000		674279.42		A	0.4
11	<input type="checkbox"/>	1.000		676105.13		A	0.4
12	<input type="checkbox"/>	1.000		466865.15		A	10.
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

PHYSIS

Continuing Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name ICV.D
File Path D:\DATA\2131002R.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/4/2013 19:12
Sample Name 100 ppb (10 ppb Ag)
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.101	ug/g	0.95	364,049.66	3.361E-01	Pulse	0.30	3
Al	27	103	2	0.098	ug/g	2.30	4,087.29	8.680E-03	Pulse	0.30	3
P	31	103	2		ug/g	---	36.67	7.784E-05	Pulse	0.30	3
Ti	48	103	2	0.102	ug/g	1.80	41,783.85	8.874E-02	Pulse	0.30	3
V	51	103	2	0.105	ug/g	0.32	148,534.73	3.154E-01	Pulse	0.30	3
Cr	52	103	2	0.106	ug/g	0.54	205,501.80	4.364E-01	Pulse	0.30	3
Mn	55	103	2	0.106	ug/g	0.71	90,790.70	1.928E-01	Pulse	0.30	3
Fe	57	103	2	0.102	ug/g	0.73	4,070.63	8.644E-03	Pulse	0.30	3
Co	59	103	2	0.109	ug/g	0.24	334,812.99	7.110E-01	Pulse	0.30	3
Ni	60	103	2	0.104	ug/g	1.01	90,142.64	1.914E-01	Pulse	0.30	3
Cu	65	103	2	0.106	ug/g	0.23	120,812.66	2.566E-01	Pulse	0.30	3
Zn	66	103	2	0.104	ug/g	1.07	33,737.33	7.165E-02	Pulse	0.30	3
As	75	103	2	0.103	ug/g	1.20	15,809.88	3.357E-02	Pulse	0.30	3
Se	78	103	1	0.102	ug/g	0.99	22,626.40	1.803E-01	Pulse	0.30	3
Sr	88	103	2	0.105	ug/g	1.44	74,880.01	1.590E-01	Pulse	0.30	3
Mo	98	103	2	0.104	ug/g	0.55	210,548.91	4.471E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.86	39,871.54	8.467E-02	Pulse	0.30	3
Cd	114	103	2	0.105	ug/g	0.61	138,331.31	2.938E-01	Pulse	0.30	3
Sn	118	103	2	0.102	ug/g	0.26	91,917.28	1.952E-01	Pulse	0.30	3
Sb	121	169	2	0.106	ug/g	1.30	110,260.26	1.638E-01	Pulse	0.30	3
Ba	137	169	2	0.105	ug/g	1.95	31,893.38	4.737E-02	Pulse	0.30	3
Tl	205	169	2	0.103	ug/g	1.40	823,201.05	1.223E+00	Analog	0.30	3
Pb	208	169	2	0.107	ug/g	0.20	1,130,768.79	1.680E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	125,462.15	0.15	95.0	Pulse	0.30	3
2	Rh	103	470,900.77	0.32	98.1	Analog	0.30	3
3	Rh	103	1,083,222.19	0.98	97.8	Analog	0.30	3
2	Tm	169	673,242.79	0.43	99.6	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCVP.D
File Path D:\DATA\2131002R.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/4/2013 19:16
Sample Name 5 PPM Phosphorus
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.000	ug/g	26.02	153.34	1.431E-04	Pulse	0.30	3
Al	27	103	2	0.000	ug/g	-417.02	25.56	5.506E-05	Pulse	0.30	3
P	31	103	2	4.691	ug/g	3.09	9,974.21	2.150E-02	Pulse	0.30	3
Ti	48	103	2	0.000	ug/g	22.30	45.56	9.816E-05	Pulse	0.30	3
V	51	103	2	0.000	ug/g	-16.39	114.45	2.466E-04	Pulse	0.30	3
Cr	52	103	2	0.000	ug/g	71.84	91.12	1.963E-04	Pulse	0.30	3
Mn	55	103	2	0.000	ug/g	32.87	46.67	1.005E-04	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	85.87	15.56	3.351E-05	Pulse	0.30	3
Co	59	103	2	0.000	ug/g	23.01	93.34	2.011E-04	Pulse	0.30	3
Ni	60	103	2	0.000	ug/g	-271.62	15.56	3.354E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	42.76	114.45	2.467E-04	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	5.06	138.90	2.993E-04	Pulse	0.30	3
As	75	103	2	0.000	ug/g	368.28	6.67	1.440E-05	Pulse	0.30	3
Se	78	103	1	0.000	ug/g	56.68	11.11	9.180E-05	Pulse	0.30	3
Sr	88	103	2	0.000	ug/g	124.48	10.00	2.158E-05	Pulse	0.30	3
Mo	98	103	2	0.001	ug/g	4.64	1,881.30	4.054E-03	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	82.97	46.67	1.006E-04	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	118.65	36.67	7.905E-05	Pulse	0.30	3
Sn	118	103	2	0.001	ug/g	3.70	736.71	1.588E-03	Pulse	0.30	3
Sb	121	169	2	0.000	ug/g	14.46	297.79	4.448E-04	Pulse	0.30	3
Ba	137	169	2	0.000	ug/g	74.78	10.00	1.495E-05	Pulse	0.30	3
Tl	205	169	2	0.001	ug/g	9.73	4,530.83	6.766E-03	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	14.30	361.12	5.394E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	121,181.78	0.37	91.8	Pulse	0.30	3
2	Rh	103	464,020.61	0.30	96.7	Analog	0.30	3
3	Rh	103	1,072,148.48	0.62	96.8	Analog	0.30	3
2	Tm	169	669,814.17	0.78	99.1	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV1.D
File Path D:\DATA\2131002R.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/4/2013 21:22
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.968	ug/g	0.68	436,108.38	3.228E-01	Pulse	0.30	3
Al	27	103	2	1.015	ug/g	0.49	5,224.29	8.966E-03	Pulse	0.30	3
P	31	103	2		ug/g	---	42.23	7.267E-05	Pulse	0.30	3
Ti	48	103	2	1.032	ug/g	0.36	52,257.66	8.968E-02	Pulse	0.30	3
V	51	103	2	1.053	ug/g	0.79	183,959.97	3.157E-01	Pulse	0.30	3
Cr	52	103	2	1.055	ug/g	1.17	253,041.63	4.343E-01	Pulse	0.30	3
Mn	55	103	2	1.027	ug/g	0.53	109,026.30	1.871E-01	Pulse	0.30	3
Fe	57	103	2	1.070	ug/g	0.62	5,279.89	9.061E-03	Pulse	0.30	3
Co	59	103	2	1.085	ug/g	0.78	413,337.98	7.094E-01	Pulse	0.30	3
Ni	60	103	2	1.046	ug/g	0.73	112,337.88	1.928E-01	Pulse	0.30	3
Cu	65	103	2	1.057	ug/g	0.54	149,527.07	2.566E-01	Pulse	0.30	3
Zn	66	103	2	1.021	ug/g	0.93	41,112.90	7.055E-02	Pulse	0.30	3
As	75	103	2	1.029	ug/g	1.49	19,550.40	3.355E-02	Pulse	0.30	3
Se	78	103	1	0.993	ug/g	1.50	26,277.11	1.753E-01	Pulse	0.30	3
Sr	88	103	2	1.037	ug/g	0.61	91,203.52	1.565E-01	Pulse	0.30	3
Mo	98	103	2	1.022	ug/g	1.28	255,979.37	4.393E-01	Pulse	0.30	3
Ag	107	103	2	0.100	ug/g	0.37	47,776.26	8.199E-02	Pulse	0.30	3
Cd	114	103	2	1.018	ug/g	0.90	165,565.36	2.841E-01	Pulse	0.30	3
Sn	118	103	2	0.968	ug/g	1.45	108,066.60	1.855E-01	Pulse	0.30	3
Sb	121	169	2	1.086	ug/g	0.94	131,295.38	1.675E-01	Pulse	0.30	3
Ba	137	169	2	1.080	ug/g	1.06	38,182.12	4.871E-02	Pulse	0.30	3
Tl	205	169	2	1.019	ug/g	0.15	948,061.96	1.210E+00	Analog	0.30	3
Pb	208	169	2	1.038	ug/g	0.21	1,282,243.18	1.636E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	149,885.28	0.55	113.5	Pulse	0.30	3
2	Rh	103	582,696.96	0.93	121.4	Analog	0.30	3
3	Rh	103	1,351,118.85	0.33	122.0	Analog	0.30	3
2	Tm	169	783,819.17	0.39	115.9	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV2.D
File Path D:\DATA\2131002R.h
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/4/2013 23:29
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.093	ug/g	0.55	328,698.34	3.112E-01	Pulse	0.30	3
Al	27	103	2	0.097	ug/g	1.59	3,982.82	8.585E-03	Pulse	0.30	3
P	31	103	2		ug/g	---	28.89	6.237E-05	Pulse	0.30	3
Ti	48	103	2	0.099	ug/g	0.87	39,958.80	8.614E-02	Pulse	0.30	3
V	51	103	2	0.101	ug/g	0.70	140,965.71	3.039E-01	Pulse	0.30	3
Cr	52	103	2	0.102	ug/g	1.01	195,463.33	4.214E-01	Pulse	0.30	3
Mn	55	103	2	0.102	ug/g	0.57	86,486.08	1.864E-01	Pulse	0.30	3
Fe	57	103	2	0.098	ug/g	3.40	3,835.01	8.266E-03	Pulse	0.30	3
Co	59	103	2	0.106	ug/g	1.08	321,444.29	6.929E-01	Pulse	0.30	3
Ni	60	103	2	0.101	ug/g	0.94	86,135.46	1.857E-01	Pulse	0.30	3
Cu	65	103	2	0.103	ug/g	0.86	115,569.73	2.491E-01	Pulse	0.30	3
Zn	66	103	2	0.102	ug/g	1.52	32,598.59	7.027E-02	Pulse	0.30	3
As	75	103	2	0.100	ug/g	1.55	15,155.98	3.267E-02	Pulse	0.30	3
Se	78	103	1	0.097	ug/g	0.85	21,913.25	1.704E-01	Pulse	0.30	3
Sr	88	103	2	0.105	ug/g	0.70	73,264.19	1.579E-01	Pulse	0.30	3
Mo	98	103	2	0.103	ug/g	0.50	205,873.57	4.438E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	1.64	38,399.48	8.278E-02	Pulse	0.30	3
Cd	114	103	2	0.105	ug/g	1.72	135,392.68	2.919E-01	Pulse	0.30	3
Sn	118	103	2	0.102	ug/g	1.29	90,643.12	1.954E-01	Pulse	0.30	3
Sb	121	169	2	0.104	ug/g	0.93	109,040.12	1.605E-01	Pulse	0.30	3
Ba	137	169	2	0.104	ug/g	1.27	31,837.73	4.685E-02	Pulse	0.30	3
Tl	205	169	2	0.103	ug/g	0.45	831,681.64	1.224E+00	Analog	0.30	3
Pb	208	169	2	0.105	ug/g	0.31	1,127,719.14	1.660E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	128,558.92	0.61	97.4	Pulse	0.30	3
2	Rh	103	463,914.64	0.59	96.6	Analog	0.30	3
3	Rh	103	1,056,225.69	0.18	95.4	Analog	0.30	3
2	Tm	169	679,541.00	0.46	100.5	Analog	0.30	3

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Instrument Run Log

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	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1		Keyword		CALBEG	Start of CALIB									
2	C:\ICPMH\1\METHODS\Physis.m	Sample	1	Rinse1			1,000							
3	C:\ICPMH\1\METHODS\Physis.m	Sample	1	Rinse2			1,000							
4	C:\ICPMH\1\METHODS\Physis.m	Sample	1101	Rinse			1,000							
5	C:\ICPMH\1\METHODS\Physis.m	CalStd	1101	0MIX	0 ppb mix	0 ng	Level 1							
6	C:\ICPMH\1\METHODS\Physis.m	CalStd	1102	1MIX	1 ppb mix	10 ng	Level 2							
7	C:\ICPMH\1\METHODS\Physis.m	CalStd	1103	5MIX	5 ppb mix	50 ng	Level 3							
8	C:\ICPMH\1\METHODS\Physis.m	CalStd	1104	10MIX	10 ppb mix	100 ng	Level 4							
9	C:\ICPMH\1\METHODS\Physis.m	CalStd	1105	50MIX	50 ppb mix	500 ng	Level 5							
10	C:\ICPMH\1\METHODS\Physis.m	CalStd	1106	100MIX	100 ppb mix	1000 ng	Level 6							
11	C:\ICPMH\1\METHODS\Physis.m	CalStd	1107	500MIX	500 ppb mix	5000 ng	Level 7							
12	C:\ICPMH\1\METHODS\Physis.m	CalStd	1108	1000MIX	1000 ppb mix	10000 ng	Level 8							
13	C:\ICPMH\1\METHODS\Physis.m	Sample	1	Rinse3			1,000							
14	C:\ICPMH\1\METHODS\Physis.m	Sample	1	Rinse4			1,000							
15	C:\ICPMH\1\METHODS\Physis.m	CalStd	1109	1P	1 ppm P	10 ug P	Level 9							
16	C:\ICPMH\1\METHODS\Physis.m	CalStd	1110	2P	2 ppm P	20 ug P	Level 10							
17	C:\ICPMH\1\METHODS\Physis.m	CalStd	1111	5P	5 ppm P	50 ug P	Level 11							
18	C:\ICPMH\1\METHODS\Physis.m	CalStd	1112	10P	10 ppm P	100 ug P	Level 12							
19	C:\ICPMH\1\METHODS\Physis.m	Sample	1	Rinse5			1,000							
20	C:\ICPMH\1\METHODS\Physis.m	Sample	1201	ICV	100 ppb (10 ppb Ag)		1.000E-01							
21	C:\ICPMH\1\METHODS\Physis.m	Sample	1111	QCVP	5 RPM Phosphorus		1.000E-01							
22	C:\ICPMH\1\METHODS\Physis.m	Sample	1202	2ndP	ERA Phosphorus 9.71 RPM		1.000E-01							
23	C:\ICPMH\1\METHODS\Physis.m	Sample	1	Rinse6			1,000							
24	C:\ICPMH\1\METHODS\Physis.m	Sample	1	Rinse7			1,000							
25		Keyword		CALEND	End of CALIB									
26		Keyword		SAMPLEEG	Start of SMPL									
27	C:\ICPMH\1\METHODS\Physis.m	Sample	1	Rinse8			1,000							
28	C:\ICPMH\1\METHODS\Physis.m	Sample	1	Rinse9			1,000							
29	C:\ICPMH\1\METHODS\Physis.m	Sample	1	Rinse10			1,000							
30	C:\ICPMH\1\METHODS\Physis.m	Sample	1	Rinse11			1,000							
31	C:\ICPMH\1\METHODS\Physis.m	Sample	2101	22090	QAQC Procedural Blank B1	22090.NA.B1, 10/1/2013, E-5148,	10.00							
32	C:\ICPMH\1\METHODS\Physis.m	Sample	2102	22251	QAQC Procedural Blank B1	22251.NA.B1, 10/1/2013, E-5149,	10.00							
33	C:\ICPMH\1\METHODS\Physis.m	Sample	2103	22397	QAQC Procedural Blank B1	22397.NA.B1, 10/1/2013, E-5149,	10.00							
34	C:\ICPMH\1\METHODS\Physis.m	Sample	2104	22100	B13-8077 Grab	22100.NA.R1, 10/1/2013, E-5148,	35.87							
35	C:\ICPMH\1\METHODS\Physis.m	Sample	2105	22100/2	B13-8077 Grab Dup	22100.NA.R2, 10/1/2013, E-5148,	38.60							
36	C:\ICPMH\1\METHODS\Physis.m	Sample	2106	22101	B13-8076 Grab	22101.NA.R1, 10/1/2013, E-5148,	28.46							
37	C:\ICPMH\1\METHODS\Physis.m	Sample	2107	22102	B13-8075 Grab	22102.NA.R1, 10/1/2013, E-5148,	42.98							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
38	C:\CPMH\1\METHODS (Physis.m)	Sample	2108	22103	B13-8074 Grab	22103,NA,R1,10/1/2013,E-5149,	42.81							
39	C:\CPMH\1\METHODS (Physis.m)	Sample	2109	22105cm	QAQC CRM - RTC 015-0501	22105,NA,CRM1,10/1/2013,E-5149,	46.13							
40	C:\CPMH\1\METHODS (Physis.m)	Sample	2110	22106cm	QAQC CRM - ERA 5401	22106,NA,CRM1,10/1/2013,E-5149,	47.58							
41	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R12			1.000							
42	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R13			1.000							
43	C:\CPMH\1\METHODS (Physis.m)	Sample	2111	22098bs1	QAQC Procedural Blank BS1	22099,NA,BS1,10/1/2013,E-5149,	1.000							
44	C:\CPMH\1\METHODS (Physis.m)	Sample	2112	22098bs2	QAQC Procedural Blank BS2	22099,NA,BS2,10/1/2013,E-5149,	1.000							
45	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	22099s1P	QAQC Procedural Blank BS1	22099,NA,BS1,10/1/2013,E-5149,	1.000							
46	C:\CPMH\1\METHODS (Physis.m)	Sample	2202	22099s2P	QAQC Procedural Blank BS2	22099,NA,BS2,10/1/2013,E-5149,	1.000							
47	C:\CPMH\1\METHODS (Physis.m)	Sample	2203	22100ms	B13-8077 Grab MS	22100,NA,MS1,10/1/2013,E-5149,	1.000							
48	C:\CPMH\1\METHODS (Physis.m)	Sample	2204	22100msd	B13-8077 Grab MSD	22100,NA,MS2,10/1/2013,E-5149,	1.000							
49	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R14			1.000							
50	C:\CPMH\1\METHODS (Physis.m)	Sample	1105	CCV1			1.000							
51	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R15			1.000							
52	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R16			1.000							
53	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R17			1.000							
54	C:\CPMH\1\METHODS (Physis.m)	Sample	2205	22258	CCWTMP-35-WOOD-007 Whole, unfiltered	22258,NA,R1,10/1/2013,E-5149,	29.59							
55	C:\CPMH\1\METHODS (Physis.m)	Sample	2205	22258r2	CCWTMP-35-WOOD-007 Whole, unfiltered Dup	22259,NA,R2,10/1/2013,E-5149,	30.45							
56	C:\CPMH\1\METHODS (Physis.m)	Sample	2207	22260	CCWTMP-39-WOOD-008 Whole, unfiltered	22260,NA,R1,10/1/2013,E-5149,	27.28							
57	C:\CPMH\1\METHODS (Physis.m)	Sample	2208	22261	CCWTMP-39-UNIV-004 Whole, unfiltered	22261,NA,R1,10/1/2013,E-5149,	12.36							
58	C:\CPMH\1\METHODS (Physis.m)	Sample	2209	22262	CCWTMP-35-ADOLF-018 Whole, unfiltered	22262,NA,R1,10/1/2013,E-5149,	11.46							
59	C:\CPMH\1\METHODS (Physis.m)	Sample	2210	22263	CCWTMP-39-HOWAR-016 Whole, unfiltered	22263,NA,R1,10/1/2013,E-5149,	13.35							
60	C:\CPMH\1\METHODS (Physis.m)	Sample	2211	22264	CCWTMP-39-SOMIS-012 Whole, unfiltered	22264,NA,R1,10/1/2013,E-5149,	39.58							
61	C:\CPMH\1\METHODS (Physis.m)	Sample	2212	22265	CCWTMP-39-HITCH-014 Whole, unfiltered	22265,NA,R1,10/1/2013,E-5149,	24.23							
62	C:\CPMH\1\METHODS (Physis.m)	Sample	2301	22266r1	QAQC CRM - RTC 015-0501	22266,NA,CRM1,10/1/2013,E-5149,	51.34							
63	C:\CPMH\1\METHODS (Physis.m)	Sample	2302	22266r2	QAQC CRM - RTC 015-0502	22266,NA,CRM2,10/1/2013,E-5149,	50.92							
64	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R18			1.000							
65	C:\CPMH\1\METHODS (Physis.m)	Sample	2303	22251bs1	QAQC Procedural Blank BS1	22251,NA,BS1,10/1/2013,E-5149,	1.000							
66	C:\CPMH\1\METHODS (Physis.m)	Sample	2304	22251bs2	QAQC Procedural Blank BS2	22251,NA,BS2,10/1/2013,E-5149,	1.000							
67	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R19			1.000							
68	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R20			1.000							
69	C:\CPMH\1\METHODS (Physis.m)	Sample	2305	22398	CCWTMP-35-PCH-001 Whole, unfiltered	22398,NA,R1,10/1/2013,E-5149,	29.98							
70	C:\CPMH\1\METHODS (Physis.m)	Sample	2305	22398r2	CCWTMP-35-PCH-001 Whole, unfiltered Dup	22398,NA,R2,10/1/2013,E-5149,	30.38							
71	C:\CPMH\1\METHODS (Physis.m)	Sample	2301	22401r1	QAQC CRM - RTC 015-0501	22401,NA,CRM1,10/1/2013,E-5149,	51.34							
72	C:\CPMH\1\METHODS (Physis.m)	Sample	2302	22401r2	QAQC CRM - RTC 015-0502	22401,NA,CRM2,10/1/2013,E-5149,	50.92							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
73	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R21			1.000							
74	C:\CPMH\1\METHODS (Physis.m)	Sample	2303	22397ba1	QAQC Procedural Blank BS1	22397.NA.BS1,10/1/2013,E-5149	1.000							
75	C:\CPMH\1\METHODS (Physis.m)	Sample	2304	22397ba2	QAQC Procedural Blank BS2	22397.NA.BS2,10/1/2013,E-5149	1.000							
76	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R22			1.000							
77	C:\CPMH\1\METHODS (Physis.m)	Sample	1108	CCV2			1.000E-01							
78	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R23			1.000							
79	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R24			1.000							
80	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R25			1.000							
81		Keyword		SMPLEND	End of SMPL									
82		Keyword		END	End of Sequence									
83		Keyword		BLKBEG	Start of BLANK									
84		Keyword		BLKEND	End of BLANK									
85		Keyword		ERRRFG	Start of ERRTERM									
86		Keyword		ERRRND	End of ERRTERM									

Elements -

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(EPA 200.8 - SEM)

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PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name OMDX.D
File Path D:\data\2131009.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/10/2013 12:02
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.000	ug/g	---	11.11	2.296E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	---	171.12	3.553E-04	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	---	203.35	4.218E-04	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	---	15.56	3.230E-05	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	---	14.45	3.010E-05	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	---	318.90	4.817E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	482,176.00	0.99	100.0	Analog	0.30	3
3	Rh	103	1,132,858.46	0.03	100.0	Analog	0.30	3
2	Tm	169	662,755.66	1.23	100.0	Analog	0.30	3

PHYSIS

Initial Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Calibration for 1000MIX.D

Batch Folder: D:\DATA\2131009.B\

 Analysis File: 2131009.batch.xml

 DA Date-Time: 4/8/2014 2:08:43 PM

 Calibration Title:

 Calibration Method: External Calibration

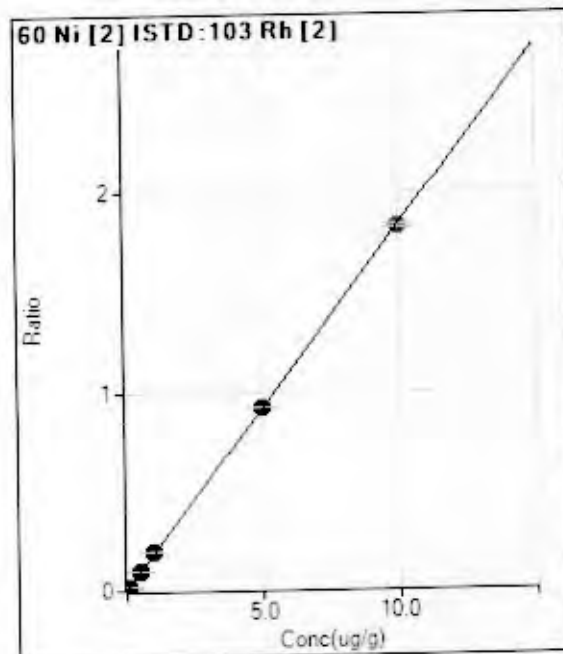
 VIS Interpolation Fit:

 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX.D	0 ppb mix	10/10/2013 12:02:54 PM
2	1MIX.D	1 ppb mix	10/10/2013 12:07:35 PM
3	5MIX.D	5 ppb mix	10/10/2013 12:12:20 PM
4	10MIX.D	10 ppb mix	10/10/2013 12:17:02 PM
5	50MIX.D	50 ppb mix	10/10/2013 12:21:43 PM
6	100MIX.D	100 ppb mix	10/10/2013 12:26:25 PM
7	500MIX.D	500 ppb mix	10/10/2013 12:31:06 PM
8	1000MIX.D	1000 ppb mix	10/10/2013 12:35:37 PM
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			



$$y = 0.1831 * x + 2.2963E-005$$

$$R = 1.0000$$

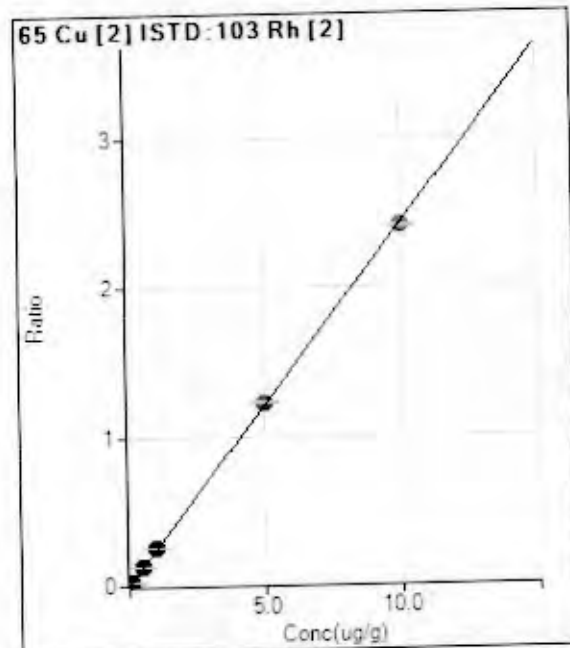
$$DL = 0.0002572$$

$$BEC = 0.0001254$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	11.11	0.0000	P	68.4
2	<input type="checkbox"/>	0.010	0.012	1040.07	0.0021	P	5.9
3	<input type="checkbox"/>	0.050	0.055	4995.36	0.0101	P	2.8
4	<input type="checkbox"/>	0.100	0.107	9699.71	0.0196	P	2.9
5	<input type="checkbox"/>	0.500	0.534	47898.29	0.0979	P	1.9
6	<input type="checkbox"/>	1.000	1.054	94206.87	0.1930	P	2.2
7	<input type="checkbox"/>	5.000	5.033	399344.10	0.9218	P	0.6
8	<input type="checkbox"/>	10.00	9.976	733813.21	1.8271	A	1.0
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2418 * x + 3.5526E-004$$

$$R = 0.9999$$

$$DL = 0.000688$$

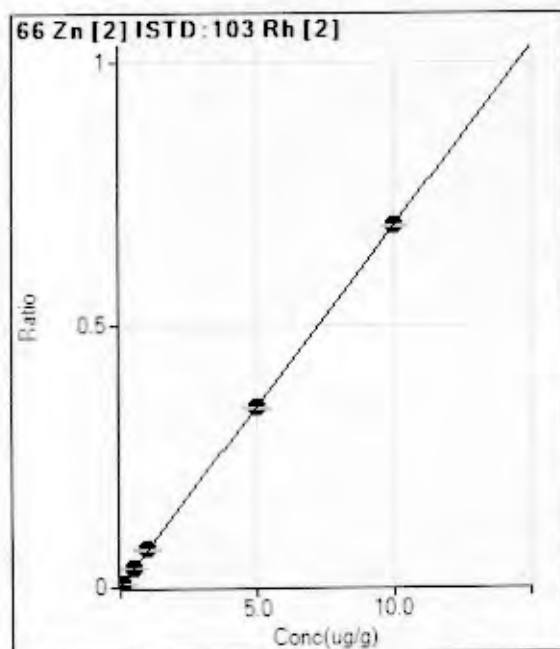
$$BEC = 0.001469$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	171.12	0.0004	P	15.6
2	<input type="checkbox"/>	0.010	0.011	1421.23	0.0029	P	2.3
3	<input type="checkbox"/>	0.050	0.053	6513.66	0.0132	P	2.6
4	<input type="checkbox"/>	0.100	0.108	13120.91	0.0265	P	1.5
5	<input type="checkbox"/>	0.500	0.542	64281.08	0.1314	P	1.4
6	<input type="checkbox"/>	1.000	1.063	125695.36	0.2575	P	1.2
7	<input type="checkbox"/>	5.000	5.072	531484.61	1.2270	A	0.9
8	<input type="checkbox"/>	10.00	9.955	967044.65	2.4079	A	0.5
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D



$$y = 0.0688 * x + 4.2178E-004$$

$$R = 1.0000$$

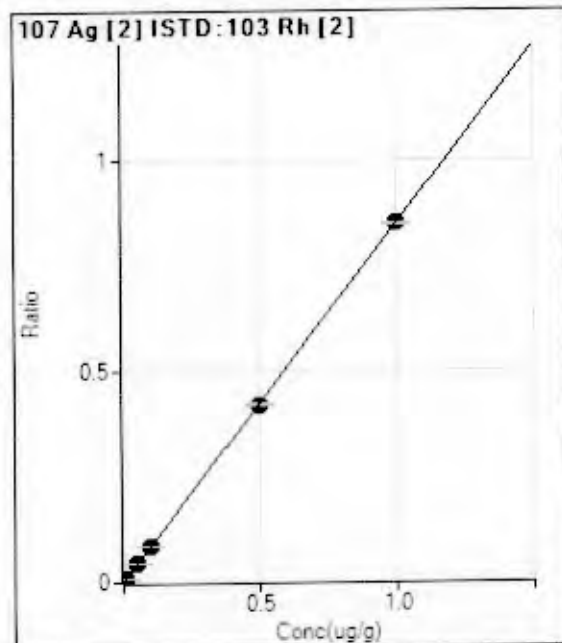
$$DL = 0.001621$$

$$BEC = 0.006132$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	203.35	0.0004	P	8.8
2	<input type="checkbox"/>	0.010	0.008	470.02	0.0010	P	3.2
3	<input type="checkbox"/>	0.050	0.049	1871.29	0.0038	P	2.2
4	<input type="checkbox"/>	0.100	0.102	3683.87	0.0074	P	2.9
5	<input type="checkbox"/>	0.500	0.518	17627.13	0.0360	P	3.2
6	<input type="checkbox"/>	1.000	1.032	34861.87	0.0714	P	2.4
7	<input type="checkbox"/>	5.000	4.965	148117.08	0.3419	P	0.3
8	<input type="checkbox"/>	10.00	10.013	276796.40	0.6892	P	0.5
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.8477 * x + 3.2301E-005$$

$$R = 1.0000$$

$$DL = 7.475E-05$$

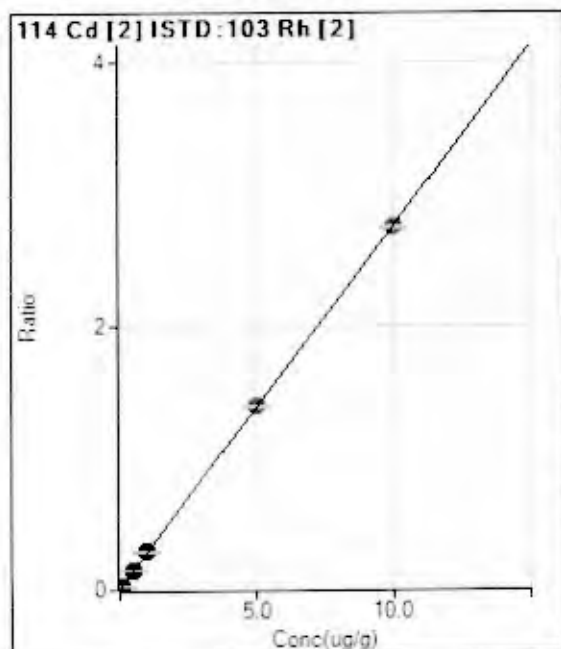
$$BEC = 3.81E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	15.56	0.0000	P	65.4
2	<input type="checkbox"/>	0.001	0.001	431.13	0.0009	P	14.5
3	<input type="checkbox"/>	0.005	0.005	2201.34	0.0045	P	2.4
4	<input type="checkbox"/>	0.010	0.010	4278.48	0.0086	P	0.8
5	<input type="checkbox"/>	0.050	0.051	21143.78	0.0432	P	0.7
6	<input type="checkbox"/>	0.100	0.101	41865.33	0.0858	P	1.3
7	<input type="checkbox"/>	0.500	0.496	182035.06	0.4202	P	0.5
8	<input type="checkbox"/>	1.000	1.002	341161.50	0.8495	P	0.3
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D



$$y = 0.2762 * x + 3.0104E-005$$

$$R = 1.0000$$

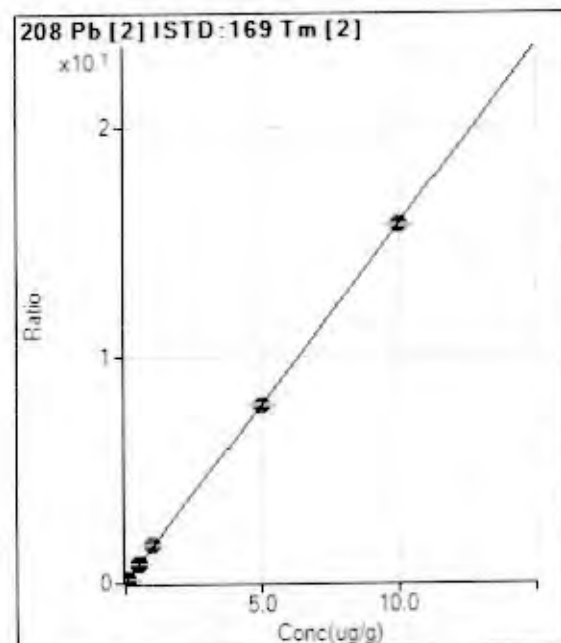
$$DL = 0.0002455$$

$$BEC = 0.000109$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	14.45	0.0000	P	75.1
2	<input type="checkbox"/>	0.010	0.011	1442.35	0.0030	P	5.3
3	<input type="checkbox"/>	0.050	0.051	6988.35	0.0142	P	4.7
4	<input type="checkbox"/>	0.100	0.102	13975.06	0.0282	P	1.9
5	<input type="checkbox"/>	0.500	0.521	70377.58	0.1439	P	0.8
6	<input type="checkbox"/>	1.000	1.033	139226.87	0.2853	P	1.2
7	<input type="checkbox"/>	5.000	5.012	599544.42	1.3842	A	1.3
8	<input type="checkbox"/>	10.00	9.990	1108135.7	2.7592	A	0.8
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 1.5727 * x + 4.8170E-004$$

$$R = 1.0000$$

$$DL = 0.0001486$$

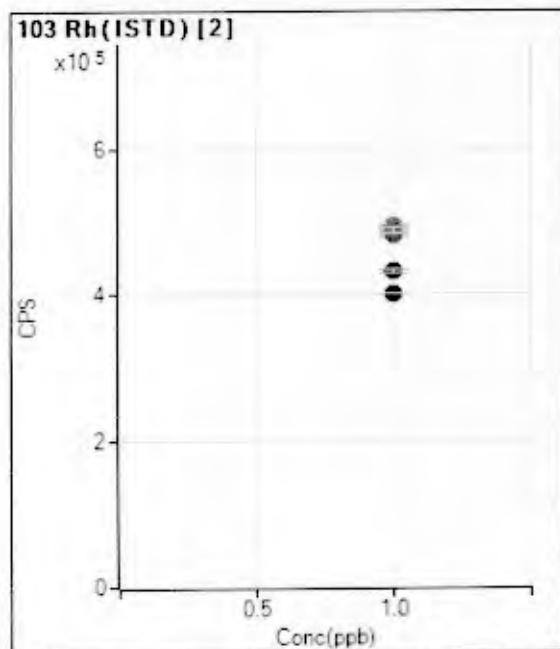
$$BEC = 0.0003063$$

Weight: None

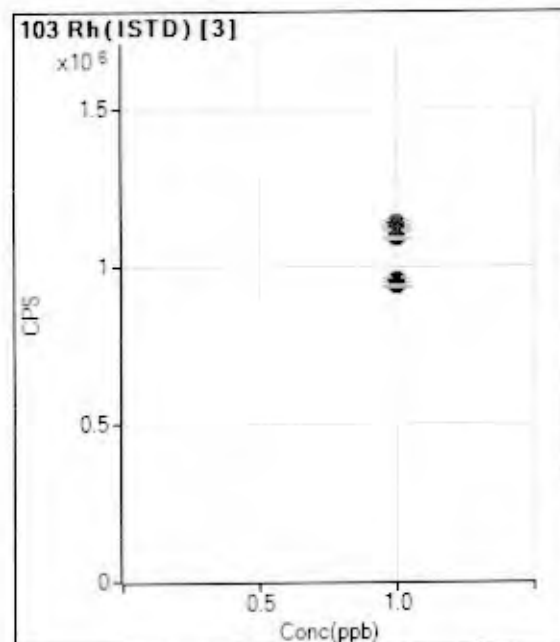
Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	318.90	0.0005	P	16.2
2	<input type="checkbox"/>	0.010	0.011	11805.55	0.0179	P	2.1
3	<input type="checkbox"/>	0.050	0.055	58968.35	0.0877	P	1.8
4	<input type="checkbox"/>	0.100	0.110	116615.94	0.1740	P	0.2
5	<input type="checkbox"/>	0.500	0.542	572958.11	0.8521	P	0.4
6	<input type="checkbox"/>	1.000	1.048	1103567.83	1.6485	A	0.8
7	<input type="checkbox"/>	5.000	4.990	4862015.16	7.8488	A	0.7
8	<input type="checkbox"/>	10.00	9.998	9278311.34	15.723	A	0.8
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D

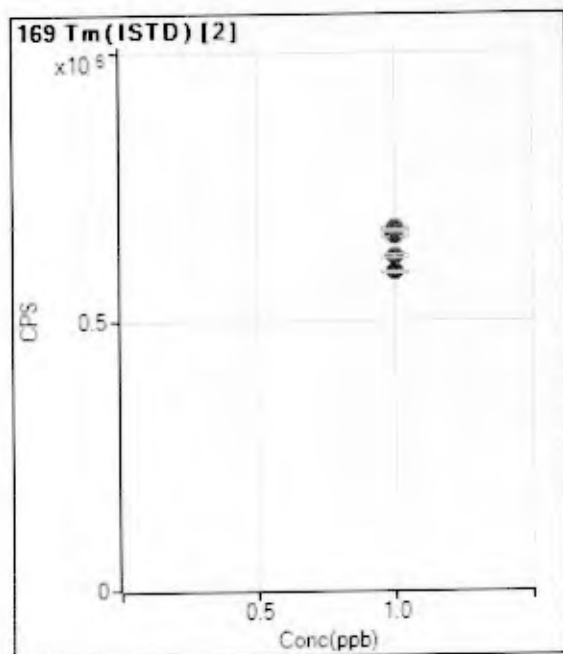


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		482176.00		A	1.0
2	<input type="checkbox"/>	1.000		486447.96		A	1.3
3	<input type="checkbox"/>	1.000		493073.63		A	0.9
4	<input type="checkbox"/>	1.000		494836.77		A	1.7
5	<input type="checkbox"/>	1.000		489256.29		A	0.8
6	<input type="checkbox"/>	1.000		488119.77		A	1.5
7	<input type="checkbox"/>	1.000		433186.42		P	1.4
8	<input type="checkbox"/>	1.000		401621.07		P	0.2
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		1132858.46		A	0.0
2	<input type="checkbox"/>	1.000		1127765.56		A	1.1
3	<input type="checkbox"/>	1.000		1136419.46		A	1.0
4	<input type="checkbox"/>	1.000		1124554.18		A	0.6
5	<input type="checkbox"/>	1.000		1111511.78		A	1.0
6	<input type="checkbox"/>	1.000		1089575.06		A	0.6
7	<input type="checkbox"/>	1.000		957957.94		A	1.5
8	<input type="checkbox"/>	1.000		937565.94		A	0.3
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for 1000MIX.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		662755.66		A	1.2
2	<input type="checkbox"/>	1.000		661094.41		A	1.2
3	<input type="checkbox"/>	1.000		672686.56		A	1.0
4	<input type="checkbox"/>	1.000		670359.07		A	0.3
5	<input type="checkbox"/>	1.000		672393.36		A	0.7
6	<input type="checkbox"/>	1.000		669474.48		A	0.6
7	<input type="checkbox"/>	1.000		619482.57		A	1.0
8	<input type="checkbox"/>	1.000		590094.46		A	0.6
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

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Continuing Calibration Data

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PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name ICV.D
File Path D:\data\2131009.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/10/2013 12:54
Sample Name 100 ppb (10 ppb Ag)
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.101	ug/g	0.09	75,257.81	1.851E-01	Pulse	0.30	3
Cu	65	103	2	0.102	ug/g	0.16	100,231.49	2.466E-01	Pulse	0.30	3
Zn	66	103	2	0.100	ug/g	0.31	28,083.02	6.909E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	1.19	34,661.47	8.527E-02	Pulse	0.30	3
Cd	114	103	2	0.103	ug/g	0.76	116,037.20	2.855E-01	Pulse	0.30	3
Pb	208	169	2	0.105	ug/g	0.64	974,258.50	1.655E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	406,495.85	0.22	84.3	Pulse	0.30	3
3	Rh	103	909,923.16	0.70	80.3	Analog	0.30	3
2	Tm	169	588,519.34	0.54	88.8	Analog	0.30	3

PHYSIS LABORATORIES
ICPMS 7700x DATA REPORT

File Name	CCV.D
File Path	D:\data\2131009.B
Method File	Physis.m
Method Path	C:\ICPMH\1\METHODS\
Acq Time	10/10/2013 19:30
Sample Name	
Sample Type	Sample
Comment	

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.100	ug/g	0.66	69,348.63	1.835E-01	Pulse	0.30	3
Cu	65	103	2	0.102	ug/g	0.58	93,600.45	2.477E-01	Pulse	0.30	3
Zn	66	103	2	0.101	ug/g	2.45	26,383.72	6.982E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.67	32,209.02	8.524E-02	Pulse	0.30	3
Cd	114	103	2	0.104	ug/g	0.96	108,878.35	2.881E-01	Pulse	0.30	3
Pb	208	169	2	0.106	ug/g	1.28	935,456.46	1.662E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	377,846.25	0.50	78.4	Pulse	0.30	3
3	Rh	103	845,355.03	0.81	74.6	Analog	0.30	3
2	Tm	169	562,825.49	1.12	84.9	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV1.D
File Path D:\data\2131009.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/11/2013 9:54
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.105	ug/g	0.74	86,127.59	1.917E-01	Pulse	0.30	3
Cu	65	103	2	0.107	ug/g	1.01	116,233.75	2.587E-01	Pulse	0.30	3
Zn	66	103	2	0.100	ug/g	1.80	31,000.11	6.900E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	1.42	37,770.38	8.406E-02	Pulse	0.30	3
Cd	114	103	2	0.098	ug/g	0.46	121,135.22	2.696E-01	Pulse	0.30	3
Pb	208	169	2	0.107	ug/g	1.09	960,869.55	1.676E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	449,331.44	0.67	93.2	Pulse	0.30	3
3	Rh	103	1,022,651.20	1.00	90.3	Analog	0.30	3
2	Tm	169	573,410.06	1.05	86.5	Analog	0.30	3

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Instrument Run Log

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	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1	C:\CPMH\1\METHODS\IPhysis.m	Keyword		CALBEG	Start of CALIB									
2	C:\CPMH\1\METHODS\IPhysis.m	Sample	1101	Rinse			1.000							
3	C:\CPMH\1\METHODS\IPhysis.m	CalBix	1101	0MIX	0 ppb mix	0 ng 0 ng Ag	Level 1							
4	C:\CPMH\1\METHODS\IPhysis.m	CalStd	1102	1MIX	1 ppb mix	10 ng 1 ng Ag	Level 2							
5	C:\CPMH\1\METHODS\IPhysis.m	CalStd	1103	5MIX	5 ppb mix	50 ng 5 ng Ag	Level 3							
6	C:\CPMH\1\METHODS\IPhysis.m	CalStd	1104	10MIX	10 ppb mix	100 ng 10 ng Ag	Level 4							
7	C:\CPMH\1\METHODS\IPhysis.m	CalStd	1105	50MIX	50 ppb mix	500 ng 50 ng Ag	Level 5							
8	C:\CPMH\1\METHODS\IPhysis.m	CalStd	1106	100MIX	100 ppb mix	1000 ng 100 ng Ag	Level 6							
9	C:\CPMH\1\METHODS\IPhysis.m	CalStd	1107	500MIX	500 ppb mix	5000 ng 500 ng Ag	Level 7							
10	C:\CPMH\1\METHODS\IPhysis.m	CalStd	1108	1000MIX	1000 ppb mix	10000 ng 1000 ng Ag	Level 8							
11	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse1			1.000							
12	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse2			1.000							
13	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse3			1.000							
14	C:\CPMH\1\METHODS\IPhysis.m	Sample	1201	ICV	100 ppb (10 ppb Ag)		1.000E-01							
15	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse4			1.000							
16	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse5			1.000							
17	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse6			1.000							
18		Keyword		CALEND	End of CALIB									
19		Keyword		SAMPLEBEG	Start of SMPLE									
20	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse7			1.000							
21	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse8			1.000							
22	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse9			1.000							
23	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse10			1.000							
24	C:\CPMH\1\METHODS\IPhysis.m	Sample	2101	21956	QAQC Procedural Blank B1	21956.NA.B1.10/8/2013.E-5152	10.00							
25	C:\CPMH\1\METHODS\IPhysis.m	Sample	2101	22035	QAQC Procedural Blank B1	22035.NA.B1.10/8/2013.E-5153	10.00							
26	C:\CPMH\1\METHODS\IPhysis.m	Sample	2101	22077	QAQC Procedural Blank B1	22077.NA.B1.10/8/2013.E-5154	10.00							
27	C:\CPMH\1\METHODS\IPhysis.m	Sample	2101	22098	QAQC Procedural Blank B1	22098.NA.B1.10/8/2013.E-5155	10.00							
28	C:\CPMH\1\METHODS\IPhysis.m	Sample	2102	21957	B13-8233 Oceanside	21957.NA.R1.10/8/2013.E-5152	55.38							
29	C:\CPMH\1\METHODS\IPhysis.m	Sample	2103	21957/2	B13-8233 Oceanside Dup	21957.NA.R2.10/8/2013.E-5152	60.49							
30	C:\CPMH\1\METHODS\IPhysis.m	Sample	2104	21958	B13-8236 Oceanside	21958.NA.R1.10/8/2013.E-5152	43.03							
31	C:\CPMH\1\METHODS\IPhysis.m	Sample	2105	21959	B13-8238 Oceanside	21959.NA.R1.10/8/2013.E-5152	33.76							
32	C:\CPMH\1\METHODS\IPhysis.m	Sample	2106	21960	B13-8267 Dana Point	21960.NA.R1.10/8/2013.E-5152	51.29							
33	C:\CPMH\1\METHODS\IPhysis.m	Sample	2107	21961	B13-8266 Dana Point	21961.NA.R1.10/8/2013.E-5152	45.25							
34	C:\CPMH\1\METHODS\IPhysis.m	Sample	2108	21962	B13-8263 Dana Point	21962.NA.R1.10/8/2013.E-5152	32.44							
35	C:\CPMH\1\METHODS\IPhysis.m	Sample	2109	21963	B13-8263 Dana Point	21963.NA.R1.10/8/2013.E-5152	49.59							
36	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	R11			1.000							
37	C:\CPMH\1\METHODS\IPhysis.m	Sample	2110	21959bs1	QAQC Procedural Blank BS1	21959.NA.BS1.10/8/2013.E-5152	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Div/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
38	C:\CPMH\1\METHODS (Physis.m)	Sample	2111	21958.ms2	QAQC Procedural Blank BS2	21956.NA.BS2,10/8/2013,E-5152	1.000							
39	C:\CPMH\1\METHODS (Physis.m)	Sample	2112	21957.ms	B13-8233 Oceanside MS	21957.NA.MS1,10/8/2013,E-5152	1.000							
40	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	21957.ms2	B13-8233 Oceanside MS2	21957.NA.MS2,10/8/2013,E-5152	1.000							
41	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R12			1.000							
42	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R13			1.000							
43	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R14			1.000							
44	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R15			1.000							
45	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R16			1.000							
46	C:\CPMH\1\METHODS (Physis.m)	Sample	2202	22038	B13-8145 Grab	22036.NA.R1,10/8/2013,E-5153	44.84							
47	C:\CPMH\1\METHODS (Physis.m)	Sample	2203	22038r2	B13-8145 Grab Dup	22038.NA.R2,10/8/2013,E-5153	41.60							
48	C:\CPMH\1\METHODS (Physis.m)	Sample	2204	22037	B13-8163 Grab	22037.NA.R1,10/8/2013,E-5153	58.07							
49	C:\CPMH\1\METHODS (Physis.m)	Sample	2205	22038	B13-8160 Grab	22038.NA.R1,10/8/2013,E-5153	74.53							
50	C:\CPMH\1\METHODS (Physis.m)	Sample	2206	22039	B13-8159 Grab	22039.NA.R1,10/8/2013,E-5153	85.83							
51	C:\CPMH\1\METHODS (Physis.m)	Sample	2207	22040	B13-8157 Grab	22040.NA.R1,10/8/2013,E-5153	49.47							
52	C:\CPMH\1\METHODS (Physis.m)	Sample	2208	22041	B13-8158 Grab	22041.NA.R1,10/8/2013,E-5153	85.28							
53	C:\CPMH\1\METHODS (Physis.m)	Sample	2209	22042	B13-8152 Grab	22042.NA.R1,10/8/2013,E-5153	27.87							
54	C:\CPMH\1\METHODS (Physis.m)	Sample	2210	22043	B13-8151 Grab	22043.NA.R1,10/8/2013,E-5153	67.82							
55	C:\CPMH\1\METHODS (Physis.m)	Sample	2211	22044	B13-8146 Grab	22044.NA.R1,10/8/2013,E-5153	43.59							
56	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R17			1.000							
57	C:\CPMH\1\METHODS (Physis.m)	Sample	2110	22035.bs1	QAQC Procedural Blank BS1	22035.NA.BS1,10/8/2013,E-5153	1.000							
58	C:\CPMH\1\METHODS (Physis.m)	Sample	2111	22035.bs2	QAQC Procedural Blank BS2	22035.NA.BS2,10/8/2013,E-5153	1.000							
59	C:\CPMH\1\METHODS (Physis.m)	Sample	2212	22036.ms	B13-8145 Grab MS	22036.NA.MS1,10/8/2013,E-5153	1.000							
60	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	22036.ms2	B13-8145 Grab MS2	22036.NA.MS2,10/8/2013,E-5153	1.000							
61	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R18			1.000							
62	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R19			1.000							
63	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R20			1.000							
64	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R21			1.000							
65	C:\CPMH\1\METHODS (Physis.m)	Sample	1	R22			1.000							
66	C:\CPMH\1\METHODS (Physis.m)	Sample	2302	22078	B13-8085 Grab	22078.NA.R1,10/8/2013,E-5154	58.92							
67	C:\CPMH\1\METHODS (Physis.m)	Sample	2303	22078r2	B13-8085 Grab Dup	22078.NA.R2,10/8/2013,E-5154	46.22							
68	C:\CPMH\1\METHODS (Physis.m)	Sample	2304	22079	B13-8048 Grab	22079.NA.R1,10/8/2013,E-5154	59.89							
69	C:\CPMH\1\METHODS (Physis.m)	Sample	2305	22080	B13-8029 Grab	22080.NA.R1,10/8/2013,E-5154	40.58							
70	C:\CPMH\1\METHODS (Physis.m)	Sample	2306	22081	B13-8056 Grab	22081.NA.R1,10/8/2013,E-5154	55.43							
71	C:\CPMH\1\METHODS (Physis.m)	Sample	2307	22082	B13-8054 Grab	22082.NA.R1,10/8/2013,E-5154	61.78							
72	C:\CPMH\1\METHODS (Physis.m)	Sample	2308	22083	B13-8066 Grab	22083.NA.R1,10/8/2013,E-5154	58.79							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
73	C:\CPMH\1\METHODS\IPhysis.m	Sample	2309	22084	B13-8020 Grab	22084,NA,R1,10/8/2013,E-5154	94.83							
74	C:\CPMH\1\METHODS\IPhysis.m	Sample	2310	22085	B13-8050 Grab	22085,NA,R1,10/8/2013,E-5154	50.52							
75	C:\CPMH\1\METHODS\IPhysis.m	Sample	2311	22086	B13-8086 Grab	22086,NA,R1,10/8/2013,E-5154	52.71							
76	C:\CPMH\1\METHODS\IPhysis.m	Sample	2312	22087	B13-8017 Grab	22087,NA,R1,10/8/2013,E-5154	55.80							
77	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	R23			1.000							
78	C:\CPMH\1\METHODS\IPhysis.m	Sample	2110	22077bs1	QAQC Procedural Blank BS1	22077,NA,BS1,10/8/2013,E-5154	1.000							
79	C:\CPMH\1\METHODS\IPhysis.m	Sample	2111	22077bs2	QAQC Procedural Blank BS2	22077,NA,BS2,10/8/2013,E-5154	1.000							
80	C:\CPMH\1\METHODS\IPhysis.m	Sample	2401	22078ms	B13-8085 Grab MS	22078,NA,MS1,10/8/2013,E-5154	1.000							
81	C:\CPMH\1\METHODS\IPhysis.m	Sample	2402	22078msd	B13-8085 Grab MSD	22078,NA,MS2,10/8/2013,E-5154	1.000							
82	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	R24			1.000							
83	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	R25			1.000							
84	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	R26			1.000							
85	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	R27			1.000							
86	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	R28			1.000							
87	C:\CPMH\1\METHODS\IPhysis.m	Sample	2403	22100	B13-8077 Grab	22100,NA,R1,10/8/2013,E-5155	45.60							
88	C:\CPMH\1\METHODS\IPhysis.m	Sample	2404	22100r2	B13-8077 Grab Dup	22100,NA,R2,10/8/2013,E-5155	41.21							
89	C:\CPMH\1\METHODS\IPhysis.m	Sample	2405	22101	B13-8075 Grab	22101,NA,R1,10/8/2013,E-5155	50.23							
90	C:\CPMH\1\METHODS\IPhysis.m	Sample	2406	22102	B13-8075 Grab	22102,NA,R1,10/8/2013,E-5155	50.34							
91	C:\CPMH\1\METHODS\IPhysis.m	Sample	2407	22103	B13-8074 Grab	22103,NA,R1,10/8/2013,E-5155	57.11							
92	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	R29			1.000							
93	C:\CPMH\1\METHODS\IPhysis.m	Sample	2110	22099bs1	QAQC Procedural Blank BS1	22099,NA,BS1,10/8/2013,E-5155	1.000							
94	C:\CPMH\1\METHODS\IPhysis.m	Sample	2111	22099bs2	QAQC Procedural Blank BS2	22099,NA,BS2,10/8/2013,E-5155	1.000							
95	C:\CPMH\1\METHODS\IPhysis.m	Sample	2408	22100ms	B13-8077 Grab MS	22100,NA,MS1,10/8/2013,E-5155	1.000							
96	C:\CPMH\1\METHODS\IPhysis.m	Sample	2409	22100msd	B13-8077 Grab MSD	22100,NA,MS2,10/8/2013,E-5155	1.000							
97	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	R30			1.000							
98	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	R31			1.000							
99	C:\CPMH\1\METHODS\IPhysis.m	Sample	1106	CCV			1.000							
100	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	R32			1.000							
101	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	R33			1.000							
102	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	R34			1.000							
103		Keyword		StandBy										
104		Keyword		SAMPLED	End of SMPLE									
105		Keyword		END	End of Sequence									
106		Keyword		BLKBEG	Start of BLANK									
107		Keyword		BLKEND	End of BLANK									
108		Keyword		ERRBEG	Start of ERRTERM									
109		Keyword		ERREND	End of ERRTERM									



PHYSIS

Initial Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method: EPA 245.7 Mercury
Calibration data 100413

Calib Level Standard Raw Counts

Std01Rep1	0	-98
Std01Rep2	0	-98
Std01Rep3	0	-101
Std02Rep1	1	-72
Std02Rep2	1	-60
Std02Rep3	1	-56
Std03Rep1	10	127
Std03Rep2	10	142
Std03Rep3	10	128
Std04Rep1	100	2213
Std04Rep2	100	2230
Std04Rep3	100	2210
Std05Rep1	1000	23365
Std05Rep2	1000	23386
Std05Rep3	1000	23711
Std06Rep1	10000	239584
Std06Rep2	10000	240381
Std06Rep3	10000	239474

Note: Above calibration data used for the following project:

1307002-002
1307002-004
1307002-006
1307002-008
1307002-010
1307002-012
1307002-014
1307002-016
1307002-018

Continuing Calibration Data / Instrument Run Log

PHYSICS
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Sequence# 100813 for PID: 1307002-006, 008

Sample ID	Date	Method
ICV	8-Oct-13	2457TST
Ck1Blank	8-Oct-13	2457TST
22077BLK	8-Oct-13	2457TST
BS1	8-Oct-13	2457TST
BS2	8-Oct-13	2457TST
Ck1Blank	8-Oct-13	2457TST
22078r1	8-Oct-13	2457TST
22078r2	8-Oct-13	2457TST
22078ms1	8-Oct-13	2457TST
22078ms2	8-Oct-13	2457TST
Ck1Blank	8-Oct-13	2457TST
22079	8-Oct-13	2457TST
22080	8-Oct-13	2457TST
22081	8-Oct-13	2457TST
22082	8-Oct-13	2457TST
22083	8-Oct-13	2457TST
22084	8-Oct-13	2457TST
22085	8-Oct-13	2457TST
22086	8-Oct-13	2457TST
22087	8-Oct-13	2457TST
Ck1Blank	8-Oct-13	2457TST
22089	8-Oct-13	2457TST
22090	8-Oct-13	2457TST
CCV1	8-Oct-13	2457TST
Ck1Blank	8-Oct-13	2457TST
Blank	8-Oct-13	2457TST
BS1	8-Oct-13	2457TST
BS2	8-Oct-13	2457TST
Ck1Blank	8-Oct-13	2457TST
22100r1	8-Oct-13	2457TST
22100r2	8-Oct-13	2457TST
22100ms1	8-Oct-13	2457TST
22100ms2	8-Oct-13	2457TST
Ck1Blank	8-Oct-13	2457TST
22101	8-Oct-13	2457TST
22102	8-Oct-13	2457TST
22103	8-Oct-13	2457TST
Ck1Blank	8-Oct-13	2457TST
22105crm1	8-Oct-13	2457TST
22246crmRR	8-Oct-13	2457TST

22106crm2	8-Oct-13	2457TST
CCV2	8-Oct-13	2457TST

QAQC	Date	Method	True value (ppt)	Result (ppt)
ICV	8-Oct-13	2457TST	1000	1030
CCV1	8-Oct-13	2457TST	1000	1010
CCV2	8-Oct-13	2457TST	1000	998



PHYSIS

Extraction/Preparation Log

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ENVIRONMENTAL LABORATORIES, INC.

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October 30, 2013

E. Chae, A. Hoang

Extraction of AMEC - RHMP B13 sediments for fipronils, OCPs (incl. DDMU, DCPA, Dieldrin, PCBs, Aroclors, PBDEs (incl. 499), PAHs, Pyrethroids, Toxaphene. Samples were analyzed for Pyrethroids, fipronils and then column cleaned w/ Alumina/silica adsorbents.
Method: EPA 8230C

PSID	Sample Description	Sample wt. (g)	Comments	D/W	Multiplier
B1 (22077)	Blank	—	A	—	10
B31	Blank spike	—	A, B	—	10
B32	Blank Spike Dup	—	A, B	—	10
22078MS1	8065	15.0961	A, B	0.4465	0.1483
22078MS2	8065	15.0051	A, B	0.4465	0.1492
22088	CRM-SEMIMIX	1.8935	A	—	0.5281
22078	8065	15.1429	A	0.4465	0.1479
22078P2	8065	15.0571	A	0.4465	0.1487
22079	8049	15.0440	A	0.4306	0.1543
22080	8029	15.2414	A	0.6055	0.1083
22081	8056	15.1556	A	0.4390	0.1503
22082	8064	15.0310	A	0.4133	0.1609
22083	8066	15.1684	A	0.4296	0.1526
22084	8020	15.1391	A	0.2849	0.2315
22085	8050	15.7283	A	0.5427	0.1171
22086	8069	15.0088	A	0.4717	0.1412
22087	8017	15.3055	A	0.4496	0.1453
22100	8077	15.4897	A	0.5443	0.1186
22101	8076	15.5984	A	0.4030	0.1590
22102	8075	15.1849	A	0.4611	0.1428
22103	8074	15.1428	A	0.4471	0.1476

A) 100 µL CHC PS (400ng, P. 274)
100 µL PAH PS (1000ng, P. 244)
100 µL PBDE 26 (50ng, P. 261)
100 µL CHC 15
100 µL PAH 15

B) 1.0 mL Fipronil Mix (1000ng, P. 270)
1.0 mL OCP Mix (1000ng, P. 241)
100 µL DDMU (1000 ng, P. 272)
200 µL PCB Mix (200ng, P. 255)
200 µL PCB+6 Mix (200ng, P. 259)
100 µL PBDE Mix (100ng, P. 262)
100 µL PBDE 499 (100ng, P. 263)
1.0 mL PAH Mix (1000 ng, P. 256)
1.0 mL Pyrethroid Mix (1000ng, P. 260)
1.0 mL Tralomethrin (1000ng, P. 275)
1.0 mL Toxaphene (1000ng, P. 242)

1307002 - 006/008

March 27, 2014

R. Hong

EXTRACTION OF AMEC - PHMP SEDIMENT FOR FIPRONIL, OCP, PCB, PDBE, PAH, PYRETHROIDS. SAMPLES WERE SPLIT 5/50 COLUMN CLEARED AND COLUMN CLEARED. THE COLUMN CLEARED FRACTION WAS ELUATED WITH SILICA/ALUMINA ADSORBENTS.

METHOD EPA 8270C

PSID	SAMPLE Wt(g)	SOL Wt(g)	+NAD(g)	LIPONAL(g)	Comments	g/w	MULTIPLIER
B1 (22077)	—	—	—	—	A, C	—	1.0
PS1	—	—	—	—	A, B, C	—	1.0
PS2	—	—	—	—	A, B, C	—	1.0
22078M21	19.60	20.035	56.741	0.796	A, B, C	.4637	.2101
22079M21	20.67	21.039	66.075	0.794	A, B, C	.4657	.1992
22080M21	2.104	—	—	—	A, C	—	.9505
22078	20.09	21.036	51.894	1.408	D, C	.4465	.2229
22079	19.74	20.042	60.842	0.624	A, C	.4637	.2006
22079P2	19.04	19.428	53.759	0.692	A, C	.4657	.2163
22080	19.18	19.670	39.588	0.680	A, C	.6055	.1722
22081	19.24	19.563	57.168	0.627	A, C	.4390	.2368
22082	20.58	20.297	61.663	0.618	A, C, D	.6362	.1528
22083	20.49	20.707	67.482	0.497	A, C, D	.4296	.2272
22084	20.83	21.528	52.524	1.003	A, C	.2839	.3370
22085	18.93	19.399	45.336	0.629	A, C, D	.5427	.1947
22086	19.63	20.236	48.284	0.781	A, C	.6524	.1601
22087	20.58	21.067	62.008	0.984	A, C	.4496	.2163
PH 2	—	—	—	—	—	—	PH 1.005
22100	20.36	20.612	52.505	0.394	A, C	.5443	PH 1.682 .1805
22101	19.74	20.063	54.477	0.547	A, C	.6024	PH 1.682 .1682
22102	19.23	19.455	54.193	0.397	A, C	.4611	.2256
22403	21.15	21.620	57.448	0.781	A, C	.4471	.2115

A) 200 μ L CHL PS (2000 μ g, P296) ^{EC}
 200 μ L PAH PS (2000 μ g, P296) ^{EC}
 20 μ L PDBE PS (100 μ g, P297) ^{EC}

B) 2.0 FIPRONIL (2000 μ g, P299) ^{EC}
 2.0mL OCP M.X (2000 μ g, P310) ^{EC}
 2.0mL DDMU (2000 μ g, P291) ^{EC}
 400 μ L PCB M.X (2000 μ g, P303) ^{EC}
 400 μ L PCB+6 M.X (2000 μ g, P259) ^{EC}
 200 μ L PDBE M.X (2000 μ g, P293) ^{EC}

C) 100 μ L CHL IS (1000 μ g, P323)

Organics - GC-MS

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Analytical Solutions
(EPA 8270C)

PHYSIS

Instrument Run Log

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AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

2014 Apr 15 1544 Sequence Log .LOG
Starting sequence Tue Apr 15 15:44:02 2014

Instrument Name: GCMS3
Sequence File: D:\MassHunter\GCMS\1\sequence\Q3_1404015 EI_0-5125.sequence.xml

... Comment:
Operator:
Data Path: D:\MassHunter\GCMS\1\data\Q3_140415 EI_0-5125\
Method Path: D:\MassHunter\GCMS\1\methods\checkout\

Line	Type	Vials	DataFile	Sample Name
Acquisition Method: EI Scan. M				
1)	Sample	131	MI X_500_PCB_100_I CV	MI X_500_PCB_100_I CV
2)	Sample	131	MI X_500_PCB_100_I CV2	MI X_500_PCB_100_I CV2
3)	Sample	143	TUNE	TUNE
4)	Sample	1	B_5125	B_5125
	Comment:	22077, NA, B1, 3/27/2014, 0-5125,		
5)	Sample	2	BS1_5125	BS1_5125
	Comment:	22077, NA, BS1, 3/27/2014, 0-5125,		
6)	Sample	3	BS2_5125	BS2_5125
	Comment:	22077, NA, BS2, 3/27/2014, 0-5125,		
7)	Sample	4	22079MS1	22079MS1
	Comment:	22079, NA, MS1, 3/27/2014, 0-5125,		
8)	Sample	5	22079MS2	22079MS2
	Comment:	22079, NA, MS2, 3/27/2014, 0-5125,		
9)	Sample	6	22088	22088
	Comment:	22088, NA, CRM1, 3/27/2014, 0-5125,		
10)	Sample	7	22078	22078
	Comment:	22078, NA, R1, 3/27/2014, 0-5125,		
11)	Sample	8	22079	22079
	Comment:	22079, NA, R1, 3/27/2014, 0-5125,		
12)	Sample	9	22079R2	22079R2
	Comment:	22079, NA, R2, 3/27/2014, 0-5125,		
13)	Sample	31	22630	22630
14)	Sample	32	22631	22631
15)	Sample	10	22080	22080
	Comment:	22080, NA, R1, 3/27/2014, 0-5125,		
16)	Sample	11	22081	22081
	Comment:	22081, NA, R1, 3/27/2014, 0-5125,		
17)	Sample	12	22082	22082
	Comment:	22082, NA, R1, 3/27/2014, 0-5125,		
18)	Sample	13	22083	22083
	Comment:	22083, NA, R1, 3/27/2014, 0-5125,		
19)	Sample	121	PAH500CCV	PAH500CCV
20)	Sample	122	OCP500CCV	OCP500CCV
21)	Sample	123	PCB100CCV	PCB100CCV
22)	Sample	14	22084	22084
	Comment:	22084, NA, R1, 3/27/2014, 0-5125,		
23)	Sample	15	22085	22085
	Comment:	22085, NA, R1, 3/27/2014, 0-5125,		
24)	Sample	16	22086	22086
	Comment:	22086, NA, R1, 3/27/2014, 0-5125,		
25)	Sample	17	22087	22087
	Comment:	22087, NA, R1, 3/27/2014, 0-5125,		
26)	Sample	18	22100	22100
	Comment:	22100, NA, R1, 3/27/2014, 0-5125,		
27)	Sample	19	22101	22101
	Comment:	22101, NA, R1, 3/27/2014, 0-5125,		
28)	Sample	20	22102	22102
	Comment:	22102, NA, R1, 3/27/2014, 0-5125,		
29)	Sample	21	22103	22103
	Comment:	22103, NA, R1, 3/27/2014, 0-5125,		

		2014 Apr 15 1544 Sequence Log .LOG	
30) Sample	121	PAH500FCV	PAH500FCV
31) Sample	122	OCP500FCV	OCP500FCV
32) Sample	123	PCB100FCV	PCB100FCV

Sequence completed Thu Apr 17 18:11:42 2014

D:\MassHunter\GCMS\1\data\Q3_140415 EI 0-5125\2014 Apr 15 1544 Quality Log.
D:\MassHunter\GCMS\1\data\Q3_140415 EI 0-5125\2014 Apr 15 1544 Sequence Log

PHYSIS

Instrument Tune Report

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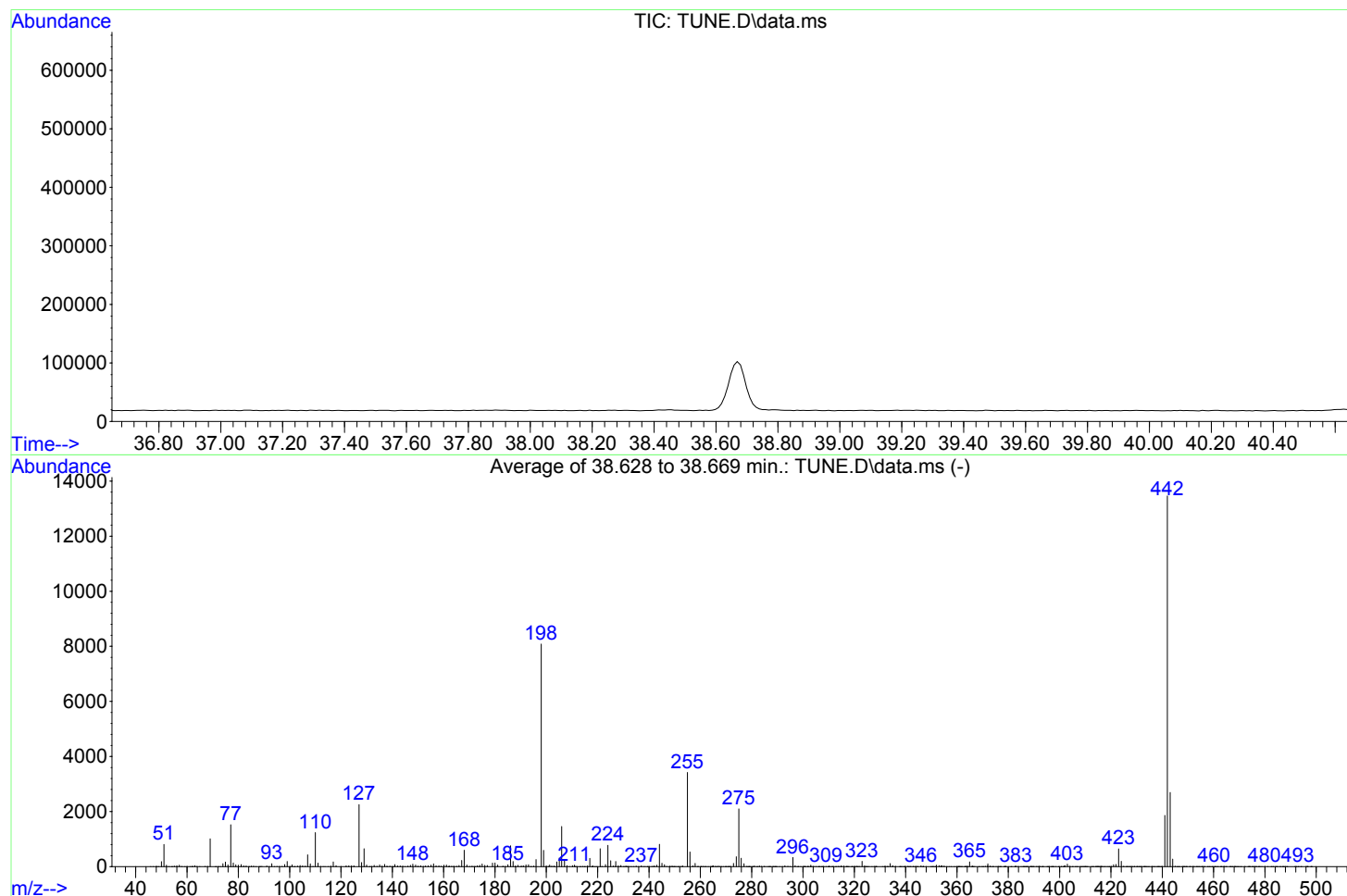
ENVIRONMENTAL LABORATORIES, INC.

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Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
 Data File : TUNE.D
 Acq On : 15 Apr 2014 06:58 pm
 Operator :
 Sample : TUNE
 Misc :
 ALS Vial : 143 Sample Multiplier: 1

Integration File: events.e

Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_OCP+3_140502.M
 Title : CHCs
 Last Update : Mon May 12 21:28:22 2014



Spectrum Information: Average of 38.628 to 38.669 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	31.0	2506	PASS
68	69	0.00	2	1.1	11	PASS
69	198	0.00	100	12.5	1010	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	40.3	3254	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	8083	PASS
199	198	5	9	7.3	591	PASS
275	198	10	30	25.9	2096	PASS
365	198	1	100	2.1	170	PASS
441	443	0.01	100	69.0	1860	PASS
442	198	40	300	166.5	13460	PASS
443	442	17	23	20.0	2694	PASS

Chlorinated Pesticides

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Summary of Internal Standards

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	4,4'-Dibromobiphenyl		2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time	Response	Retention Time
Spex_500ICV	1035087	42.523	213022	53.682
B_5125	2956891	42.524	571592	53.675
BS1_5125	2836263	42.522	518666	53.674
BS2_5125	1470970	42.482	239667	53.63
22079MS1	3283500	42.541	537792	53.674
22079MS2	2504075	42.555	363137	53.669
22088	2289398	42.532	349965	53.682
22078	2183851	42.517	358142	53.668
22079	2409363	42.511	408371	53.663
22079R2	2831954	42.509	489118	53.66
22080	2703143	42.508	487503	53.66
22081	2891741	42.506	579518	53.658
22082	1757700	42.503	259634	53.654
22083	2402789	42.501	345690	53.653
OCP500CCV	641022	42.492	120256	53.65
22084	2630760	42.492	457568	53.646
22085	2295605	42.494	386870	53.646
22086	2227143	42.494	344856	53.641
22087	2387367	42.487	383409	53.639
22100	1625695	42.493	254247	53.644
22101	3100762	42.501	660040	53.651
22102	1321095	42.491	193537	53.645
22103	1665565	42.491	250771	53.639
OCP500FCV	904893	42.483	177175	53.636

PHYSIS

Initial Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\

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Method File : Q_OCP+3_140502.M

Title : CHCs

Last Update : Mon May 12 21:28:22 2014

Response Via : Initial Calibration

Calibration Files

1000=OCP1000.D 500 =OCP500.D 250 =OCP250.D 100 =OCP100.D 50 =OCP50.D 25 =OCP25.D

	Compound	1000	500	250	100	50	25	Avg	%RSD
1) I	4,4'-Dibromobiphenyl	-----ISTD-----							
2) S	(TCMX)	0.391	0.417	0.444	0.425	0.439	0.389	0.417	5.60
3) S	(PCB030)	1.047	1.097	1.125	1.108	1.140	1.028	1.091	4.05
4)	BHC-alpha	0.307	0.296	0.298	0.268	0.272	0.246	0.281	8.17
5)	Hexachlorobenzene	0.861	0.888	0.915	0.892	0.875	0.845	0.879	2.79
6)	BHC-beta	0.075	0.069	0.075	0.082	0.108	0.136	0.091	28.49
7)	BHC-gamma	0.188	0.175	0.173	0.151	0.143	0.131	0.160	13.60
8)	BHC-delta	0.206	0.188	0.173	0.159	0.153	0.154	0.172	12.44
9)	Heptachlor	0.207	0.171	0.152	0.120	0.108	0.094	0.142	30.03
10)	Aldrin	0.215	0.205	0.201	0.198	0.191	0.169	0.196	7.86
11)	DCPA (Dacthal)	0.803	0.770	0.731	0.728	0.681	0.697	0.735	6.17
12)	Heptachlor epo...	0.314	0.292	0.273	0.267	0.255	0.245	0.274	9.27
13)	Oxychlordane	0.152	0.153	0.143	0.158	0.133	0.154	0.149	6.14
14) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
15) S	(PCB112)	4.607	4.679	4.627	4.539	4.519	4.478	4.575	1.65
16) S	(PCB198)	1.327	1.350	1.382	1.374	1.347	1.297	1.346	2.30
17)	Chlordane-gamma	2.205	2.054	1.946	1.784	1.660	1.655	1.884	11.83
18)	4,4'-DDMU	6.781	6.515	6.177	5.575	5.137	5.179	5.894	11.85
19)	2,4'-DDE	5.495	5.396	5.226	4.964	4.646	4.711	5.073	7.00
20)	Endosulfan-I	0.349	0.327	0.323	0.302	0.314	0.396	0.335	9.99
21)	Chlordane-alpha	2.123	2.016	1.876	1.718	1.579	1.642	1.826	11.83
22)	trans-Nonachlor	2.396	2.229	2.068	1.844	1.624	1.643	1.967	16.08
23)	4,4'-DDE	3.951	3.815	3.677	3.497	3.225	3.230	3.566	8.47
24)	Dieldrin	0.511	0.489	0.476	0.448	0.448	0.389	0.460	9.22
25)	2,4'-DDD	6.376	5.884	5.359	5.025	4.669	5.360	5.445	11.18
26)	Perthane	1.068	0.909	0.768	0.638	0.539	0.629	0.758	E1 26.23
27)	Endrin	0.455	0.408	0.380	0.322	0.305	0.340	0.368	15.47
28)	Endosulfan-II	0.292	0.277	0.261	0.258	0.254	0.274	0.269	5.41
29)	4,4'-DDD	6.104	5.401	4.756	4.427	3.568	4.537	4.799	18.14
30)	2,4'-DDT	4.008	3.240	2.634	1.806	1.245	0.678	2.269	55.40
31)	cis-Nonachlor	2.340	2.191	2.025	1.777	1.521	1.626	1.914	16.96
32)	Endrin aldehyde	0.590	0.453	0.411	0.423	0.387	0.238	0.417	27.23
33)	Endosulfan sul...	0.950	0.841	0.768	0.684	0.585	0.700	0.755	17.06
34)	4,4'-DDT	3.280	2.276	1.614	0.863	0.466	0.124	1.437	83.09
35)	Endrin ketone	0.908	0.768	0.663	0.532	0.449	0.465	0.631	28.99
36)	Methoxychlor	5.539	3.649	2.536	1.381	0.752	0.247	2.351	84.66
37)	Dicofol	0.686	0.416	0.226	0.066			0.348	76.55
38)	Mirex	2.720	2.489	2.370	2.095	1.841	1.912	2.238	15.44

(#)= Out of Range

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Continuing Calibration Data

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Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
 Data File : MIX_500_PCB_100_ICV.D
 Acq On : 15 Apr 2014 03:49 pm
 Operator :
 Sample : MIX_500_PCB_100_ICV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: May 09 07:27:20 2014

Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_OCP+3_140502.M

Quant Title : CHCs

QLast Update : Fri May 09 07:26:54 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	42.523	312	1035087	1000.00		0.04
14) 2,2',5,5'-Tetrabromobi...	53.682	391	213022	1000.00		0.04
System Monitoring Compounds						
2) (TCMX)	27.926	244	178455	413.21		0.02
Spiked Amount 400.000			Recovery	=	103.30%	
3) (PCB030)	33.116	256	467341	413.83		0.03
Spiked Amount 400.000			Recovery	=	103.46%	
15) (PCB112)	47.804	326	405348	415.95		0.04
Spiked Amount 400.000			Recovery	=	103.99%	
16) (PCB198)	62.033	358	125592	437.98		0.05
Spiked Amount 400.000			Recovery	=	109.50%	
Target Compounds						Qvalue
4) BHC-alpha	30.970	219	158758	504.12		96
5) Hexachlorobenzene	31.556	284	496378	551.87		97
6) BHC-beta	33.282	219	94487	1230.59		91
7) BHC-gamma	33.449	219	130979	686.30		99
8) BHC-delta	35.454	219	100619	484.79		96
9) Heptachlor	38.805	272	141775	696.79		99
10) Aldrin	41.366	263	106386	484.73		96
11) DCPA (Dacthal)	42.386	301	418156	509.70		99
12) Heptachlor epoxide	44.374	353	172916	543.04	#	94
13) Oxychlordane	44.452	115	66504	423.72	#	76
17) Chlordane-gamma	46.148	373	232508	505.31		96
18) 4,4'-DDMU	0.000		0	N.D.	d	
19) 2,4'-DDE	46.574	246	518431	445.94		97
20) Endosulfan-I	47.006	241	30698	420.21		94
21) Chlordane-alpha	47.261	373	219875	494.65		95
22) trans-Nonachlor	47.651	409	248136	497.08		100
23) 4,4'-DDE	48.910	246	351908	422.77		97
24) Dieldrin	48.914	263	46339	431.26		98
25) 2,4'-DDD	49.517	235	553341	417.53		97
26) Perthane	50.759	223	950857	437.88		96
27) Endrin	50.464	263	62121	661.19	#	48
28) Endosulfan-II	51.178	241	26977	440.04	#	73
29) 4,4'-DDD	51.957	235	508581	405.35		98
30) 2,4'-DDT	52.129	235	476242	655.05		95
31) cis-Nonachlor	52.187	409	241106	493.99	#	98
32) Endrin aldehyde	52.547	345	65534	555.47		96
33) Endosulfan sulfate	54.261	272	94066	480.86		99
34) 4,4'-DDT	54.597	235	405082	713.24		95
35) Endrin ketone	57.484	317	97679	529.38	#	53
36) Methoxychlor	58.705	227	790286	788.06	#	68
37) Dicofol	58.757	139	144905	994.26	#	90
38) Mirex	61.361	272	277662	491.34		93

(#)=qualifier out of range (m)=manual integration (+)=signals summed

Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
 Data File : OCP500CCV.D
 Acq On : 16 Apr 2014 09:46 pm
 Operator :
 Sample : OCP500CCV
 Misc :
 ALS Vial : 122 Sample Multiplier: 1

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Quant Time: May 09 07:28:25 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_OCP+3_140502.M
 Quant Title : CHCs
 QLast Update : Fri May 09 07:23:47 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	42.492	312	641022	1000.00		0.00
14) 2,2',5,5'-Tetrabromobi...	53.650	391	120256	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)	27.907	244	145802	545.14		0.00
Spiked Amount	400.000		Recovery	=	136.29%	
3) (PCB030)	33.090	256	335873	480.25		0.00
Spiked Amount	400.000		Recovery	=	120.06%	
15) (PCB112)	47.773	326	230959	419.82		0.00
Spiked Amount	400.000		Recovery	=	104.96%	
16) (PCB198)	61.991	358	66933	413.48		0.00
Spiked Amount	400.000		Recovery	=	103.37%	
Target Compounds						Qvalue
4) BHC-alpha	30.940	219	114955	589.43		95
5) Hexachlorobenzene	31.532	284	333514	598.75		98
6) BHC-beta	33.228	219	23991m	504.53		
7) BHC-gamma	33.420	219	68312	577.98	#	92
8) BHC-delta	35.407	219	60268	468.88		93
9) Heptachlor	38.778	272	83794	664.99		99
10) Aldrin	41.342	263	67674	497.90		96
11) DCPA (Dacthal)	42.355	301	238006	468.46		99
12) Heptachlor epoxide	44.345	353	97214	492.98	#	94
13) Oxychlordane	44.435	115	42048	432.58	#	87
17) Chlordane-gamma	46.115	373	126501	487.01		94
18) 4,4'-DDMU	46.246	212	348501	433.24		99
19) 2,4'-DDE	46.546	246	293956	447.91		97
20) Endosulfan-I	46.977	241	17906	434.18		99
21) Chlordane-alpha	47.231	373	118196	471.02		93
22) trans-Nonachlor	47.627	409	133172	472.57	#	95
23) 4,4'-DDE	48.878	246	206395	439.24		98
24) Dieldrin	48.884	263	29055	479.00		99
25) 2,4'-DDD	49.480	235	305969	408.97		98
26) Perthane	50.726	223	495422	404.14	#	97
27) Endrin	50.438	263	31699	597.65	#	49
28) Endosulfan-II	51.143	241	17057m	492.87		
29) 4,4'-DDD	51.921	235	262599	370.75		99
30) 2,4'-DDT	52.101	235	237982	597.53		95
31) cis-Nonachlor	52.155	409	122917	446.11	#	96
32) Endrin aldehyde	52.509	345	29481	442.65		97
33) Endosulfan sulfate	54.225	272	46678	422.68	#	90
34) 4,4'-DDT	54.564	235	206877	669.20		95
35) Endrin ketone	57.453	317	48189	462.63		95
36) Methoxychlor	58.671	227	355209	686.29	#	95
37) Dicofol	58.717	139	64553	873.71	#	84
38) Mirex	61.330	272	151136	473.76		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
 Data File : OCP500FCV.D
 Acq On : 17 Apr 2014 03:08 pm
 Operator :
 Sample : OCP500FCV
 Misc :
 ALS Vial : 122 Sample Multiplier: 1

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Quant Time: May 09 07:29:08 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_OCP+3_140502.M
 Quant Title : CHCs
 QLast Update : Fri May 09 07:23:47 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	42.483	312	904893	1000.00		0.00
14) 2,2',5,5'-Tetrabromobi...	53.636	391	177175	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)	27.900	244	176652	467.89		0.00
Spiked Amount	400.000		Recovery	=	116.97%	
3) (PCB030)	33.082	256	441752	447.45		0.00
Spiked Amount	400.000		Recovery	=	111.86%	
15) (PCB112)	47.763	326	343215	423.45		0.00
Spiked Amount	400.000		Recovery	=	105.86%	
16) (PCB198)	61.984	358	103927	435.75		0.00
Spiked Amount	400.000		Recovery	=	108.94%	
Target Compounds						
					Qvalue	
4) BHC-alpha	30.930	219	148193	538.28		96
5) Hexachlorobenzene	31.527	284	436781	555.48		97
6) BHC-beta	33.228	219	34119m	508.29		
7) BHC-gamma	33.408	219	92387	553.74	#	94
8) BHC-delta	35.395	219	87923	484.57		100
9) Heptachlor	38.768	272	117170	658.71		98
10) Aldrin	41.337	263	93577	487.71		97
11) DCPA (Dacthal)	42.346	301	336947	469.81		96
12) Heptachlor epoxide	44.339	353	140248	503.82	#	93
13) Oxychlordane	44.419	115	71638	522.10		95
17) Chlordane-gamma	46.108	373	184528	482.18		96
18) 4,4'-DDMU	46.237	212	514767	434.35		98
19) 2,4'-DDE	46.536	246	432747	447.55		96
20) Endosulfan-I	46.975	241	25804	424.68		93
21) Chlordane-alpha	47.224	373	173721	469.89		96
22) trans-Nonachlor	47.615	409	194627	468.77		99
23) 4,4'-DDE	48.870	246	303596	438.53		99
24) Dieldrin	48.877	263	42407	474.52		98
25) 2,4'-DDD	49.472	235	449963	408.22		97
26) Perthane	50.714	223	733374	406.06	#	97
27) Endrin	50.423	263	43538	557.16	#	56
28) Endosulfan-II	51.132	241	22756	446.29	#	79
29) 4,4'-DDD	51.911	235	393709	377.29		99
30) 2,4'-DDT	52.094	235	349178	595.66		95
31) cis-Nonachlor	52.144	409	176799	435.53	#	98
32) Endrin aldehyde	52.504	345	41640	424.35		97
33) Endosulfan sulfate	54.209	272	70901	435.77		94
34) 4,4'-DDT	54.558	235	302982	666.65		99
35) Endrin ketone	57.442	317	76100	495.88		93
36) Methoxychlor	58.661	227	531589	692.90		100
37) Dicofol	58.705	139	97502	885.70	#	80
38) Mirex	61.324	272	224484	477.61		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	OCP500 ICV			OCP500 CCV			OCP500 FCV		
	4/15/14 3:49 PM			4/16/14 9:46 AM			4/17/14 3:08 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
BHC-alpha	500	504	1	500	589	18	500	538	8
Hexachlorobenzene	500	551	10	500	598	20	500	555	11
BHC-beta	500	1230	146	500	504	1	500	508	2
BHC-gamma	500	686	37	500	577	15	500	553	11
BHC-delta	500	484	3	500	468	6	500	484	3
Heptachlor	500	696	39	500	664	33	500	658	32
Aldrin	500	484	3	500	497	1	500	487	3
DCPA (Dacthal)	500	509	2	500	468	6	500	469	6
Heptachlor epoxide	500	543	9	500	492	2	500	503	1
Oxychlordane	500	423	15	500	432	14	500	522	4
Chlordane-gamma	500	505	1	500	487	3	500	482	4
4,4'-DDMU	0	0	NA	500	433	13	500	434	13
2,4'-DDE	500	445	11	500	447	11	500	447	11
Endosulfan-I	500	420	16	500	434	13	500	424	15
Chlordane-alpha	500	494	1	500	471	6	500	469	6
trans-Nonachlor	500	497	1	500	472	6	500	468	6
4,4'-DDE	500	422	16	500	439	12	500	438	12
Dieldrin	500	431	14	500	479	4	500	474	5
2,4'-DDD	500	417	17	500	408	18	500	408	18
Perthane	500	437	13	500	404	19	500	406	19
Endrin	500	661	32	500	597	19	500	557	11
Endosulfan-II	500	440	12	500	492	2	500	446	11
4,4'-DDD	500	405	19	500	370	26	500	377	25
2,4'-DDT	500	655	31	500	597	19	500	595	19
cis-Nonachlor	500	493	1	500	446	11	500	435	13
Endrin aldehyde	500	555	11	500	442	12	500	424	15
Endosulfan sulfate	500	480	4	500	422	16	500	435	13
4,4'-DDT	500	713	43	500	669	34	500	666	33
Endrin ketone	500	529	6	500	462	8	500	495	1
Methoxychlor	500	788	58	500	686	37	500	692	38
Dicofol	500	994	99	500	873	75	500	885	77
Mirex	500	491	2	500	473	5	500	477	5
Average	-	-	17	-	-	15	-	-	15

PHYSIS

PCB Congeners

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Initial Calibration Data

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FAUNA

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
 Method File : Q_PCB+6_140502.M
 Title : PCBs (Richs Version)
 Last Update : Fri May 09 10:42:15 2014
 Response Via : Initial Calibration

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Calibration Files

10 =PCB10.D 25 =PCB25.D 50 =PCB50.D 75 =PCB75.D 100 =PCB100CCV.D 200 =PCB200.D

Compound		10	25	50	75	100	200	Avg	%RSD

1) I	4,4'-Dibromobiphenyl	-----ISTD-----							
2)	PCB003	1.917	1.953	1.867	1.945	1.790	1.724	1.866	4.92
3)	PCB008	1.668	1.432	1.493	1.549	1.553	1.327	1.503	7.75
4)	PCB005	1.278	1.363	1.378	1.425	1.309	1.262	1.336	4.74
5)	PCB018	0.721	0.759	0.724	0.774	0.718	0.657	0.726	5.57
6)	PCB015	1.567	1.539	1.528	1.532	1.501	1.437	1.517	2.94
7)	PCB027	0.740	0.765	0.733	0.772	0.735	0.693	0.740	3.77
8)	PCB029	1.069	1.049	1.054	1.055	1.065	1.039	1.055	1.03
9) I	PCB031	1.145	1.125	1.128	1.153	1.121	1.069	1.124	2.61
10)	PCB028	1.073	1.144	1.131	1.172	1.139	1.093	1.125	3.22
11)	PCB033	1.003	1.075	1.089	1.128	1.084	1.045	1.071	3.96
12)	PCB052	0.703	0.777	0.734	0.773	0.751	0.735	0.745	3.68
13)	PCB049	0.787	0.807	0.774	0.819	0.782	0.756	0.788	2.88
14)	PCB044	0.661	0.678	0.657	0.671	0.692	0.637	0.666	2.88
15)	PCB037	1.036	1.043	1.061	1.092	1.110	1.085	1.071	2.73
16)	PCB074	0.982	1.022	1.006	1.039	1.096	1.043	1.031	3.77
17)	PCB070	0.993	1.040	1.023	1.089	1.114	1.060	1.053	4.19
18)	PCB066	1.020	1.070	1.063	1.111	1.104	1.096	1.077	3.15
19)	PCB095	0.689	0.708	0.689	0.733	0.691	0.678	0.698	2.83
20)	PCB056(060)	0.887	0.909	0.939	0.951	0.992	0.969	0.941	4.07
21)	PCB101	0.705	0.693	0.691	0.730	0.749	0.726	0.716	3.26
22)	PCB099	0.755	0.730	0.740	0.789	0.812	0.783	0.768	4.13
23)	PCB119	0.830	0.871	0.887	0.908	1.020	0.929	0.908	7.12
24)	PCB097	0.600	0.595	0.604	0.633	0.668	0.637	0.623	4.52
25)	PCB087	0.605	0.656	0.641	0.676	0.701	0.681	0.660	5.17
26)	PCB081	0.983	1.020	1.044	1.057	1.135	1.047	1.048	4.82
27)	PCB110	0.886	0.898	0.928	0.950	0.974	0.935	0.928	3.51
28)	PCB077	0.908	1.006	1.048	1.056	1.084	1.053	1.026	6.14
29)	PCB151	0.596	0.574	0.595	0.603	0.630	0.596	0.599	3.00
30)	PCB149	0.599	0.640	0.648	0.689	0.693	0.659	0.654	5.31
31)	PCB123	0.876	0.896	0.898	0.891	0.978	0.956	0.916	4.47
32)	PCB118	0.938	0.925	0.933	0.988	1.049	1.022	0.976	5.32
33)	PCB114	0.802	0.838	0.854	0.878	1.009	0.970	0.892	9.06
34) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
35)	PCB153	3.291	3.227	3.171	3.252	3.511	3.361	3.302	3.65
36)	PCB168+132	3.094	3.058	3.235	3.288	3.281	3.138	3.182	3.11
37)	PCB105	4.800	4.778	4.761	5.006	4.963	4.738	4.841	2.35
38)	PCB141	3.182	2.978	3.039	3.081	3.068	2.896	3.041	3.20
39)	PCB137	2.510	2.332	2.429	2.394	2.801	2.550	2.503	6.63
40)	PCB138	2.977	2.910	2.936	2.957	3.157	3.041	2.996	3.02
41)	PCB158	3.678	3.792	3.808	3.885	4.206	4.105	3.912	5.17
42)	PCB126	3.976	4.047	4.077	4.065	4.548	4.479	4.199	5.90
43)	PCB187	2.432	2.515	2.527	2.587	2.753	2.599	2.569	4.22
44)	PCB183	2.476	2.560	2.610	2.641	2.961	2.677	2.654	6.25
45)	PCB128	2.635	2.324	2.450	2.537	2.674	2.584	2.534	5.10
46)	PCB167	3.640	3.781	3.898	3.960	4.331	4.246	3.976	6.71
47)	PCB174	2.396	2.434	2.409	2.512	2.529	2.504	2.464	2.34
48)	PCB177	2.234	2.205	2.206	2.393	2.432	2.444	2.319	5.00
49)	PCB156	3.536	3.531	3.730	3.751	4.294	4.088	3.822	8.06
50)	PCB199(200)	2.725	2.934	2.757	2.980	2.911	2.845	2.859	3.55
51)	PCB157	4.909	4.750	4.736	4.921	5.047	5.185	4.925	3.51
52)	PCB180	2.429	2.302	2.415	2.448	2.740	2.562	2.483	6.07
53)	PCB169	3.383	3.589	3.512	3.546	4.135	4.183	3.725	9.23
54)	PCB170	2.378	2.159	2.248	2.357	2.475	2.282	2.316	4.78
55)	PCB201	1.991	1.936	1.942	2.039		1.834	1.948	3.93
56)	PCB203	2.137	2.074	2.134	2.157	2.154	2.325	2.164	3.91
57)	PCB189	2.868	3.084	3.004	3.107	3.396	3.543	3.167	7.98
58)	PCB195	1.863	1.910	1.924	1.917	1.869	2.033	1.919	3.18
59)	PCB194	1.906	2.101	1.974	2.078	1.981	2.175	2.036	4.86
60)	PCB206	1.599	1.697	1.669	1.792	1.881	1.808	1.741	5.96
61)	PCB209	1.830	1.981	1.831	2.005	1.789	2.044	1.913	5.69

Method Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
Method File : Q_PCB+6_140502.M

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(#) = Out of Range

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Continuing Calibration Data

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Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
 Data File : MIX_500_PCB_100_ICV.D
 Acq On : 15 Apr 2014 03:49 pm
 Operator :
 Sample : MIX_500_PCB_100_ICV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: May 09 10:43:45 2014

Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_PCB+6_140502.M

Quant Title : PCBs (Richs Version)

QLast Update : Fri May 09 10:42:15 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	42.523	312	1034919	1000.00		0.03
34) 2,2',5,5'-Tetrabromobi...	53.683	389	221084	1000.00		0.04
Target Compounds						Qvalue
2) PCB003	26.256	188	177770	97.29		99
3) PCB008	30.939	222	143286	99.22	#	49
4) PCB005	30.939	222	143171	107.13	#	36
5) PCB018	34.172	256	73607	104.15		98
6) PCB015	0.000		0	N.D.		
7) PCB027	0.000		0	N.D. d		
8) PCB029	0.000		0	N.D.		
9) PCB031	37.626	256	104175	92.41		91
10) PCB028	37.726	256	110887	96.50	#	93
11) PCB033	38.436	256	101796	92.64		94
12) PCB052	40.322	292	73952	96.34		90
13) PCB049	40.651	292	76761	96.58		97
14) PCB044	41.849	292	64783	96.18		94
15) PCB037	42.143	256	109674	97.36		96
16) PCB074	44.525	292	105779	97.38		93
17) PCB070	44.789	292	109598	98.97		97
18) PCB066	45.055	292	108355	95.46	#	99
19) PCB095	45.084	326	67818	95.44		97
20) PCB056(060)	46.270	292	91524	91.24		99
21) PCB101	46.796	326	73226	97.10		93
22) PCB099	47.186	326	81330	100.01	#	95
23) PCB119	47.641	326	94398m	97.04		
24) PCB097	48.341	326	64497m	97.38		
25) PCB087	48.716	326	70272	99.55	#	86
26) PCB081	48.764	292	111435	101.37		97
27) PCB110	49.435	326	96935	99.38		97
28) PCB077	49.473	292	109185	99.74		88
29) PCB151	50.323	360	63152	101.35		96
30) PCB149	51.180	360	70284	101.86		94
31) PCB123	51.164	326	97641	99.30		93
32) PCB118	51.341	326	101128	95.98	#	86
33) PCB114	52.136	326	103683	104.19	#	96
35) PCB153	52.959	360	74693	100.36	#	96
36) PCB168+132	53.125	360	143088	203.52		97
37) PCB105	53.220	326	106439	100.24	#	96
38) PCB141	53.842	360	65031	99.71		96
39) PCB137	0.000		0	N.D. d		
40) PCB138	54.902	360	68186	101.23	#	99
41) PCB158	55.075	360	90167	99.86	#	97
42) PCB126	55.560	326	101508	103.67	#	97
43) PCB187	56.083	394	58857	101.62	#	87
44) PCB183	56.435	394	60988	101.51	#	96
45) PCB128	56.797	360	59684	104.37	#	69
46) PCB167	56.918	360	91698	98.47	#	93
47) PCB174	57.691	394	56211	101.55		94
48) PCB177	58.075	394	57083	106.51	#	100
49) PCB156	58.494	360	96379	107.14	#	83
50) PCB199(200)	58.849	430	70411	111.12	#	98
51) PCB157	58.872	360	120024	106.20		97
52) PCB180	59.654	394	62421	109.77		99
53) PCB169	61.122	360	95679	106.12	#	95
54) PCB170	61.650	394	57075	111.31	#	95
55) PCB201	62.236	430	54117m	131.29		

Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
 Data File : MIX_500_PCB_100_ICV.D
 Acq On : 15 Apr 2014 03:49 pm
 Operator :
 Sample : MIX_500_PCB_100_ICV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: May 09 10:43:45 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_PCB+6_140502.M
 Quant Title : PCBs (Richs Version)
 QLast Update : Fri May 09 10:42:15 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	0.000		0	N.D.	d	
57) PCB189	63.640	394	83130	109.08	#	95
58) PCB195	64.618	430	47368	107.80	#	94
59) PCB194	65.976	430	57141	121.75	#	98
60) PCB206	68.450	464	47199	117.86	#	91
61) PCB209	70.411	498	51919	118.19	#	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
 Data File : PCB100CCV.D
 Acq On : 16 Apr 2014 11:21 pm
 Operator :
 Sample : PCB100CCV
 Misc :
 ALS Vial : 123 Sample Multiplier: 1

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Quant Time: May 09 10:41:44 2014

Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_PCB+6_140502.M

Quant Title : PCBs (Richs Version)

QLast Update : Fri May 09 10:39:49 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	42.494	312	1303792	1000.00		0.00
34) 2,2',5,5'-Tetrabromobi...	53.646	389	261104	1000.00		0.00
Target Compounds						
					Qvalue	
2) PCB003	26.234	188	240005	104.26		98
3) PCB008	30.917	222	180311	99.11	#	48
4) PCB005	30.964	222	162306m	96.40		
5) PCB018	34.145	256	117762	132.27		97
6) PCB015	34.350	222	184159	96.60		98
7) PCB027	34.943	256	89108	96.19	#	93
8) PCB029	36.607	256	129142	94.72		95
9) PCB031	37.597	256	155753	109.67		93
10) PCB028	37.694	256	179447m	123.96		
11) PCB033	38.406	256	141391	102.14		93
12) PCB052	40.295	292	121311	125.45		91
13) PCB049	40.622	292	123361	123.21		94
14) PCB044	41.819	292	106243	125.20		95
15) PCB037	42.112	256	182024	128.26		96
16) PCB074	44.491	292	167653	122.51		96
17) PCB070	44.757	292	167530	120.09		97
18) PCB066	45.026	292	165390	115.66	#	98
19) PCB095	45.053	326	91819	102.56		96
20) PCB056(060)	46.237	292	121763	96.35		96
21) PCB101	46.766	326	117789	123.98		92
22) PCB099	47.149	326	125410	122.41	#	97
23) PCB119	47.610	326	148960m	121.56		
24) PCB097	48.311	326	85390m	102.33		
25) PCB087	48.688	326	108103	121.56		90
26) PCB081	48.729	292	172537	124.58		98
27) PCB110	49.403	326	152723	124.29		98
28) PCB077	49.437	292	172480	125.07		89
29) PCB151	50.296	360	94489	120.37		95
30) PCB149	51.148	360	101152	116.36		95
31) PCB123	51.131	326	150395	121.41		94
32) PCB118	51.312	326	154249	116.20		89
33) PCB114	52.100	326	146231	116.64	#	99
35) PCB153	52.924	360	108683	123.65	#	93
36) PCB168+132	53.095	360	198876	239.51		99
37) PCB105	53.183	326	158281	126.21	#	94
38) PCB141	53.807	360	82335	106.89		97
39) PCB137	54.295	360	63427	94.51		91
40) PCB138	54.864	360	97552	122.62	#	99
41) PCB158	55.049	360	131666	123.47	#	98
42) PCB126	55.530	326	148025	128.00	#	98
43) PCB187	56.052	394	85455	124.93	#	90
44) PCB183	56.405	394	86739	122.24	#	99
45) PCB128	56.765	360	88644m	131.26		
46) PCB167	56.883	360	133099	121.02	#	92
47) PCB174	57.662	394	68940	105.46		98
48) PCB177	58.047	394	77080	121.78	#	100
49) PCB156	58.457	360	128075	120.56	#	84
50) PCB199(200)	58.816	430	96373	128.78	#	97
51) PCB157	58.835	360	167338	125.37		93
52) PCB180	59.611	394	86589	128.94		100
53) PCB169	61.083	360	129847	121.95	#	95
54) PCB170	61.612	394	78863	130.22	#	99
55) PCB201	62.196	430	60786m	124.87		

Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
Data File : PCB100CCV.D
Acq On : 16 Apr 2014 11:21 pm
Operator :
Sample : PCB100CCV
Misc :
ALS Vial : 123 Sample Multiplier: 1

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Quant Time: May 09 10:41:44 2014
Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_PCB+6_140502.M
Quant Title : PCBs (Richs Version)
QLast Update : Fri May 09 10:39:49 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	62.562	430	60473	102.07		94
57) PCB189	63.593	394	104824	116.46	#	98
58) PCB195	64.585	430	62280	120.02	#	97
59) PCB194	65.933	430	76338	137.72	#	98
60) PCB206	68.400	464	69901	147.80	#	90
61) PCB209	70.369	498	57728	111.27	#	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
 Data File : PCB100FCV.D
 Acq On : 17 Apr 2014 04:43 pm
 Operator :
 Sample : PCB100FCV
 Misc :
 ALS Vial : 123 Sample Multiplier: 1

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Quant Time: May 09 10:45:17 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_PCB+6_140502.M
 Quant Title : PCBs (Richs Version)
 QLast Update : Fri May 09 10:42:15 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	42.481	312	1077827	1000.00		-0.01
34) 2,2',5,5'-Tetrabromobi...	53.635	389	212569	1000.00		-0.01
Target Compounds						Qvalue
2) PCB003	26.228	188	201833	106.06		100
3) PCB008	30.908	222	151056	100.43	#	56
4) PCB005	30.965	222	135600m	97.42		
5) PCB018	34.136	256	95942	130.35		99
6) PCB015	34.339	222	153076	97.13		99
7) PCB027	34.929	256	74776	97.65	#	92
8) PCB029	36.599	256	106935	94.87		97
9) PCB031	37.586	256	128248	109.23		96
10) PCB028	37.691	256	149355	124.80	#	100
11) PCB033	38.399	256	116657	101.94		93
12) PCB052	40.284	292	97834	122.38		93
13) PCB049	40.613	292	102465	123.79		95
14) PCB044	41.809	292	88387	125.99		98
15) PCB037	42.100	256	147996	126.15		97
16) PCB074	44.483	292	136456	120.62		96
17) PCB070	44.745	292	137566	119.28		96
18) PCB066	45.017	292	135650	114.75	#	100
19) PCB095	45.041	326	74647	100.86		96
20) PCB056(060)	46.223	292	104438	99.97		95
21) PCB101	46.757	326	96675	123.09		92
22) PCB099	47.140	326	100634	118.82	#	94
23) PCB119	47.600	326	123848m	122.25		
24) PCB097	48.300	326	66902	96.99		92
25) PCB087	48.678	326	90114	122.58		90
26) PCB081	48.719	292	143664	125.48		98
27) PCB110	49.396	326	122521	120.62		97
28) PCB077	49.428	292	137581	120.68		93
29) PCB151	50.287	360	78439	120.87		97
30) PCB149	51.136	360	82007	114.11		97
31) PCB123	51.124	326	123694	120.79		95
32) PCB118	51.300	326	130420	118.85		89
33) PCB114	52.092	326	121957	117.67	#	97
35) PCB153	52.909	360	90934	127.08	#	96
36) PCB168+132	53.082	360	161272	238.57		100
37) PCB105	53.172	326	127124	124.51	#	95
38) PCB141	53.797	360	66861	106.62		96
39) PCB137	54.284	360	54402	99.57		91
40) PCB138	54.860	360	79487	122.73	#	99
41) PCB158	55.039	360	105724	121.78	#	97
42) PCB126	55.517	326	120296	127.78	#	96
43) PCB187	56.040	394	71266	127.97	#	87
44) PCB183	56.402	394	71186	123.23	#	95
45) PCB128	56.761	360	70671	128.54	#	67
46) PCB167	56.875	360	109023	121.77	#	89
47) PCB174	57.651	394	55221	103.76		96
48) PCB177	58.038	394	62592	121.47	#	100
49) PCB156	58.447	360	101683	117.57	#	85
50) PCB199(200)	58.812	430	79745	130.89	#	97
51) PCB157	58.827	360	133992	123.31		95
52) PCB180	59.610	394	70170	128.34		99
53) PCB169	61.078	360	104566	120.63	#	94
54) PCB170	61.604	394	62971	127.72	#	95
55) PCB201	62.196	430	50050m	126.29		

Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
Data File : PCB100FCV.D
Acq On : 17 Apr 2014 04:43 pm
Operator :
Sample : PCB100FCV
Misc :
ALS Vial : 123 Sample Multiplier: 1

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Quant Time: May 09 10:45:17 2014
Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_PCB+6_140502.M
Quant Title : PCBs (Richs Version)
QLast Update : Fri May 09 10:42:15 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	62.548	430	49442	102.51		94
57) PCB189	63.583	394	86776	118.42	#	95
58) PCB195	64.568	430	49658	117.54	#	99
59) PCB194	65.921	430	63523m	140.77		
60) PCB206	68.394	464	57103	148.30	#	93
61) PCB209	70.359	498	48581	115.02	#	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PCB100 ICV			PCB100 CCV			PCB100 FCV		
	4/15/14 3:49 PM			4/16/14 11:21 PM			4/17/14 4:43 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PCB003	100	97.29	3	100	104.26	4	100	106.06	6
PCB008	100	99.22	1	100	99.11	1	100	100.43	0
PCB005	0	0	NA	100	96.4	4	100	97.42	3
PCB018	100	104.15	4	100	132.27	32	100	130.35	30
PCB015	0	0	NA	100	96.6	3	100	97.13	3
PCB027	0	0	NA	100	96.19	4	100	97.65	2
PCB029	0	0	NA	100	94.72	5	100	94.87	5
PCB031	100	92.41	8	100	109.67	10	100	109.23	9
PCB028	100	96.5	4	100	123.96	24	100	124.8	25
PCB033	100	92.64	7	100	102.14	2	100	101.94	2
PCB052	100	96.34	4	100	125.45	25	100	122.38	22
PCB049	100	96.58	3	100	123.21	23	100	123.79	24
PCB044	100	96.18	4	100	125.2	25	100	125.99	26
PCB037	100	97.36	3	100	128.26	28	100	126.15	26
PCB074	100	97.38	3	100	122.51	23	100	120.62	21
PCB070	100	98.97	1	100	120.09	20	100	119.28	19
PCB066	100	95.46	5	100	115.66	16	100	114.75	15
PCB095	100	95.44	5	100	102.56	3	100	100.86	1
PCB056 (060)	100	91.24	9	100	96.35	4	100	99.97	0
PCB101	100	97.1	3	100	123.98	24	100	123.09	23
PCB099	100	100.01	0	100	122.41	22	100	118.82	19
PCB119	100	97.04	3	100	121.56	22	100	122.25	22
PCB097	100	97.38	3	100	102.33	2	100	96.99	3
PCB087	100	99.55	0	100	121.56	22	100	122.58	23
PCB081	100	101.37	1	100	124.58	25	100	125.48	25
PCB110	100	99.38	1	100	124.29	24	100	120.62	21
PCB077	100	99.74	0	100	125.07	25	100	120.68	21
PCB151	100	101.35	1	100	120.37	20	100	120.87	21
PCB149	100	101.86	2	100	116.36	16	100	114.11	14
PCB123	100	99.3	1	100	121.41	21	100	120.79	21
PCB118	100	95.98	4	100	116.2	16	100	118.85	19
PCB114	100	104.19	4	100	116.64	17	100	117.67	18
PCB153	100	100.36	0	100	123.65	24	100	127.08	27
PCB168+132	200	203.52	2	200	239.51	20	200	238.57	19
PCB105	100	100.24	0	100	126.21	26	100	124.51	25
PCB141	100	99.71	0	100	106.89	7	100	106.62	7
PCB137	0	0	NA	100	94.51	5	100	99.57	0
PCB138	100	101.23	1	100	122.62	23	100	122.73	23
PCB158	100	99.86	0	100	123.47	23	100	121.78	22
PCB126	100	103.67	4	100	128	28	100	127.78	28
PCB187	100	101.62	2	100	124.93	25	100	127.97	28
PCB183	100	101.51	2	100	122.24	22	100	123.23	23
PCB128	100	104.37	4	100	131.26	31	100	128.54	29
PCB167	100	98.47	2	100	121.02	21	100	121.77	22
PCB174	100	101.55	2	100	105.46	5	100	103.76	4
PCB177	100	106.51	7	100	121.78	22	100	121.47	21
PCB156	100	107.14	7	100	120.56	21	100	117.57	18
PCB199 (200)	100	111.12	11	100	128.78	29	100	130.89	31
PCB157	100	106.2	6	100	125.37	25	100	123.31	23
PCB180	100	109.77	10	100	128.94	29	100	128.34	28
PCB169	100	106.12	6	100	121.95	22	100	120.63	21
PCB170	100	111.31	11	100	130.22	30	100	127.72	28
PCB201	100	131.29	31	100	124.87	25	100	126.29	26
PCB203	0	0	NA	100	102.07	2	100	102.51	3
PCB189	100	109.08	9	100	116.46	16	100	118.42	18
PCB195	100	107.8	8	100	120.02	20	100	117.54	18
PCB194	100	121.75	22	100	137.72	38	100	140.77	41
PCB206	100	117.86	18	100	147.8	48	100	148.3	48
PCB209	100	118.19	18	100	111.27	11	100	115.02	15
Average	-	-	5	-	-	19	-	-	18

Polynuclear

Aromatic

Hydrocarbons

(PAHs)



	D10-Anthracene		D-12 Perylene	
	Response	Retention Time	Response	Retention Time
PAH500SPEX	5623939	34.402	6089664	79.375
B_5125	9869541	34.4	8887575	79.369
BS1_5125	11661518	34.399	8976735	79.364
BS2_5125	12178805	34.355	9212147	79.278
22079MS1	15593002	34.399	5833317	79.364
22079MS2	14304380	34.397	4016867	79.36
22088	16350725	34.404	3727983	79.376
22078	14460323	34.391	4559648	79.354
22079	15232263	34.389	4602807	79.348
22079R2	16822632	34.388	5402298	79.348
22080	16414232	34.384	5211719	79.345
22081	16537681	34.383	10582609	79.348
22082	12750740	34.382	2093426	79.339
22083	17119136	34.38	2872653	79.333
PAH500CCV	5589844	34.376	5417521	79.334
22084	16597769	34.373	5083274	79.322
22085	12840261	34.372	2567006	79.323
22086	15086812	34.372	3168525	79.323
22087	15148565	34.368	3434242	79.321
22100	11281737	34.37	2898549	79.332
22101	17399440	34.375	15368572	79.356
22102	9410733	34.369	2008854	79.331
22103	11584776	34.37	2487452	79.322
PAH500FCV	4334987	34.364	4134030	79.321

PHYSIS

Initial Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\

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Method File : Q_PAH140411.M

Title : PAH

Last Update : Mon Apr 21 14:15:24 2014

Response Via : Initial Calibration

Calibration Files

500 =PAH500.D 250 =PAH250.D 1000=PAH1000.D 100 =PAH100.D 50 =PAH50.D 25 =PAH25.D

Compound		500	250	1000	100	50	25	Avg	%RSD

1) I	d10-Anthracene	-----ISTD-----							
2) S	(d8-Naphthalene)	1.213	1.007	0.376	0.923	0.870	0.885	0.879	31.49
3) S	(d10-Acenaphth...	0.671	0.606	0.519	0.573	0.548	0.553	0.578	9.29
4) S	(d10-Phenanthr...	1.058	1.054	1.045	1.054	1.034	1.037	1.047	0.93
5) S	(d12-Chrysene)	1.109	1.189	1.230	1.170	1.241	1.224	1.194	4.16
6) S	(d12-Perylene)	1.082	1.162	1.202	1.129	1.244	1.208	1.171	5.04
7)	Naphthalene	1.169	0.977		0.883	0.839	0.851	0.944	14.52
8)	2-Methylnaphth...	0.823	0.707		0.655	0.622	0.625	0.686	12.20
9)	1-Methylnaphth...	0.729	0.631		0.582	0.553	0.558	0.611	11.95
10)	Biphenyl	1.013	0.888		0.831	0.781	0.787	0.860	11.12
11)	2,6-Dimethylna...	0.737	0.656		0.608	0.572	0.577	0.630	10.88
12)	Acenaphthylene	1.089	0.960		0.919	0.872	0.886	0.945	9.21
13)	Acenaphthene	0.704	0.630		0.602	0.570	0.570	0.615	9.09
14)	2,3,5-Trimethy...	0.673	0.625	0.577	0.596	0.564	0.587	0.604	6.60
15)	Fluorene	0.787	0.732	0.694	0.709	0.706	0.726	0.726	4.59
16)	Dibenzothiophene	1.022	1.009	0.985	1.001	0.981	0.990	0.998	1.59
17)	Phenanthrene	1.081	1.065	1.060	1.053	1.026	1.012	1.050	2.46
18)	Anthracene	1.047	1.043	1.059	1.031	1.010	1.018	1.035	1.79
19)	1-Methylphenan...	0.750	0.775	0.822	0.774	0.753	0.795	0.778	3.51
20)	Fluoranthene	1.105	1.146	1.215	1.137	1.143	1.151	1.149	3.13
21)	Pyrene	1.127	1.179	1.220	1.178	1.174	1.176	1.176	2.52
22)	Benz[a]anthracene	1.067	1.125	1.177	1.117	1.192	1.205	1.147	4.62
23)	Chrysene	1.045	1.107	1.157	1.096	1.155	1.141	1.117	3.87
24)	Benzo[b]fluora...	1.144	1.217	1.232	1.158	1.216	1.209	1.196	3.01
25)	Benzo[k]fluora...	1.250	1.322	1.339	1.259	1.421	1.312	1.317	4.71
26)	Benzo[e]pyrene	1.142	1.221	1.198	1.176	1.244	1.279	1.210	4.04
27)	Benzo[a]pyrene	1.122	1.198	1.196	1.123	1.235	1.198	1.179	3.90
28)	Perylene	1.136	1.220	1.212	1.164	1.271	1.283	1.214	4.75

29) I	d12-Benzo[g,h,i]pe...	-----ISTD-----							
30)	Indeno[1,2,3-c...	1.359	1.351	1.394	1.332	1.320	1.250	1.334	3.64
31)	Dibenz[a,h]ant...	1.340	1.322	1.355	1.310	1.308	1.376	1.335	2.04
32)	Benzo[g,h,i]pe...	1.417	1.451	1.416	1.450	1.419	1.448	1.434	1.25

(#) = Out of Range

PHYSIS

Continuing Calibration Data

TERRA

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
 Data File : MIX_500_PCB_100_ICV.D
 Acq On : 15 Apr 2014 03:49 pm
 Operator :
 Sample : MIX_500_PCB_100_ICV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: May 08 12:40:30 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Mon Apr 21 14:15:24 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	34.402	188	5623939	2000.00		0.03
29) d12-Benzo[g,h,i]perylene	79.375	288	6089664	2000.00		0.05
System Monitoring Compounds						
2) (d8-Naphthalene)	14.072	136	3036493	1228.56		0.00
3) (d10-Acenaphthene)	22.738	164	1688709	1038.30		0.02
4) (d10-Phenanthrene)	33.990	188	3006113	1021.03		0.03
5) (d12-Chrysene)	57.959	240	3421696	1019.16		0.04
6) (d12-Perylene)	70.177	264	3759458	1141.41		0.04
Target Compounds						
					Qvalue	
7) Naphthalene	14.139	128	1652922	524.69		100
8) 2-Methylnaphthalene	16.819	142	1087513	487.21		100
9) 1-Methylnaphthalene	17.321	142	1122788	567.06		99
10) Biphenyl	19.226	154	1375708	498.44		100
11) 2,6-Dimethylnaphthalene	20.102	156	927075	460.45		99
12) Acenaphthylene	21.727	152	1482839	498.94		100
13) Acenaphthene	22.944	153	983192	509.94		99
14) 2,3,5-Trimethylnaphtha...	25.780	170	767350	456.64		100
15) Fluorene	26.550	166	1165338	581.06		98
16) Dibenzothiophene	33.119	184	1558142	558.07		100
17) Phenanthrene	34.174	178	1726822	577.05		100
18) Anthracene	34.552	178	1247018	420.08		100
19) 1-Methylphenanthrene	39.701	192	1144972	505.17		98
20) Fluoranthene	44.715	202	1761194	526.41		100
21) Pyrene	46.609	202	1874083	555.32		100
22) Benz[a]anthracene	57.835	228	1714734	528.56		100
23) Chrysene	58.178	228	1797200	563.86		100
24) Benzo[b]fluoranthene	67.239	252	2011614	589.27		100
25) Benzo[k]fluoranthene	67.436	252	2191480	589.84		100
26) Benzo[e]pyrene	69.332	252	1901650	569.06		100
27) Benzo[a]pyrene	69.697	252	1949595	586.56		100
28) Perylene	70.367	252	1888186	560.64		100
30) Indeno[1,2,3-c,d]pyrene	77.891	276	2095899	497.23		100
31) Dibenz[a,h]anthracene	78.162	278	2161365	525.62		100
32) Benzo[g,h,i]perylene	79.555	276	2421966	560.85		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
 Data File : PAH500CCV.D
 Acq On : 16 Apr 2014 08:12 pm
 Operator :
 Sample : PAH500CCV
 Misc :
 ALS Vial : 121 Sample Multiplier: 1

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Quant Time: May 08 12:39:18 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Thu May 08 12:39:05 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	34.376	188	5589844	2000.00		0.00
29) d12-Benzo[g,h,i]perylene	79.334	288	5417521	2000.00		0.00
System Monitoring Compounds						
2) (d8-Naphthalene)	14.069	136	3269080	1330.73		0.00
3) (d10-Acenaphthene)	22.724	164	1750687	1082.97		0.00
4) (d10-Phenanthrene)	33.962	188	2907839	993.68		0.00
5) (d12-Chrysene)	57.922	240	3171606	950.44		0.00
6) (d12-Perylene)	70.138	264	3329589	1017.07		0.00
Target Compounds						Qvalue
7) Naphthalene	14.135	128	1571428	501.86		100
8) 2-Methylnaphthalene	16.812	142	1082040	487.72		99
9) 1-Methylnaphthalene	17.313	142	969490	492.62		99
10) Biphenyl	19.217	154	1319690	481.06		100
11) 2,6-Dimethylnaphthalene	20.089	156	956779	478.10		98
12) Acenaphthylene	21.712	152	1453492	492.05		100
13) Acenaphthene	22.929	153	931750	486.20		100
14) 2,3,5-Trimethylnaphtha...	25.761	170	853498	511.00		99
15) Fluorene	26.531	166	1048951	526.22		98
16) Dibenzothiophene	33.092	184	1400298	504.60		100
17) Phenanthrene	34.143	178	1479308	497.35		100
18) Anthracene	34.524	178	1449103	491.13		100
19) 1-Methylphenanthrene	39.670	192	1011369	448.94		98
20) Fluoranthene	44.682	202	1498941	450.75		100
21) Pyrene	46.576	202	1558841	464.72		100
22) Benz[a]anthracene	57.801	228	1413833	438.47		100
23) Chrysene	58.144	228	1462540	461.66		100
24) Benzo[b]fluoranthene	67.204	252	1505240	443.63		100
25) Benzo[k]fluoranthene	67.398	252	1714118	464.17		100
26) Benzo[e]pyrene	69.299	252	1559662	469.57		100
27) Benzo[a]pyrene	69.661	252	1573973	476.44		100
28) Perylene	70.329	252	1619407	483.77		100
30) Indeno[1,2,3-c,d]pyrene	77.851	276	1703653	454.32		100
31) Dibenz[a,h]anthracene	78.126	278	1689950	461.97		100
32) Benzo[g,h,i]perylene	79.513	276	1914684	498.39		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140415 EI O-5125\
 Data File : PAH500FCV.D
 Acq On : 17 Apr 2014 01:34 pm
 Operator :
 Sample : PAH500FCV
 Misc :
 ALS Vial : 121 Sample Multiplier: 1

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Quant Time: May 08 12:41:31 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140415 EI O-5125\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Mon Apr 21 14:15:24 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	34.364	188	4334987	2000.00		0.00
29) d12-Benzo[g,h,i]perylene	79.321	288	4134030	2000.00		0.00
System Monitoring Compounds						
2) (d8-Naphthalene)	14.066	136	3329883	1747.85		0.00
3) (d10-Acenaphthene)	22.717	164	1590869	1268.98		0.00
4) (d10-Phenanthrene)	33.951	188	2280625	1004.94		0.00
5) (d12-Chrysene)	57.907	240	2340066	904.24		0.00
6) (d12-Perylene)	70.124	264	2573615	1013.71		0.00
Target Compounds						Qvalue
7) Naphthalene	14.132	128	1587402	653.72		100
8) 2-Methylnaphthalene	16.808	142	1064573	618.74		99
9) 1-Methylnaphthalene	17.308	142	937391	614.19		100
10) Biphenyl	19.212	154	1239996	582.86		100
11) 2,6-Dimethylnaphthalene	20.084	156	883904	569.54		99
12) Acenaphthylene	21.705	152	1335012	582.77		100
13) Acenaphthene	22.923	153	837158	563.30		99
14) 2,3,5-Trimethylnaphtha...	25.753	170	727471	561.63		98
15) Fluorene	26.523	166	895347	579.18		97
16) Dibenzothiophene	33.083	184	1111991	516.70		100
17) Phenanthrene	34.136	178	1174137	509.02		100
18) Anthracene	34.514	178	1117163	488.23		100
19) 1-Methylphenanthrene	39.659	192	762368	436.37		99
20) Fluoranthene	44.670	202	1110006	430.42		100
21) Pyrene	46.563	202	1132327	435.29		100
22) Benz[a]anthracene	57.788	228	1074360	429.64		100
23) Chrysene	58.129	228	1085236	441.72		100
24) Benzo[b]fluoranthene	67.187	252	1165884	443.08		100
25) Benzo[k]fluoranthene	67.384	252	1333333	465.58		100
26) Benzo[e]pyrene	69.278	252	1201661	466.51		100
27) Benzo[a]pyrene	69.647	252	1219719	476.08		100
28) Perylene	70.314	252	1267824	488.38		100
30) Indeno[1,2,3-c,d]pyrene	77.841	276	1313958	459.18		100
31) Dibenz[a,h]anthracene	78.111	278	1296511	464.45		100
32) Benzo[g,h,i]perylene	79.494	276	1434460	489.32		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PAH500 ICV			PAH500 CCV			PAH500 FCV		
	4/15/14 3:49 PM			4/16/14 8:12 PM			4/17/14 1:34 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
d8-Naphthalene	1000	1229	23	1000	1331	33	1000	1748	75
d10-Acenaphthene	1000	1038	4	1000	1083	8	1000	1269	27
d10-Phenanthrene	1000	1021	2	1000	994	1	1000	1005	0
d10-Chrysene	1000	1019	2	1000	950	5	1000	904	10
d12-Perylene	1000	1141	14	1000	1017	2	1000	1014	1
Naphthalene	500	525	5	500	502	0	500	654	31
2-Methylnaphthalene	500	487	3	500	488	2	500	619	24
1-Methylnaphthalene	500	567	13	500	493	1	500	614	23
Biphenyl	500	498	0	500	481	4	500	583	17
2,6-Dimethylnaphthalene	500	460	8	500	478	4	500	570	14
Acenaphthylene	500	499	0	500	492	2	500	583	17
Acenaphthene	500	510	2	500	486	3	500	563	13
2,3,5-Trimethylnaphthalene	500	457	9	500	511	2	500	562	12
Fluorene	500	581	16	500	526	5	500	579	16
Dibenzothiophene	500	558	12	500	505	1	500	517	3
Phenanthrene	500	577	15	500	497	1	500	509	2
Anthracene	500	420	16	500	491	2	500	488	2
1-Methylphenanthrene	500	505	1	500	449	10	500	436	13
Fluoranthene	500	526	5	500	451	10	500	430	14
Pyrene	500	555	11	500	465	7	500	435	13
Benz[a]anthracene	500	529	6	500	438	12	500	430	14
Chrysene	500	564	13	500	462	8	500	442	12
Benzo[b]fluoranthene	500	589	18	500	444	11	500	443	11
Benzo[k]fluoranthene	500	590	18	500	464	7	500	466	7
Benzo[e]pyrene	500	569	14	500	470	6	500	467	7
Benzo[a]pyrene	500	587	17	500	476	5	500	476	5
Perylene	500	561	12	500	484	3	500	488	2
Indeno[1,2,3-c,d]pyrene	500	497	1	500	454	9	500	459	8
Dibenz[a,h]anthracene	500	526	5	500	462	8	500	464	7
Benzo[g,h,i]perylene	500	561	12	500	498	0	500	489	2
Average	-	-	9	-	-	6	-	-	13

Organics - GC-MS-NCI

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Analytical Solutions
(EPA 8270C)

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Instrument Run Log

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

2014 Apr 02 1456 Sequence Log .LOG
 Starting sequence Wed Apr 02 14:56:34 2014

Instrument Name: GCMS1
 Sequence File: C:\MSDCHEM\1\SEQUENCE\140330 NCI.S
 Comment:
 Operator:
 Data Path: C:\MSDCHEM\1\DATA\140402 NCI\
 Method Path: C:\MSDCHEM\1\METHODS\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	106	PYR1000Pre		
	Datafile		PYR1000Pre		
	Method		NCI		
2)	Sample	101	PYR25	NCI	PYR25
3)	Sample	102	PYR50	NCI	PYR50
4)	Sample	103	PYR100	NCI	PYR100
5)	Sample	104	PYR250	NCI	PYR250
6)	Sample	105	PYR500	NCI	PYR500
7)	Sample	106	PYR1000	NCI	PYR1000
8)	Sample	131	PYR_SPEX500I CV		
	Datafile		PYR_SPEX500I CV		
	Method		NCI		
9)	Sample	111	TRAL0500I CV		
	Datafile		TRAL0500I CV		
	Method		NCI		
10)	Sample	121	PBDE+49_10		
	Datafile		PBDE+49_10		
	Method		NCI		
11)	Sample	122	PBDE+49_25		
	Datafile		PBDE+49_25		
	Method		NCI		
12)	Sample	123	PBDE+49_50		
	Datafile		PBDE+49_50		
	Method		NCI		
13)	Sample	124	PBDE+49_75		
	Datafile		PBDE+49_75		
	Method		NCI		
14)	Sample	125	PBDE+49_100		
	Datafile		PBDE+49_100		
	Method		NCI		
15)	Sample	126	PBDE+49_200		
	Datafile		PBDE+49_200		
	Method		NCI		
16)	Sample	91	FI P25	NCI	FI P25
17)	Sample	92	FI P50	NCI	FI P50
18)	Sample	93	FI P100	NCI	FI P100
19)	Sample	94	FI P250	NCI	FI P250
20)	Sample	95	FI P500	NCI	FI P500
21)	Sample	96	FI P1000	NCI	FI P1000
22)	Sample	1	B_5125	NCI	B_5125
23)	Sample	2	BS1_5125	NCI	BS1_5125
24)	Sample	3	BS2_5125	NCI	BS2_5125
25)	Sample	4	22079MS1	NCI	22079MS1
26)	Sample	5	22079MS2	NCI	22079MS2
27)	Sample	6	22088	NCI	22088
28)	Sample	7	22078	NCI	22078
29)	Sample	8	22079	NCI	22079
30)	Sample	9	22079R2	NCI	22079R2
31)	Sample	10	22080	NCI	22080
32)	Sample	11	22081	NCI	22081
33)	Sample	12	22082	NCI	22082
34)	Sample	13	22083	NCI	22083

2014 Apr 02 1456 Sequence Log . LOG

35)	Sample	105	PYR500CCV		
	Datafile		PYR500CCV		
	Method		NCI		
36)	Sample	95	FIP500CCV		
	Datafile		FIP500CCV		
	Method		NCI		
37)	Sample	125	PBDE+49_100CCV		
	Datafile		PBDE+49_100CCV		
	Method		NCI		
38)	Sample	14	22084rr	NCI	22084
39)	Sample	15	22085	NCI	22085
40)	Sample	16	22086	NCI	22086
41)	Sample	17	22087	NCI	22087
42)	Sample	18	22100	NCI	22100
43)	Sample	19	22101	NCI	22101
44)	Sample	20	22102	NCI	22102
45)	Sample	21	22103	NCI	22103
46)	Sample	105	PYR500FCV		
	Datafile		PYR500FCV		
	Method		NCI		
47)	Sample	95	FIP500FCV		
	Datafile		FIP500FCV		
	Method		NCI		

Sequence completed Fri Apr 04 17: 28: 34 2014

C: \MSDCHEM\1\DATA\140402 NCI\2014 Apr 02 1456 Qual i ty Log. LOG
 C: \MSDCHEM\1\DATA\140402 NCI\2014 Apr 02 1456 Sequence Log . LOG

2014 Apr 09 1026 Sequence Log .LOG
 Starting sequence Tue Apr 08 18:10:17 2014

Instrument Name: GCMS1
 Sequence File: C:\MSDCHEM\1\SEQUENCE\Q2_140408 NCI PBDE 0-5125.S
 Comment:
 Operator:
 Data Path: C:\MSDCHEM\1\DATA\Q2_140408 NCI PBDE 0-5125_RR\
 Method Path: C:\MSDCHEM\1\METHODS\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	136	PBDE200A		
	Datafile		PBDE200A		
	Method		04082014_PBDE_NCI		
2)	Sample	136	PBDE200B		
	Datafile		PBDE200B		
	Method		04082014_PBDE_NCI		
3)	Sample	131	PBDE10		
	Datafile		PBDE10		
	Method		04082014_PBDE_NCI		
4)	Sample	132	PBDE25		
	Datafile		PBDE25		
	Method		04082014_PBDE_NCI		
5)	Sample	133	PBDE50		
	Datafile		PBDE50		
	Method		04082014_PBDE_NCI		
6)	Sample	134	PBDE75		
	Datafile		PBDE75		
	Method		04082014_PBDE_NCI		
7)	Sample	135	PBDE100		
	Datafile		PBDE100		
	Method		04082014_PBDE_NCI		
8)	Sample	136	PBDE200		
	Datafile		PBDE200		
	Method		04082014_PBDE_NCI		

Wed Apr 09 10:11:52 2014
 Fatal sequence error detected.
 GC Prerun Aborted

C:\MSDCHEM\1\DATA\Q2_140408 NCI PBDE 0-5125_RR\2014 Apr 08 1810 Quality
 Log.LOG
 C:\MSDCHEM\1\DATA\Q2_140408 NCI PBDE 0-5125_RR\2014 Apr 08 1810 Sequence Log
 .LOG

Resuming sequence Wed Apr 09 10:23:20 2014

Instrument Name: GCMS1
 Sequence File: C:\msdchem\1\sequence\Q2_140408 NCI PBDE 0-5125.S
 Comment:
 Operator:
 Data Path: C:\MSDCHEM\1\DATA\Q2_140408 NCI PBDE 0-5125_RR\
 Method Path: C:\MSDCHEM\1\METHODS\

Line	Type	Vial	DataFile	Method	Sample Name
------	------	------	----------	--------	-------------

Wed Apr 09 10:23:45 2014
 Fatal sequence error detected.
 GC Prerun Aborted

2014 Apr 09 1026 Sequence Log .LOG

C:\MSDCHEM\1\DATA\Q2_140408 NCI PBDE 0-5125_RR\2014 Apr 09 1023 Quality
Log.LOG

C:\MSDCHEM\1\DATA\Q2_140408 NCI PBDE 0-5125_RR\2014 Apr 09 1023 Sequence Log
.LOG

Resumi ng sequence Wed Apr 09 10:26:19 2014

Instrument Name: GCMS1

Sequence File: C:\msdchem\1\sequence\Q2_140408 NCI PBDE 0-5125.S

Comment:

Operator:

Data Path: C:\MSDCHEM\1\DATA\Q2_140408 NCI PBDE 0-5125_RR\

Method Path: C:\MSDCHEM\1\METHODS\

Line	Type	Vial	DataFile	Method	Sample Name
------	------	------	----------	--------	-------------

11)	Sample	1	B_5125RR		
	Datafile		B_5125RR		
	Method		04082014_PBDE_NCI		
12)	Sample	2	BS1_5125		
	Datafile		BS1_5125		
	Method		04082014_PBDE_NCI		
13)	Sample	3	BS2_5125		
	Datafile		BS2_5125		
	Method		04082014_PBDE_NCI		
14)	Sample	4	22079MS1		
	Datafile		22079MS1		
	Method		04082014_PBDE_NCI		
15)	Sample	5	22079MS2		
	Datafile		22079MS2		
	Method		04082014_PBDE_NCI		
16)	Sample	6	22088		
	Datafile		22088		
	Method		04082014_PBDE_NCI		
17)	Sample	7	22078		
	Datafile		22078		
	Method		04082014_PBDE_NCI		
18)	Sample	8	22079		
	Datafile		22079		
	Method		04082014_PBDE_NCI		
19)	Sample	9	22079R2		
	Datafile		22079R2		
	Method		04082014_PBDE_NCI		
20)	Sample	10	22080		
	Datafile		22080		
	Method		04082014_PBDE_NCI		
21)	Sample	11	22081		
	Datafile		22081		
	Method		04082014_PBDE_NCI		
22)	Sample	12	22082		
	Datafile		22082		
	Method		04082014_PBDE_NCI		
23)	Sample	13	22083		
	Datafile		22083		
	Method		04082014_PBDE_NCI		
24)	Sample	135	PBDE100CCV		
	Datafile		PBDE100CCV		
	Method		04082014_PBDE_NCI		
25)	Sample	14	22084		
	Datafile		22084		
	Method		04082014_PBDE_NCI		

2014 Apr 09 1026 Sequence Log .LOG

26) Sample	15	22085
Datafile		22085
Method		04082014_PBDE_NCI
27) Sample	16	22086
Datafile		22086
Method		04082014_PBDE_NCI
28) Sample	17	22087
Datafile		22087
Method		04082014_PBDE_NCI
29) Sample	18	22100
Datafile		22100
Method		04082014_PBDE_NCI
30) Sample	19	22101
Datafile		22101
Method		04082014_PBDE_NCI
31) Sample	20	22102
Datafile		22102
Method		04082014_PBDE_NCI
32) Sample	21	22103
Datafile		22103
Method		04082014_PBDE_NCI
33) Sample	135	PBDE100FCV
Datafile		PBDE100FCV
Method		04082014_PBDE_NCI

Sequence completed Thu Apr 10 04:22:16 2014

C:\MSDCHEM\1\DATA\Q2_140408 NCI PBDE 0-5125_RR\2014 Apr 09 1026 Quality
 Log.LOG
 C:\MSDCHEM\1\DATA\Q2_140408 NCI PBDE 0-5125_RR\2014 Apr 09 1026 Sequence Log
 .LOG

2013 Nov 04 1120 Sequence Log .LOG
Starting sequence Mon Nov 04 09:38:05 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MassHunter\GCMS\1\sequence\131104 NCI . sequence. xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131104 NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX	HEX_NCI	HEX
2)	Sample	131	TOX1000	PYR_NCI	TOX1000

Mon Nov 04 11:15:48 2013
Fatal sequence error detected.
There was no bottle in the gripper.

D:\MassHunter\GCMS\1\data\131104 NCI\2013 Nov 04 0938 Sequence Log .LOG

Resuming sequence Mon Nov 04 11:20:41 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MassHunter\GCMS\1\sequence\131104 NCI . sequence. xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131104 NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
4)	Sample	132	TOX2500	PYR_NCI	TOX2500
5)	Sample	133	TOX5000	PYR_NCI	TOX5000
6)	Sample	134	TOX7500	PYR_NCI	TOX7500
7)	Sample	135	TOX10000	PYR_NCI	TOX10000
8)	Sample	121	PYR25	PYR_NCI	PYR25
9)	Sample	122	PYR50	PYR_NCI	PYR50
10)	Sample	123	PYR100	PYR_NCI	PYR100
11)	Sample	124	PYR250	PYR_NCI	PYR250
12)	Sample	125	PYR500	PYR_NCI	PYR500
13)	Sample	126	PYR1000	PYR_NCI	PYR1000
14)	Sample	127	PYR_SPEX1000		
	Datafile		PYR_SPEX1000		
	Method		PYR_NCI		
15)	Sample	141	HEX_BLANK		
	Datafile		HEX_BLANK		
	Method		PYR_NCI		
16)	Sample	128	TRAL01000I CV		
	Datafile		TRAL01000I CV		
	Method		PYR_NCI		
17)	Sample	111	FIP25	PYR_NCI	FIP25
18)	Sample	112	FIP50	PYR_NCI	FIP50
19)	Sample	113	FIP100	PYR_NCI	FIP100
20)	Sample	114	FIP250	PYR_NCI	FIP250
21)	Sample	115	FIP500	PYR_NCI	FIP500
22)	Sample	116	FIP1000	PYR_NCI	FIP1000
23)	Sample	141	HEX2	HEX_NCI	HEX2
24)	Sample	1	B_5030	PYR_NCI	B_5030
25)	Sample	2	BS1_5030	PYR_NCI	BS1_5030
26)	Sample	3	BS2_5030	PYR_NCI	BS2_5030
27)	Sample	4	22078MS1	PYR_NCI	22078MS1
28)	Sample	5	22078MS2	PYR_NCI	22078MS2

2013 Nov 04 1120 Sequence Log .LOG

29) Sample	141	HEX3	HEX_NCI	HEX3
30) Sample	6	22088	PYR_NCI	22088
31) Sample	7	22078	PYR_NCI	22078
32) Sample	8	22078R2	PYR_NCI	22078R2
33) Sample	9	22079	PYR_NCI	22079
34) Sample	10	22080	PYR_NCI	22080
35) Sample	11	22081	PYR_NCI	22081
36) Sample	135	TOX1000CCV		
Datafile		TOX1000CCV		
Method		PYR_NCI		
37) Sample	126	PYR1000CCV		
Datafile		PYR1000CCV		
Method		PYR_NCI		
38) Sample	128	TRAL01000CCV		
Datafile		TRAL01000CCV		
Method		PYR_NCI		
39) Sample	116	FIP1000CCV		
Datafile		FIP1000CCV		
Method		PYR_NCI		
40) Sample	141	HEX4	HEX_NCI	HEX4
41) Sample	12	22082	PYR_NCI	22082
42) Sample	13	22083	PYR_NCI	22083
43) Sample	14	22084	PYR_NCI	22084
44) Sample	15	22085	PYR_NCI	22085
45) Sample	16	22086	PYR_NCI	22086
46) Sample	17	22087	PYR_NCI	22087
47) Sample	18	22100	PYR_NCI	22100
48) Sample	19	22101	PYR_NCI	22101
49) Sample	20	22102	PYR_NCI	22102
50) Sample	21	22103	PYR_NCI	22103
51) Sample	135	TOX1000FCV		
Datafile		TOX1000FCV		
Method		PYR_NCI		
52) Sample	126	PYR1000FCV		
Datafile		PYR1000FCV		
Method		PYR_NCI		
53) Sample	128	TRAL01000FCV		
Datafile		TRAL01000FCV		
Method		PYR_NCI		
54) Sample	116	FIP1000FCV		
Datafile		FIP1000FCV		
Method		PYR_NCI		

Sequence completed Wed Nov 06 15:57:20 2013

D:\MassHunter\GCMS\1\data\131104_NCI\2013 Nov 04 1120 Sequence Log .LOG

Fipronil & Degradates

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Initial Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : P:\Data, Organics Lab_Q2 Data Files\Q2_140402 NCI O-5125\
Method File : Q_FIP140402.M
Title : Fipronils
Last Update : Sat May 10 22:56:21 2014
Response Via : Initial Calibration

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Calibration Files

500 =FIP500.D 25 =FIP25.D 50 =FIP50.D 250 =FIP250.D 1000=FIP1000.D 100 =FIP100.D

Compound	500	25	50	250	1000	100	Avg	%RSD
----------	-----	----	----	-----	------	-----	-----	------

1) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
2)	Fipronil Desul...	3.607	2.501	2.496	2.983	4.281	2.603	3.078	23.57
3)	Fipronil Sulfide	5.058	3.472	3.584	4.277	5.867	3.673	4.322	22.24
4)	Fipronil	0.511	0.364	0.397	0.446	0.606	0.375	0.450	20.80
5)	Fipronil Sulfone	1.454	0.944	0.922	1.190	1.749	0.983	1.207	27.62

(#) = Out of Range

PHYSIS

Continuing Calibration Data

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Innovative Solutions for Nature

Data Path : P:\Data, Organics Lab_Q2 Data Files\Q2_140402 NCI O-5125\
 Data File : FIP500CCV.D
 Acq On : 4 Apr 2014 4:40 am
 Operator :
 Sample : FIP500CCV
 Misc :
 ALS Vial : 95 Sample Multiplier: 1

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Quant Time: May 10 23:08:55 2014
 Quant Method : C:\msdchem\1\DATA_Q2\Q2_140402 NCI O-5125\Q_FIP140402.M
 Quant Title : Fipronils
 QLast Update : Sat May 10 23:06:42 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	23.673	79	14141054	1000.00		0.00
Target Compounds						
2) Fipronil Desulfinyl	16.995	352	37213486	690.26		Qvalue 100
3) Fipronil Sulfide	18.836	384	51948081	693.03		100
4) Fipronil	19.086	366	4062242	557.02		100
5) Fipronil Sulfone	21.035	416	11646627	564.31		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : P:\Data, Organics Lab_Q2 Data Files\Q2_140402 NCI O-5125\
 Data File : FIP500FCV.D
 Acq On : 4 Apr 2014 4:30 pm
 Operator :
 Sample : FIP500FCV
 Misc :
 ALS Vial : 95 Sample Multiplier: 1

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Quant Time: May 10 23:09:09 2014
 Quant Method : C:\msdchem\1\DATA_Q2\Q2_140402 NCI O-5125\Q_FIP140402.M
 Quant Title : Fipronils
 QLast Update : Sat May 10 23:06:42 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	23.685	79	14115551	1000.00		0.02
Target Compounds						
2) Fipronil Desulfinyl	17.005	352	49260996	857.53		Qvalue 100
3) Fipronil Sulfide	18.847	384	67612741	854.61		100
4) Fipronil	19.099	366	4884305	647.64		100
5) Fipronil Sulfone	21.055	416	13762367	644.26		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	FIP500 CCV			FIP500 FCV		
	4/4/14 4:40 AM			4/4/14 4:30 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
Fipronil Desulfinyl	500	690	38	500	858	72
Fipronil Sulfide	500	693	39	500	855	71
Fipronil	500	557	11	500	648	30
Fipronil Sulfone	500	564	13	500	644	29
Average	-	-	25	-	-	50

PolyBrominated Diphenyl Ethers (PBDEs)

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Summary of Internal Standards

TERRA FACTORY AQUA AURA
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	2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time
B_5125	33971345	13.147
BS1_5125	21156921	13.148
BS2_5125	23488903	13.157
22079MS1	22094911	13.155
22079MS2	24601195	13.162
22088	45890768	13.214
22078	38127148	13.157
22079	42665093	13.148
22079R2	35655483	13.148
22080	44779816	13.148
22081	38834945	13.149
22082	40303676	13.148
22083	51614557	13.157
PBDE100CCV	26956844	13.139
22084	49246403	13.148
22085	56692582	13.155
22086	45107669	13.156
22087	45763212	13.149
22100	45388898	13.175
22101	47698181	13.171
22102	36254449	13.167
22103	40636277	13.161
PBDE100FCV	27884265	13.144

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Initial Calibration Data

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Method Path : C:\msdchem\1\DATA\Q2_140408 NCI PBDE O-5125_RR\
 Method File : Q_PBDE_NCI_140410.M
 Title : PBDE
 Last Update : Thu Apr 10 08:33:04 2014
 Response Via : Initial Calibration

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Calibration Files

10 =PBDE10.D 25 =PBDE25.D 50 =PBDE50.D 75 =PBDE75.D 100 =PBDE100.D 200 =PBDE200.D

Compound		10	25	50	75	100	200	Avg	%RSD

1) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
2) S	(FTBDE)	0.728	0.737	0.743	0.730	0.727	0.766	0.738	1.98
3) S	(DFTBDE)	0.607	0.601	0.645	0.604	0.575	0.634	0.611	4.08
4)	PBDE017	0.734	0.643	0.673	0.659	0.651	0.657	0.670	4.95
5)	PBDE028	0.807	0.724	0.733	0.722	0.698	0.740	0.737	5.02
6)	PBDE049	0.680	0.631	0.760	0.684	0.667	0.733	0.693	6.70
7)	PBDE071	0.672	0.623	0.642	0.562	0.585	0.616	0.617	6.36
8)	PBDE047	0.679	0.572	0.590	0.594	0.561	0.599	0.599	6.93
9)	PBDE066	0.985	0.727	0.684	0.658	0.616	0.659	0.722	18.61
10)	PBDE100	0.611	0.543	0.589	0.577	0.529	0.595	0.574	5.55
11)	PBDE099	0.652	0.512	0.581	0.540	0.510	0.553	0.558	9.54
12)	PBDE085	0.431	0.398	0.442	0.427	0.386	0.441	0.421	5.54
13)	PBDE154	0.566	0.512	0.562	0.521	0.496	0.576	0.539	6.23
14)	PBDE153	0.549	0.403	0.489	0.468	0.430	0.487	0.471	10.77
15)	PBDE138	0.409	0.357	0.433	0.391	0.350	0.420	0.393	8.63
16)	PBDE183	0.518	0.361	0.419	0.341	0.338	0.395	0.395	17.15
17)	PBDE190	0.172	0.149	0.164	0.153	0.143	0.163	0.157	6.97
18)	PBDE209	0.066	0.052	0.061	0.044	0.048	0.051	0.054	15.52

(#) = Out of Range

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Data Path : C:\msdchem\1\DATA\Q2_140408 NCI PBDE O-5125_RR\
 Data File : PBDE100CCV.D
 Acq On : 9 Apr 2014 8:40 pm
 Operator :
 Sample : PBDE100CCV
 Misc :
 ALS Vial : 135 Sample Multiplier: 1

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Quant Time: Apr 10 08:34:02 2014
 Quant Method : C:\msdchem\1\DATA\Q2_140408 NCI PBDE O-5125_RR\Q_PBDE_NCI_140410.M
 Quant Title : PBDE
 QLast Update : Thu Apr 10 08:33:04 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	13.139	79	26956844	1000.00	ng	0.00
System Monitoring Compounds						
2) (FTBDE)	12.022	81	921084	46.27	ng	0.00
3) (DFTBDE)	16.487	81	739538	44.89	ng	0.00
Target Compounds						Qvalue
4) PBDE017	12.402	81	1703921	96.25	ng	97
5) PBDE028	12.657	79	1939475m	98.41	ng	
6) PBDE049	14.255	81	1513378	78.27	ng	94
7) PBDE071	14.301	81	1711696	104.64	ng	98
8) PBDE047	14.566	81	1509904	94.72	ng	96
9) PBDE066	14.851	79	1614913	91.62	ng	100
10) PBDE100	16.167	81	1484513	94.76	ng	96
11) PBDE099	16.640	81	1422953	96.80	ng	# 95
12) PBDE085	17.396	81	1075336	92.85	ng	99
13) PBDE154	17.985	81	1395795	93.12	ng	96
14) PBDE153	18.660	81	1173964	91.74	ng	# 99
15) PBDE138	19.433	81	923322	84.54	ng	95
16) PBDE183	20.529	81	909448	88.52	ng	97
17) PBDE190	21.584	81	352100	82.44	ng	94
18) PBDE209	27.258	81	383129	282.65	ng	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q2_140408 NCI PBDE O-5125_RR\
 Data File : PBDE100FCV.D
 Acq On : 10 Apr 2014 3:42 am
 Operator :
 Sample : PBDE100FCV
 Misc :
 ALS Vial : 135 Sample Multiplier: 1

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Quant Time: Apr 10 08:34:55 2014
 Quant Method : C:\msdchem\1\DATA\Q2_140408 NCI PBDE O-5125_RR\Q_PBDE_NCI_140410.M
 Quant Title : PBDE
 QLast Update : Thu Apr 10 08:33:04 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	13.144	79	27884265	1000.00	ng	0.01
System Monitoring Compounds						
2) (FTBDE)	12.026	81	886924	43.07	ng	0.00
3) (DFTBDE)	16.499	81	687109	40.32	ng	0.01
Target Compounds						Qvalue
4) PBDE017	12.406	81	1773954	96.88	ng	98
5) PBDE028	12.657	79	1936027m	94.97	ng	
6) PBDE049	14.256	81	1528803m	76.44	ng	
7) PBDE071	14.307	81	1532606	90.58	ng	# 76
8) PBDE047	14.576	81	1435470	87.05	ng	99
9) PBDE066	14.858	79	1547336	84.87	ng	100
10) PBDE100	16.173	81	1381937	85.28	ng	# 94
11) PBDE099	16.648	81	1288483	84.74	ng	# 95
12) PBDE085	17.404	81	953204	79.56	ng	98
13) PBDE154	17.992	81	1190740	76.79	ng	99
14) PBDE153	18.672	81	1035492	78.22	ng	99
15) PBDE138	19.442	81	817956	72.40	ng	98
16) PBDE183	20.536	81	754448	70.99	ng	97
17) PBDE190	21.589	81	346081	78.33	ng	94
18) PBDE209	27.271	81	423647	302.14	ng	# 91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PBDE100 CCV			PBDE100 FCV		
	4/9/14 8:40 PM			4/10/14 3:42 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
FTBDE	50	46	7	50	43	14
DFTBDE	50	45	10	50	40	19
PBDE017	100	96	4	100	97	3
PBDE028	100	98	2	100	95	5
PBDE049	100	78	22	100	76	24
PBDE071	100	105	5	100	91	9
PBDE047	100	95	5	100	87	13
PBDE066	100	92	8	100	85	15
PBDE100	100	95	5	100	85	15
PBDE099	100	97	3	100	85	15
PBDE085	100	93	7	100	80	20
PBDE154	100	93	7	100	77	23
PBDE153	100	92	8	100	78	22
PBDE138	100	85	15	100	72	28
PBDE183	100	89	11	100	71	29
PBDE190	100	82	18	100	78	22
PBDE209	200	283	41	200	302	51
Average	-	-	11	-	-	19

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Summary of Internal Standards

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	2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time
PYR500ICV	13127382	23.666
B_5125	22487409	23.669
BS1_5125	27360610	23.67
BS2_5125	32323055	23.674
22079MS1	25610655	23.672
22079MS2	31540636	23.682
22088	24184019	23.734
22078	21136232	23.688
22079	19939474	23.679
22079R2	19672873	23.68
22080	21479922	23.679
22081	19348957	23.693
22082	17898724	23.685
22083	19394761	23.682
PYR500CCV	16889823	23.675
22084	23581533	23.683
22085	17903152	23.678
22086	7726488	23.679
22087	19541426	23.679
22100	15202701	23.697
22101	18459208	23.695
22102	16605529	23.7
22103	19858035	23.699
PBDE100FCV	17930828	23.687

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Initial Calibration Data

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Method Path : C:\msdchem\1\DATA\Q2_140402 NCI O-5125\
 Method File : Q2_PYR_140329.M
 Title : Pyrethroids
 Last Update : Mon May 12 13:14:10 2014
 Response Via : Initial Calibration

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Calibration Files

1000=PYR1000.D 500 =PYR500.D 250 =PYR250.D 100 =PYR100.D 50 =PYR50.D 25 =PYR25.D

Compound		1000	500	250	100	50	25	Avg	%RSD

1) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
2) S	(PCB112)-PYR	2.966	2.939	2.933	3.062	3.305	3.041		5.14
3) S	(PCB198)-PYR	0.798	0.795	0.787	0.787	0.824	0.798		1.90
4)	Allethrin	0.328	0.274	0.239	0.223	0.287	0.270		15.34
5)	Prallethrin	0.295	0.233	0.227	0.230	0.248	0.246		11.51
6)	Resmethrin	0.474	0.352	0.346	0.321	0.296	0.358		19.14
7)	Bifenthrin	0.194	0.162	0.156	0.167	0.184	0.173		9.30
8)	Danitol (Fenpr...	0.330	0.263	0.265	0.264	0.282	0.281		10.09
9)	L-Cyhalothrin	0.688	0.577	0.604	0.603	0.618	0.618		6.73
10)	Permethrin-cis	0.017	0.021	0.009	0.010		0.014		40.70
11)	Permethrin-trans	0.012	0.013	0.010	0.007	0.002	0.009		52.36
12)	Cyfluthrin-1	0.116	0.107	0.108	0.107	0.114	0.110		3.82
13)	Cyfluthrin-2	0.151	0.126	0.152	0.141	0.133	0.141		8.08
14)	Cyfluthrin-3	0.102	0.094	0.093	0.108	0.096	0.099		6.27
15)	Cyfluthrin-4	0.076	0.066	0.076	0.070	0.083	0.074		8.89
16)	Cypermethrin-1	0.089	0.081	0.087	0.091	0.085	0.087		4.28
17)	Cypermethrin-2	0.085	0.071	0.081	0.081	0.072	0.078		7.67
18)	Cypermethrin-3	0.093	0.076	0.085	0.083	0.072	0.082		9.78
19)	Cypermethrin-4	0.067	0.059	0.059	0.082	0.063	0.066		14.49
20)	Fenvalerate	0.855	0.726	0.743	0.745	0.702	0.754		7.83
21)	Esfenvalerate	0.975	0.808	0.811	0.757	0.726	0.815		11.78
22)	Fluvalinate	0.512	0.443	0.502	0.504	0.476	0.487		5.81
23)	Deltamethrin/T...	0.075	0.058	0.044	0.037	0.018	0.047		45.89

(#) = Out of Range

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Continuing Calibration Data

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Data Path : C:\msdchem\1\DATA\Q2_140402 NCI O-5125\
 Data File : PYR_SPEX500ICV.D
 Acq On : 2 Apr 2014 10:31 pm
 Operator :
 Sample : PYR_SPEX500ICV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Apr 22 14:07:26 2014
 Quant Method : C:\msdchem\1\DATA\Q2_140402 NCI O-5125\Q2_PYR_140329.M
 Quant Title : Pyrethroids
 QLast Update : Tue Apr 22 14:06:30 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	23.666	79	13127382	1000.00		0.00
System Monitoring Compounds						
2) (PCB112)-PYR	20.616	326	15201411	380.80		0.00
Spiked Amount 400.000			Recovery	=	95.20%	
3) (PCB198)-PYR	29.063	358	4054802	386.97		0.00
Spiked Amount 400.000			Recovery	=	96.74%	
Target Compounds						
					Qvalue	
4) Allethrin	19.029	167	2822039	683.72	#	100
5) Prallethrin	19.062	167	2421777	657.67	#	100
6) Resmethrin	19.423	167	3088692	528.83	#	100
7) Bifenthrin	26.123	386	1433336	584.77	#	100
8) Danitol (Fenpropathrin)	26.484	141	2404204	582.81	#	100
9) L-Cyhalothrin	28.845	241	2746188	315.48		96
10) Permethrin-cis	31.105	207	22269m	96.15		
11) Permethrin-trans	31.492	207	76239	474.50	#	100
12) Cyfluthrin-1	32.940	207	583022	390.56	#	100
13) Cyfluthrin-2	33.216	207	683825	356.13	#	100
14) Cyfluthrin-3	33.490	207	645440	491.56	#	100
15) Cyfluthrin-4	33.602	207	683957	701.33	#	100
16) Cypermethrin-1	33.963	207	585070	508.43	#	100
17) Cypermethrin-2	34.265	207	519598	481.23	#	100
18) Cypermethrin-3	34.538	207	585111	499.18	#	100
19) Cypermethrin-4	34.644	207	481842	562.73	#	100
20) Fenvalerate	37.076	211	6856304	632.53	#	99
21) Esfenvalerate	37.806	211	5981409	487.05	#	83
22) Fluvalinate	37.980	294	2926459	447.28	#	95
23) Deltamethrin/Tralomethrin	39.914	297	306969	332.38	#	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q2_140402 NCI O-5125\
 Data File : PYR500CCV.D
 Acq On : 4 Apr 2014 3:35 am
 Operator :
 Sample : PYR500CCV
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Apr 22 14:08:40 2014
 Quant Method : C:\msdchem\1\DATA\Q2_140402 NCI O-5125\Q2_PYR_140329.M
 Quant Title : Pyrethroids
 QLast Update : Tue Apr 22 14:06:30 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	23.675	79	16889823	1000.00		0.00
System Monitoring Compounds						
2) (PCB112)-PYR	20.624	326	19896674	387.39		0.00
Spiked Amount 400.000			Recovery	=	96.85%	
3) (PCB198)-PYR	29.073	358	4836722	358.76		0.00
Spiked Amount 400.000			Recovery	=	89.69%	
Target Compounds						
					Qvalue	
4) Allethrin	19.031	167	4073359	767.04	#	100
5) Prallethrin	19.066	167	4974329	1049.94	#	100
6) Resmethrin	19.429	167	5868585	780.96	#	100
7) Bifenthrin	26.127	386	2410529	764.36	#	100
8) Danitol (Fenpropathrin)	26.492	141	4451630	838.74	#	100
9) L-Cyhalothrin	28.850	241	8490332	758.08		97
10) Permethrin-cis	31.114	207	52979m	177.79		
11) Permethrin-trans	31.499	207	102319	494.96	#	100
12) Cyfluthrin-1	32.949	207	1282509	667.76	#	100
13) Cyfluthrin-2	33.225	207	1718683	695.68	#	100
14) Cyfluthrin-3	33.502	207	1089942	645.18	#	100
15) Cyfluthrin-4	33.615	207	814500	649.14	#	100
16) Cypermethrin-1	33.976	207	996847	673.29	#	100
17) Cypermethrin-2	34.274	207	889189	640.07	#	100
18) Cypermethrin-3	34.549	207	940289	623.50	#	100
19) Cypermethrin-4	34.656	207	723056	656.33	#	100
20) Fenvalerate	37.087	211	8988683	644.53	#	99
21) Esfenvalerate	37.820	211	10031847	634.90		89
22) Fluvalinate	37.991	294	5495702	652.85	#	93
23) Deltamethrin/Tralomethrin	39.932	297	565158	475.63	#	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q2_140402 NCI O-5125\
 Data File : PYR500FCV.D
 Acq On : 4 Apr 2014 3:25 pm
 Operator :
 Sample : PYR500FCV
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Apr 22 14:09:15 2014
 Quant Method : C:\msdchem\1\DATA\Q2_140402 NCI O-5125\Q2_PYR_140329.M
 Quant Title : Pyrethroids
 QLast Update : Tue Apr 22 14:06:30 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	23.687	79	17930828	1000.00		0.02
System Monitoring Compounds						
2) (PCB112)-PYR	20.633	326	21791259	399.64		0.01
Spiked Amount	400.000		Recovery	=	99.91%	
3) (PCB198)-PYR	29.088	358	4824895	337.11		0.02
Spiked Amount	400.000		Recovery	=	84.28%	
Target Compounds						
					Qvalue	
4) Allethrin	19.038	167	7612133	1350.20	#	100
5) Prallethrin	19.072	167	8582965	1706.44	#	100
6) Resmethrin	19.436	167	11432728	1433.08	#	100
7) Bifenthrin	26.140	386	3995470	1193.38	#	100
8) Danitol (Fenpropathrin)	26.505	141	7339851	1302.63	#	100
9) L-Cyhalothrin	28.864	241	12149399	1021.81		96
10) Permethrin-cis	31.129	207	99277	313.81	#	100
11) Permethrin-trans	31.515	207	141444	644.50	#	100
12) Cyfluthrin-1	32.964	207	1821972	893.56	#	100
13) Cyfluthrin-2	33.241	207	2426479	925.15	#	100
14) Cyfluthrin-3	33.517	207	1526563	851.17	#	100
15) Cyfluthrin-4	33.628	207	1157652	869.06	#	100
16) Cypermethrin-1	33.989	207	1459007	928.24	#	100
17) Cypermethrin-2	34.296	207	1310079	888.30	#	100
18) Cypermethrin-3	34.560	207	1395955	871.91	#	100
19) Cypermethrin-4	34.665	207	1027696	878.70	#	100
20) Fenvalerate	37.106	211	12810069	865.21	#	100
21) Esfenvalerate	37.842	211	14330344	854.29	#	87
22) Fluvalinate	38.008	294	7421880	830.48	#	94
23) Deltamethrin/Tralomethrin	39.952	297	701282	555.92	#	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PYR500 ICV			PYR500 CCV			PYR500 FCV		
	4/2/14 10:31 PM			4/4/14 3:35 AM			4/4/14 3:25 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PCB112	400	381	5	400	387	3	400	400	0
PCB198	400	387	3	400	359	10	400	337	16
Allethrin	500	684	37	500	767	53	500	1350	170
Prallethrin	500	658	32	500	1050	110	500	1706	241
Resmethrin	500	529	6	500	781	56	500	1433	187
Bifenthrin	500	585	17	500	764	53	500	1193	139
Danitol (Fenpropathrin)	500	583	17	500	839	68	500	1303	161
Cyhalothrin-lambda	500	315	37	500	758	52	500	1022	104
Permethrin-cis	134	96	28	134	178	33	134	314	135
Permethrin-trans	358	475	33	358	495	38	358	645	80
Cyfluthrin-1	500	391	22	500	668	34	500	894	79
Cyfluthrin-2	500	356	29	500	696	39	500	925	85
Cyfluthrin-3	500	492	2	500	645	29	500	851	70
Cyfluthrin-4	500	701	40	500	649	30	500	869	74
Cypermethrin-1	500	508	2	500	673	35	500	928	86
Cypermethrin-2	500	481	4	500	640	28	500	888	78
Cypermethrin-3	500	499	0	500	624	25	500	872	74
Cypermethrin-4	500	563	13	500	656	31	500	879	76
Fenvalerate	500	633	27	500	645	29	500	865	73
Esfenvalerate	500	487	3	500	635	27	500	854	71
Fluvalinate	500	447	11	500	653	31	500	830	66
Deltamethrin-Tralomethrin	500	332	34	500	476	5	500	556	11
Average	-	-	19	-	-	33	-	-	83

PHYSIS

Toxaphene

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	2,2',5,5' - Tetrabromobiphenyl	
	Response	Retention Time
B_5030.D	889435	24.3176
BS1_5030.D	1089487	24.3091
BS2_5030.D	1197213	24.3091
22078MS1.D	1330681	24.3260
22078MS2.D	1056197	24.3176
22088.D	1671507	24.5036
22078.D	897025	24.3260
22078R2.D	996633	24.3260
22079.D	958392	24.3176
22080.D	817355	24.3176
22081.D	1291743	24.3176
TOX10000CCV.D	145727	24.3091
22082.D	1216456	24.3091
22083.D	1220610	24.3091
22084.D	1078632	24.3007
22085.D	955434	24.3007
22086.D	1974980	24.3260
22087.D	945690	24.3007
22100.D	1067475	24.3091
22101.D	1181521	24.3007
22102.D	1498290	24.3176
22103.D	1239863	24.3091
TOX10000FCV.D	272995	24.3007

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Continuing Calibration Data

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	TOX10000 CCV			TOX10000 FCV		
	11/5/13 8:20 PM			11/6/13 11:47 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Toxaphene	10000	11528.3180	15.28	10000	6423.4238	35.77

May 30, 2014

Chris Stransky
AMEC
9210 Sky Park Court
Suite 200
San Diego, CA 92123-

Project Name: RHMP Bight '13
Physis Project ID: 1307002-010

Dear Chris,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 8/28/2013. A total of 10 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventionals
Percent Solids by SM 2540B
Ammonia as N by SM 4500-NH ₃ D
Acid Volatile Sulfides (AVS) by Plumb, 1981 and TERL
Elements
Trace Metals by EPA 6020
Trace Mercury by EPA 245.7
Total Phosphorus by EPA 6020
Simultaneously Extracted Metals Analysis (AVS-SEM) by EPA 200.8
Organics
Toxaphene w/ OCPs by EPA 8270C-NCI
Synthetic Pyrethroid Pesticides by EPA 8270C-NCI
Polynuclear Aromatic Hydrocarbons by EPA 8270C
PBDE Congeners by EPA 8270C-NCI
Organochlorine Pesticides & PCB Congeners/Aroclors by EPA 8270C
Fipronil & Degradates by EPA 8270C-NCI
Subcontract
Total Organic Carbon by SM 5310 B
Total Nitrogen by SM 4500-N

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.



Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

Misty Mercier
Extension 202
714-335-5918 cell
mistymercier@physislabs.com

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and are used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use was assessed through the analysis of procedural blanks at a minimum frequency of one per batch. Physis' QM requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the procedural blanks be flagged in the project sample results with a B qualifier.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS₁/MS₂, BS₁/BS₂, LCS₁/LCS₂, LCM₁/LCM₂, CRM₁/CRM₂, surrogate spikes and/or replicate project sample analysis (R₁/R₂) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

MATRIX SPIKES: MS samples were employed to assess the effect a particular project sample matrix has on the accuracy of a measurement. It is prepared by adding a known amount of the target analyte(s) to an aliquot of the project sample. Matrix spikes indicate the bias of analytical measurements due to chemical interferences inherent in the sample matrix. If the matrix spike recovery does not fall within the specified acceptance limits, it may be an indication of sample matrix interference in the specific project sample used for the MS. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

BLANK SPIKES: BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

CERTIFIED REFERENCE MATERIALS: CRMs are pre-homogenized materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of a preparation and analytical method. CRMs are analyzed to provide evidence that the laboratory method produces results that are comparable to those obtained by an independent organization.

SURROGATES: Where CRMs are unavailable, target analyte recovery can be assessed by monitoring added surrogate compounds/elements. A surrogate is a pure analyte unlikely to be found in any project sample and most often used with organic analytical procedures. Percent recovery is calculated for each surrogate and is used to monitor method performance within each discrete sample and is indicative of the procedure's ability to recover the actual analytes of interest.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's

concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes. Physis' QM requires that all samples analyzed beyond the method recommended holding time be flagged in the sample results with an H qualifier.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
*	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified recovery and/or RPD acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore MS recovery and/or RPD acceptance limits do not apply
SL	analyte results for R1 and/or R2 were lower than 10 times the MDL, therefore RPD acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore MS recovery and/or RPD were outside the specified acceptance limits
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples



CASE NARRATIVE

QUALIFIER NOTES

In addition to the use of analyte specific Physis Qualifier Codes where applicable, the following were also noted.

ELEMENTS CRM: Seven elements, Aluminum (Al), Antimony (Sb), Arsenic (As), Beryllium (Be), Chromium (Cr), Iron (Fe), and Nickel (Ni) were above the specified acceptance limits in one or more CRM - RTC 016-050 and/or CRM - ERA 540. This occurred as a result of a more rigorous digestion employed by Physis, which causes a higher yield for some lithogenous elements. These values are in agreement with past internal results for CRM - RTC 016-050 and CRM - ERA 540.

ORGANICS: Blank spikes (BS1/BS2) for Endosulfan-I, Endosulfan-II and Endrin Aldehyde fell outside of the acceptance range required by the associated project QAPP (70% – 130%), but passed PHYSIS' internal acceptance range for this analysis (50% - 150% for Endosulfan-I and Endosulfan-II, 0%-125% for Endrin Aldehyde).

ORGANICS TUNE: Physis uses the software supplied with its Agilent GCMS systems to tune its instruments. Moreover, with today's technology software algorithms provided by the instrument manufacturer provide a more stable system across a wider mass range than manual tuning to achieve specific tuning targets such as DFTPP. The following quote is from EPA Method 8270D Section 11.3.1.

“The analyst is always free to choose criteria that are tighter than those included in this method or to use other documented criteria provided they are used consistently throughout the initial calibration, calibration verification, and sample analyses.”

The key here is that the instrument is tuned and that those tune settings are used for the subsequent analysis of the calibration curve, calibration verification, and samples. Moreover, another key reason for tuning to specific criteria is to insure that the GCMS is generating spectra that match the spectra in the NIST Library for confirming the identification of the target analyte. Physis can provide library search results for our calibration standards indicating a very high match quality with the NIST library spectra.

Physis did analyze the DFTPP tune solution with each batch (except for the first batch where the tune solution was mis-injected) and the passing tune reports have been provided indicating that using the instrument tuning software is closely matched to DFTPP tune requirements.



ORGANICS CCVS: CCVs for Fipronils were done at 1000 ng, PBDEs were done at 200 ng, and Pyrethroids were done at 500 ng. These values are at the high point of the calibration. This was an error of the analyst that has since been corrected.

Revisions 6/20/2014-

- Aroclors:
 - Updated Aroclor MDLs/RLs from 10/20 to 1/2
 - Added Aroclor 1262 and Aroclor 1268
 - After review of the data, the Technical Director made a decision to revise the data for the Aroclors
- RPDs:
 - Reviewed and updated all RPDs to 25%, per the RHMP QAPP. Revised Passes to Fails and added QA Qualifiers, where needed due to update.
- Acceptance Ranges
 - Reviewed and updated all Acceptance ranges per the RHMP QAPP. Revised Passes to Fails and added QA Qualifier, where needed due to update.
- CRM (PCBs)
 - After review of the data, the Technical Director made a decision to revise the PCB data for the CRM.

Revisions 8/20/2014-

- Analytical Report:
 - Added Time Analyzed to all analysis.
 - Revised QC for Pyrethroids (Permethrin-cis/trans and Deltamethrin only)
- Level 3 reports:
 - Revised tune report.

Performance-Based Chemistry-

The chemistry results provided in this report are derived from “performance-based” chemistry rather than the use of specific EPA published laboratory methods. This does not eliminate our responsibility to use Good Laboratory Practices. It does allow for incorporation of improvements in technology or the use of laboratory preferences for techniques that improve the efficiency and sensitivity of the laboratory and maintain or enhance the quality of the data.

“The Environmental Protection Agency (EPA) is actively working to implement the President’s program for reinventing government and reforming regulatory policy. As part of this program, EPA has been working at breaking down barriers to using new monitoring techniques. One barrier is the requirement to use specific measurement methods or



technologies in complying with some of the Agency's regulations. EPA's Environmental Monitoring Management Council (EMMC), members of the regulated community, and Congress agree that EPA needs to change the way it specifies monitoring requirements in regulations and permits. There is broad acceptance for Agency-wide use of a nonprescriptive performance-based measurement system (PBMS)". PBMS conveys "what" needs to be accomplished, but not prescriptively "how" to do it. EPA defines PBMS as a set of processes wherein the data needs, mandates, or limitations of a program or project are specified, and serve as criteria for selecting appropriate methods to meet those needs in a cost-effective manner. The criteria may be published in regulations, technical guidance documents, permits, work plans, or enforcement orders. Under a performance-based approach, EPA would specify:

- Questions to be answered by monitoring.
- Decisions to be supported by the data.
- Level of uncertainty acceptable for making decisions.
- Documentation to be generated to support this approach in the RCRA monitoring program.

(Taken from OSWER PBMS Implementation Plan, October 9, 1998, A Cooperative Effort Among: OSW, OERR, OUST, TIO, FFROL and CEPPPO)."

The US EPA has included references to being "performance-based" in many of their newer methods. The use of performance-based methods is even more critical for programs like this study in order to allow the laboratory to adapt methods that optimize the goal of the project in terms of achieving ultra-low sensitivity and analysis of new chemicals of concern. I would also like to quote US EPA Method 8270-

"In addition, SW-846 methods, with the exception of required method use for the analysis of method-defined parameters, are intended to be guidance methods which contain general information on how to perform an analytical procedure or technique which a laboratory can use as a basic starting point for generating its own detailed Standard Operating Procedure (SOP), either for its own general use or for a specific project application."

Performance-based chemistry was first used for NOAA's National Status and Trends Program in the early 1980's which is now operated under the US EPA as the National Coastal Condition Assessment Program (NCCA). The NS&T program included 3 large well-established laboratories for the analysis of samples from each of 3 regions of the United States. It was concluded at the beginning of this program that a significant improvement in the quality and comparability of the results would be achieved by allowing the participating laboratories to optimize their own individual methods. The



key to this approach and any subsequent performance-based chemistry programs is the successful inclusion of an interlaboratory comparison as well as the clear detailed specification of data quality objectives (DQOs) for the project. All the Bight Survey projects from 1994 to 2013 have been performance-based and each of the surveys included interlaboratory comparisons as a key component for ensuring high quality data that is comparable between laboratories over time.

The one area that has not evolved along with the advent of performance-based chemistry is the data validation process. Today's data validation process still relies upon collecting and evaluating laboratory analytical information and comparing it to the details of a specific EPA analytical method such as EPA 8270 for GCMS analysis or EPA 6020 for ICPMS analysis. This can occur even when the requirement in the method is out-dated and based on old technology. Data validation procedures need to be adapted to performance-based chemistry allowing for any individual laboratory to use or not use any method or any part of a method they choose as long as they can demonstrate their ability to successfully pass interlaboratory comparisons, performance evaluation samples, and meet the data quality objectives of the project QA Plan.

EPA Method Modifications-

With reference to performance-based methods, the following information is provided as a basis of comparison between the Physis methods used for this study and the associated EPA Method. Its purpose is solely to provide information and is not intended to highlight errors. Physis has successfully participated in several interlaboratory comparison studies including the Bight 13 Project demonstrating the viability of our analytical process. Physis has included the QAQC data in this report necessary to show that the results comply with the project QA Plan and indicate acceptable accuracy and precision.

1. Internal Laboratory QAQC Frequency for GCMS Analyses- Physis uses GC columns that are longer and narrower and the GC oven is programmed at a very slow rate of 2.5°C per minute both of which are not typically used by most laboratories. The purpose for this is to maximize separation of the 100's to 1000's of compounds present in environmental samples reducing co-elution with interfering compounds, reducing background noise, and enhancing the accuracy of quantitation. At the same time this process extends the run-time for each sample to ca. 90 minutes as compared to the 15-30 minutes with typical conditions. At 90 minutes per run, the maximum number of runs for any 12-hour period is 8. Each batch of samples typically includes the DFTPP tune solution and the initial calibration verification of from 1 to 4 solutions (Depending on the target parameters) for a total of 2-5 runs leaving an opening for 3-6 samples before having to redo the QA samples if the 12-hour constraint is



applied. At this rate it's not economically viable to follow the 12-hour rule and complete the analyses of the samples.

Since the 12-hour criteria was established when the state-of-the-art was GCs equipped with packed columns and GCMS systems were not anywhere near as stable as the electronics of today. Physis does follow the criteria's intent by analyzing the calibration verification standards at the beginning, middle, and end of each batch of no more than 20 samples rather than every 12 hours.

2. Calibration and Quantitation- Physis bases its calibration curve on the mass of each compound rather than concentration. Using the internal standard method of quantitation, use of mass rather than concentration eliminates the extract or digestate volume term from the formula used to calculate concentrations in the samples. Therefore there is no need to measure the precise volume of the extract or digestate. For GCMS analysis, extract volumes can be quite low and small volume changes will be reflected in increased variation of the internal standard response from sample to sample due to differences in the extract volume and not due to the instability of the GCMS. Through long-term experience, Physis chemists are trained to take into consideration this change in volume when evaluating whether a change in the internal standard response is caused by a change in the GCMS sensitivity or extract volume.

The "recovery" of the Internal Standard and its variability is reported in Form VII SV-1 for reporting IS peak areas. For the sample IS compared to the ICV/CCV IS peak area, this form has a wide acceptance range at 50-200% which is considerably larger than the variation in the nominal estimate made of our extract volumes. Therefore significant deviations from expected IS responses are clearly obvious to the analyst and would require corrective action and re-analysis. The difficulty is the fact that Form VII SV-1 does not accommodate volumes and therefore does not allow for evaluation of the sample IS as it compares to the ICV/CCV on an even basis.

3. Negative Chemical Ionization- Some target analytes are analyzed using the GCMS in the Negative Chemical Ionization Mode (NCI). This results in non-standard mass spectra that cannot be compared to the EI spectra in the NIST library.
4. Aroclor PCBs- Physis analyzes PCBs using a congener-based calibration standard composed of 52 or more different congeners representing ca. 75-80% of the PCBs discharged into the environment. Physis uses the results from the congener analysis to estimate Aroclor



concentrations. To do this, Physis determines the Aroclor mixture present in the sample, sums the results for the congeners present in that Aroclor mixture then corrects the result to account for the missing mass based on a previous comparison of an Aroclor calibration standard to the congener mixture. Physis does not perform blank or matrix spikes using Aroclor mixtures since PCB spiking is done via the congener solution. Aroclor-based quantitation is inherently inaccurate and imprecise and results based on our process are as accurate if not more accurate than the Aroclor-based process since the quantitation is based on individual peaks rather than summing peaks.

5. Pyrethroid/Fipronil Surrogates- Physis spikes all samples with a surrogate solution containing TCMX, PCB030, PCB112, and PCB198 for the Chlorinated Pesticides, Congener PCBs, Pyrethroids, and Fipronils; d8-Naphthalene, d10-Acenaphthene, d10-Phenanthrene, d12-Chrysene, and d12-Perylene for the PAHs; and FBDE-3002, FBDE-5004, and FBDE-8001 for the PBDEs. Since Pyrethroids and Fipronils are quantified using NCI, only the PCB112 and PCB198 surrogates are used as surrogates for these compounds.
6. Sample Preservation - According to the Standard Operating Procedure for Sample Logistics, sediment and tissue samples were placed in a freezer maintained at $-20 \pm 4^{\circ}\text{C}$ until preserved or processed.

ANALYTICAL

REPORT

PHYSICS

TERRA **ENVIRONMENTAL** **LABORATORIES, INC.** **AURORA**

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CA ELAP #2769

Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22482-R1 B13-8013 Matrix: Sediment Sampled: 26-Aug-13 8:18 Received: 27-Aug-13 Method: EPA 8270C Batch ID: O-5136 Prepared: 22-Apr-14 Analyzed: 10-May-14 0:00						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	5	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	
Sample ID: 22483-R1 B13-8014 Matrix: Sediment Sampled: 26-Aug-13 9:44 Received: 27-Aug-13 Method: EPA 8270C Batch ID: O-5136 Prepared: 22-Apr-14 Analyzed: 10-May-14 0:00						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	2.9	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	
Sample ID: 22484-R1 B13-8028 Matrix: Sediment Sampled: 26-Aug-13 11:29 Received: 27-Aug-13 Method: EPA 8270C Batch ID: O-5136 Prepared: 22-Apr-14 Analyzed: 10-May-14 0:00						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	



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CA ELAP #2769

Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1260	NA	4.4	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22485-R1**B13-8030**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-5136

Sampled: 26-Aug-13 13:21

Prepared: 22-Apr-14

Received: 27-Aug-13

Analyzed: 10-May-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	2.3	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22486-R1**B13-8036**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-5136

Sampled: 26-Aug-13 14:28

Prepared: 22-Apr-14

Received: 27-Aug-13

Analyzed: 10-May-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	3	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22487-R1**B13-8038**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-5136

Sampled: 26-Aug-13 15:34

Prepared: 22-Apr-14

Received: 27-Aug-13

Analyzed: 10-May-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	



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CA ELAP #2769

Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	3.9	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22488-R1**B13-8040**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-5136

Sampled: 26-Aug-13 16:36

Prepared: 22-Apr-14

Received: 27-Aug-13

Analyzed: 11-May-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	5	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22489-R1**B13-8052**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-5136

Sampled: 27-Aug-13 8:19

Prepared: 22-Apr-14

Received: 27-Aug-13

Analyzed: 11-May-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	2.2	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22490-R1**B13-8060**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-5136

Sampled: 27-Aug-13 11:20

Prepared: 22-Apr-14

Received: 27-Aug-13

Analyzed: 11-May-14 0:00



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Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	3.9	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22491-R1**B13-8078****Matrix: Sediment****Sampled: 27-Aug-13 15:10****Received: 27-Aug-13**

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 11-May-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	5.9	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22482-R1 B13-8013 Matrix: Sediment Sampled: 26-Aug-13 8:18 Received: 27-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 09-Nov-13 19:52						
Toxaphene	NA	ND	0.1	0.2	ng/dry g	
Method: EPA 8270C Batch ID: O-5136 Prepared: 22-Apr-14 Analyzed: 10-May-14 0:00						
(PCB030)	NA	94			% Recovery	
(PCB112)	NA	95			% Recovery	
(PCB198)	NA	94			% Recovery	
(TCMX)	NA	93			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22483-R1

B13-8014

Matrix: Sediment

Sampled: 26-Aug-13 9:44

Received: 27-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 09-Nov-13 22:00

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5136	Prepared: 22-Apr-14	Analyzed: 10-May-14 1:38		
(PCB030)	NA	81			% Recovery	
(PCB112)	NA	91			% Recovery	
(PCB198)	NA	89			% Recovery	
(TCMX)	NA	84			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlorane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22484-R1**B13-8028****Matrix: Sediment****Sampled: 26-Aug-13 11:29****Received: 27-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 09-Nov-13 23:04

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C		Batch ID: O-5136		Prepared: 22-Apr-14	
(PCB030)	NA	84			% Recovery	Analyzed: 10-May-14 4:56
(PCB112)	NA	88			% Recovery	
(PCB198)	NA	91			% Recovery	
(TCMX)	NA	86			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22485-R1**B13-8030****Matrix: Sediment****Sampled: 26-Aug-13 13:21****Received: 27-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 10-Nov-13 0:08

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5136	Prepared: 22-Apr-14	Analyzed: 10-May-14 6:35		
(PCB030)	NA	78		% Recovery		
(PCB112)	NA	80		% Recovery		
(PCB198)	NA	78		% Recovery		
(TCMX)	NA	81		% Recovery		



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22486-R1 B13-8036 Matrix: Sediment Sampled: 26-Aug-13 14:28 Received: 27-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 10-Nov-13 1:12						
Toxaphene	NA	ND	0.1	0.2	ng/dry g	
Method: EPA 8270C Batch ID: O-5136 Prepared: 22-Apr-14 Analyzed: 10-May-14 13:34						
(PCB030)	NA	90			% Recovery	
(PCB112)	NA	88			% Recovery	
(PCB198)	NA	88			% Recovery	
(TCMX)	NA	91			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22487-R1**B13-8038****Matrix: Sediment****Sampled: 26-Aug-13 15:34****Received: 27-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 10-Nov-13 2:16

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5136	Prepared: 22-Apr-14	Analyzed: 10-May-14 15:13		
(PCB030)	NA	82			% Recovery	
(PCB112)	NA	93			% Recovery	
(PCB198)	NA	91			% Recovery	
(TCMX)	NA	85			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlorthane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22488-R1**B13-8040****Matrix: Sediment****Sampled: 26-Aug-13 16:36****Received: 27-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 10-Nov-13 7:02

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5136	Prepared: 22-Apr-14	Analyzed: 11-May-14 13:30		
(PCB030)	NA	101			% Recovery	
(PCB112)	NA	108			% Recovery	
(PCB198)	NA	103			% Recovery	
(TCMX)	NA	101			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	0.91	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	0.18	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	0.09	0.05	0.1	ng/dry g	J

Sample ID: 22489-R1**B13-8052****Matrix: Sediment****Sampled: 27-Aug-13 8:19****Received: 27-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 10-Nov-13 8:06

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5136	Prepared: 22-Apr-14	Analyzed: 11-May-14 15:08		
(PCB030)	NA	83		% Recovery		
(PCB112)	NA	92		% Recovery		
(PCB198)	NA	87		% Recovery		
(TCMX)	NA	85		% Recovery		



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22490-R1 B13-8060 Matrix: Sediment Sampled: 27-Aug-13 11:20 Received: 27-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 10-Nov-13 9:10						
Toxaphene	NA	ND	0.1	0.2	ng/dry g	
Method: EPA 8270C Batch ID: O-5136 Prepared: 22-Apr-14 Analyzed: 11-May-14 16:47						
(PCB030)	NA	89			% Recovery	
(PCB112)	NA	96			% Recovery	
(PCB198)	NA	90			% Recovery	
(TCMX)	NA	93			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22491-R1**B13-8078****Matrix: Sediment****Sampled: 27-Aug-13 15:10****Received: 27-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 10-Nov-13 10:13

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5136	Prepared: 22-Apr-14	Analyzed: 11-May-14 18:26		
(PCB030)	NA	81			% Recovery	
(PCB112)	NA	90			% Recovery	
(PCB198)	NA	84			% Recovery	
(TCMX)	NA	85			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlorthane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	



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Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22482-R1 B13-8013 Matrix: Sediment Sampled: 26-Aug-13 8:18 Received: 27-Aug-13 Method: SM 2540B Batch ID: C-14061 Prepared: 11-Oct-13 Analyzed: 11-Oct-13 0:00						
Percent Solids	NA	46.3	0.1	0.1	% Dry Weight	
Method: Plumb, 1981 and TER Batch ID: C-14062 Prepared: 11-Oct-13 Analyzed: 11-Oct-13 0:00						
Acid Volatile Sulfides	NA	102.27	0.05	0.1	mg/dry kg	
Method: SM 4500-NH ₃ D Batch ID: C-14064 Prepared: 14-Oct-13 Analyzed: 14-Oct-13 0:00						
Ammonia as N	NA	3.45	0.02	0.03	mg/dry kg	
Method: EPA 6020 Batch ID: E-6005 Prepared: 12-Oct-13 Analyzed: 21-Oct-13 13:05						
Total Phosphorus	NA	516.846	0.016	0.05	µg/dry g	
Sample ID: 22483-R1 B13-8014 Matrix: Sediment Sampled: 26-Aug-13 9:44 Received: 27-Aug-13 Method: SM 2540B Batch ID: C-14061 Prepared: 11-Oct-13 Analyzed: 11-Oct-13 0:00						
Percent Solids	NA	63.7	0.1	0.1	% Dry Weight	
Method: Plumb, 1981 and TER Batch ID: C-14062 Prepared: 11-Oct-13 Analyzed: 11-Oct-13 0:00						
Acid Volatile Sulfides	NA	76.61	0.05	0.1	mg/dry kg	
Method: SM 4500-NH ₃ D Batch ID: C-14064 Prepared: 14-Oct-13 Analyzed: 14-Oct-13 0:00						
Ammonia as N	NA	5	0.02	0.03	mg/dry kg	
Method: EPA 6020 Batch ID: E-6005 Prepared: 12-Oct-13 Analyzed: 21-Oct-13 13:14						
Total Phosphorus	NA	326.16	0.016	0.05	µg/dry g	
Sample ID: 22484-R1 B13-8028 Matrix: Sediment Sampled: 26-Aug-13 11:29 Received: 27-Aug-13 Method: SM 2540B Batch ID: C-14061 Prepared: 11-Oct-13 Analyzed: 11-Oct-13 0:00						
Percent Solids	NA	57.1	0.1	0.1	% Dry Weight	
Method: Plumb, 1981 and TER Batch ID: C-14062 Prepared: 11-Oct-13 Analyzed: 11-Oct-13 0:00						
Acid Volatile Sulfides	NA	15.81	0.05	0.1	mg/dry kg	
Method: SM 4500-NH ₃ D Batch ID: C-14064 Prepared: 14-Oct-13 Analyzed: 14-Oct-13 0:00						
Ammonia as N	NA	6.7	0.02	0.03	mg/dry kg	
Method: EPA 6020 Batch ID: E-6005 Prepared: 12-Oct-13 Analyzed: 21-Oct-13 13:19						
Total Phosphorus	NA	394.145	0.016	0.05	µg/dry g	
Sample ID: 22485-R1 B13-8030 Matrix: Sediment Sampled: 26-Aug-13 13:21 Received: 27-Aug-13 Method: SM 2540B Batch ID: C-14061 Prepared: 11-Oct-13 Analyzed: 11-Oct-13 0:00						
Percent Solids	NA	66.1	0.1	0.1	% Dry Weight	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Acid Volatile Sulfides	Method: Plumb, 1981 and TER	Batch ID: C-14062		Prepared: 11-Oct-13		Analyzed: 11-Oct-13 0:00
	NA	100.54	0.05	0.1	mg/dry kg	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14064		Prepared: 14-Oct-13		Analyzed: 14-Oct-13 0:00
	NA	4.01	0.02	0.03	mg/dry kg	
Total Phosphorus	Method: EPA 6020	Batch ID: E-6005		Prepared: 12-Oct-13		Analyzed: 21-Oct-13 13:24
	NA	298.365	0.016	0.05	µg/dry g	
Sample ID: 22486-R1		B13-8036	Matrix: Sediment	Sampled: 26-Aug-13 14:28	Received: 27-Aug-13	
		Method: SM 2540B	Batch ID: C-14061	Prepared: 11-Oct-13	Analyzed: 11-Oct-13 0:00	
Percent Solids	NA	60.4	0.1	0.1	% Dry Weight	
Acid Volatile Sulfides	Method: Plumb, 1981 and TER	Batch ID: C-14062		Prepared: 11-Oct-13		Analyzed: 11-Oct-13 0:00
	NA	129.14	0.05	0.1	mg/dry kg	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14064		Prepared: 14-Oct-13		Analyzed: 14-Oct-13 0:00
	NA	4.05	0.02	0.03	mg/dry kg	
Total Phosphorus	Method: EPA 6020	Batch ID: E-6005		Prepared: 12-Oct-13		Analyzed: 21-Oct-13 13:28
	NA	350.836	0.016	0.05	µg/dry g	
Sample ID: 22487-R1		B13-8038	Matrix: Sediment	Sampled: 26-Aug-13 15:34	Received: 27-Aug-13	
		Method: SM 2540B	Batch ID: C-14061	Prepared: 11-Oct-13	Analyzed: 11-Oct-13 0:00	
Percent Solids	NA	59.3	0.1	0.1	% Dry Weight	
Acid Volatile Sulfides	Method: Plumb, 1981 and TER	Batch ID: C-14062		Prepared: 11-Oct-13		Analyzed: 11-Oct-13 0:00
	NA	27.15	0.05	0.1	mg/dry kg	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14064		Prepared: 14-Oct-13		Analyzed: 14-Oct-13 0:00
	NA	8.71	0.02	0.03	mg/dry kg	
Total Phosphorus	Method: EPA 6020	Batch ID: E-6005		Prepared: 12-Oct-13		Analyzed: 21-Oct-13 13:33
	NA	410.405	0.016	0.05	µg/dry g	
Sample ID: 22488-R1		B13-8040	Matrix: Sediment	Sampled: 26-Aug-13 16:36	Received: 27-Aug-13	
		Method: SM 2540B	Batch ID: C-14061	Prepared: 11-Oct-13	Analyzed: 11-Oct-13 0:00	
Percent Solids	NA	43.3	0.1	0.1	% Dry Weight	
Acid Volatile Sulfides	Method: Plumb, 1981 and TER	Batch ID: C-14062		Prepared: 11-Oct-13		Analyzed: 11-Oct-13 0:00
	NA	106.57	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14064		Prepared: 14-Oct-13		Analyzed: 14-Oct-13 0:00



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Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Ammonia as N	NA	8.44	0.02	0.03	mg/dry kg	
	Method: EPA 6020	Batch ID: E-6005		Prepared: 12-Oct-13		Analyzed: 21-Oct-13 13:38
Total Phosphorus	NA	607.314	0.016	0.05	µg/dry g	
Sample ID: 22489-R1	B13-8052	Matrix: Sediment	Sampled: 27-Aug-13 8:19	Received: 27-Aug-13		
	Method: SM 2540B	Batch ID: C-14061	Prepared: 11-Oct-13	Analyzed: 11-Oct-13 0:00		
Percent Solids	NA	60.8	0.1	0.1	% Dry Weight	
	Method: Plumb, 1981 and TER	Batch ID: C-14062	Prepared: 11-Oct-13	Analyzed: 11-Oct-13 0:00		
Acid Volatile Sulfides	NA	17.06	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14064	Prepared: 14-Oct-13	Analyzed: 14-Oct-13 0:00		
Ammonia as N	NA	5.14	0.02	0.03	mg/dry kg	
	Method: EPA 6020	Batch ID: E-6005	Prepared: 12-Oct-13	Analyzed: 21-Oct-13 13:42		
Total Phosphorus	NA	380.79	0.016	0.05	µg/dry g	
Sample ID: 22490-R1	B13-8060	Matrix: Sediment	Sampled: 27-Aug-13 11:20	Received: 27-Aug-13		
	Method: SM 2540B	Batch ID: C-14061	Prepared: 11-Oct-13	Analyzed: 11-Oct-13 0:00		
Percent Solids	NA	59	0.1	0.1	% Dry Weight	
	Method: Plumb, 1981 and TER	Batch ID: C-14062	Prepared: 11-Oct-13	Analyzed: 11-Oct-13 0:00		
Acid Volatile Sulfides	NA	7.61	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14064	Prepared: 14-Oct-13	Analyzed: 14-Oct-13 0:00		
Ammonia as N	NA	5.52	0.02	0.03	mg/dry kg	
	Method: EPA 6020	Batch ID: E-6005	Prepared: 12-Oct-13	Analyzed: 21-Oct-13 13:47		
Total Phosphorus	NA	393.596	0.016	0.05	µg/dry g	
Sample ID: 22491-R1	B13-8078	Matrix: Sediment	Sampled: 27-Aug-13 15:10	Received: 27-Aug-13		
	Method: SM 2540B	Batch ID: C-14061	Prepared: 11-Oct-13	Analyzed: 11-Oct-13 0:00		
Percent Solids	NA	61.3	0.1	0.1	% Dry Weight	
	Method: Plumb, 1981 and TER	Batch ID: C-14062	Prepared: 11-Oct-13	Analyzed: 11-Oct-13 0:00		
Acid Volatile Sulfides	NA	4.68	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14064	Prepared: 14-Oct-13	Analyzed: 14-Oct-13 0:00		
Ammonia as N	NA	4.95	0.02	0.03	mg/dry kg	
	Method: EPA 6020	Batch ID: E-6005	Prepared: 12-Oct-13	Analyzed: 21-Oct-13 13:52		
Total Phosphorus	NA	400.053	0.016	0.05	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22482-R1 B13-8013 Matrix: Sediment Sampled: 26-Aug-13 8:18 Received: 27-Aug-13 Method: EPA 6020 Batch ID: E-6005 Prepared: 12-Oct-13 Analyzed: 22-Oct-13 16:09						
Aluminum (Al)	NA	34658	1	5	µg/dry g	
Antimony (Sb)	NA	0.323	0.025	0.05	µg/dry g	
Arsenic (As)	NA	6.964	0.025	0.05	µg/dry g	
Barium (Ba)	NA	82.098	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.677	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2007	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	52.583	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	208.9035	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	31582.8	1	5	µg/dry g	
Lead (Pb)	NA	24.505	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	15.54	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.348	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.73	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	288.301	0.025	0.05	µg/dry g	
Method: EPA 245.7 Batch ID: E-6037 Prepared: 22-Oct-13 Analyzed: 22-Oct-13 0:00						
Mercury (Hg)	NA	0.2015	0.00001	0.00002	µg/dry g	
Sample ID: 22483-R1 B13-8014 Matrix: Sediment Sampled: 26-Aug-13 9:44 Received: 27-Aug-13 Method: EPA 6020 Batch ID: E-6005 Prepared: 12-Oct-13 Analyzed: 22-Oct-13 16:18						
Aluminum (Al)	NA	15467.7	1	5	µg/dry g	
Antimony (Sb)	NA	0.169	0.025	0.05	µg/dry g	
Arsenic (As)	NA	2.89	0.025	0.05	µg/dry g	
Barium (Ba)	NA	46.432	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.272	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1639	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	20.464	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	45.3036	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	13610.7	1	5	µg/dry g	
Lead (Pb)	NA	6.8298	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	6.07	0.01	0.02	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Selenium (Se)	NA	0.099	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.22	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	92.238	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6037

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.0606	0.00001	0.00002	µg/dry g	
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Sample ID: 22484-R1**B13-8028****Matrix: Sediment****Sampled: 26-Aug-13 11:29****Received: 27-Aug-13**

Method: EPA 6020

Batch ID: E-6005

Prepared: 12-Oct-13

Analyzed: 22-Oct-13 16:23

Aluminum (Al)	NA	28892.6	1	5	µg/dry g	
Antimony (Sb)	NA	0.223	0.025	0.05	µg/dry g	
Arsenic (As)	NA	6.805	0.025	0.05	µg/dry g	
Barium (Ba)	NA	85.105	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.472	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.174	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	36.4554	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	79.2274	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	26887.9	1	5	µg/dry g	
Lead (Pb)	NA	16.2761	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	11.54	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.178	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.4	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	135.227	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6037

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.1376	0.00001	0.00002	µg/dry g	
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Sample ID: 22485-R1**B13-8030****Matrix: Sediment****Sampled: 26-Aug-13 13:21****Received: 27-Aug-13**

Method: EPA 6020

Batch ID: E-6005

Prepared: 12-Oct-13

Analyzed: 22-Oct-13 16:28

Aluminum (Al)	NA	22803	1	5	µg/dry g	
Antimony (Sb)	NA	0.162	0.025	0.05	µg/dry g	
Arsenic (As)	NA	5.467	0.025	0.05	µg/dry g	
Barium (Ba)	NA	80.297	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.371	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1548	0.0025	0.005	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Chromium (Cr)	NA	28.4997	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	51.7804	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	21535.3	1	5	µg/dry g	
Lead (Pb)	NA	11.2032	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	9.59	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.137	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.28	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	104.313	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6037

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.0834	0.00001	0.00002	µg/dry g	
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Sample ID: 22486-R1**B13-8036****Matrix: Sediment****Sampled: 26-Aug-13 14:28****Received: 27-Aug-13**

Method: EPA 6020

Batch ID: E-6005

Prepared: 12-Oct-13

Analyzed: 22-Oct-13 16:32

Aluminum (Al)	NA	26430	1	5	µg/dry g	
Antimony (Sb)	NA	0.248	0.025	0.05	µg/dry g	
Arsenic (As)	NA	6.157	0.025	0.05	µg/dry g	
Barium (Ba)	NA	101.64	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.434	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2073	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	32.859	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	68.303	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	25780.6	1	5	µg/dry g	
Lead (Pb)	NA	15.0564	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	10.92	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.264	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.35	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	127.642	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6037

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.1082	0.00001	0.00002	µg/dry g	
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Sample ID: 22487-R1**B13-8038****Matrix: Sediment****Sampled: 26-Aug-13 15:34****Received: 27-Aug-13**

Method: EPA 6020

Batch ID: E-6005

Prepared: 12-Oct-13

Analyzed: 22-Oct-13 16:37

Aluminum (Al)	NA	28703.9	1	5	µg/dry g	
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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Antimony (Sb)	NA	0.216	0.025	0.05	µg/dry g	
Arsenic (As)	NA	6.803	0.025	0.05	µg/dry g	
Barium (Ba)	NA	95.828	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.471	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2211	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	35.3803	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	67.0313	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	26914.7	1	5	µg/dry g	
Lead (Pb)	NA	15.4066	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	11.52	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.222	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.37	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	131.038	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6037

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.1079	0.00001	0.00002	µg/dry g	
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Sample ID: 22488-R1**B13-8040****Matrix: Sediment****Sampled: 26-Aug-13 16:36****Received: 27-Aug-13**

Method: EPA 6020

Batch ID: E-6005

Prepared: 12-Oct-13

Analyzed: 22-Oct-13 16:42

Aluminum (Al)	NA	50671.3	1	5	µg/dry g	
Antimony (Sb)	NA	0.5	0.025	0.05	µg/dry g	
Arsenic (As)	NA	9.656	0.025	0.05	µg/dry g	
Barium (Ba)	NA	133.066	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.907	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.4671	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	58.248	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	130.9296	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	44924.1	1	5	µg/dry g	
Lead (Pb)	NA	34.5076	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	20.13	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.416	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.67	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	259.016	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6037

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Mercury (Hg)	NA	0.1759	0.00001	0.00002	µg/dry g	
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Sample ID: 22489-R1**B13-8052**

Method: EPA 6020

Matrix: Sediment

Batch ID: E-6005

Sampled: 27-Aug-13 8:19

Prepared: 12-Oct-13

Received: 27-Aug-13

Analyzed: 22-Oct-13 16:47

Aluminum (Al)	NA	21562.2	1	5	µg/dry g	
Antimony (Sb)	NA	0.163	0.025	0.05	µg/dry g	
Arsenic (As)	NA	6.564	0.025	0.05	µg/dry g	
Barium (Ba)	NA	41.583	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.376	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1115	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	35.5908	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	60.4362	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	19660.9	1	5	µg/dry g	
Lead (Pb)	NA	21.5935	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	8.7	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.14	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.6	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	127.652	0.025	0.05	µg/dry g	

Method: EPA 245.7

Batch ID: E-6037

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.294	0.00001	0.00002	µg/dry g	
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Sample ID: 22490-R1**B13-8060**

Method: EPA 6020

Matrix: Sediment

Batch ID: E-6005

Sampled: 27-Aug-13 11:20

Prepared: 12-Oct-13

Received: 27-Aug-13

Analyzed: 22-Oct-13 16:51

Aluminum (Al)	NA	24385.4	1	5	µg/dry g	
Antimony (Sb)	NA	0.223	0.025	0.05	µg/dry g	
Arsenic (As)	NA	6.961	0.025	0.05	µg/dry g	
Barium (Ba)	NA	55.716	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.447	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1578	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	40.1687	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	63.2875	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	21220.2	1	5	µg/dry g	
Lead (Pb)	NA	22.5447	0.0025	0.005	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Nickel (Ni)	NA	10.05	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.148	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.68	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	132.858	0.025	0.05	µg/dry g	
Method: EPA 245.7		Batch ID: E-6037		Prepared: 22-Oct-13		Analyzed: 22-Oct-13 0:00
Mercury (Hg)	NA	0.3351	0.00001	0.00002	µg/dry g	
Sample ID: 22491-R1		B13-8078		Matrix: Sediment		Sampled: 27-Aug-13 15:10
Method: EPA 6020		Batch ID: E-6005		Prepared: 12-Oct-13		Received: 27-Aug-13
						Analyzed: 22-Oct-13 16:56
Aluminum (Al)	NA	21139.7	1	5	µg/dry g	
Antimony (Sb)	NA	0.22	0.025	0.05	µg/dry g	
Arsenic (As)	NA	6.463	0.025	0.05	µg/dry g	
Barium (Ba)	NA	56.132	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.386	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1071	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	35.9964	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	67.7183	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	20457.3	1	5	µg/dry g	
Lead (Pb)	NA	22.6802	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	9.26	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.157	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.52	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	121.376	0.025	0.05	µg/dry g	
Method: EPA 245.7		Batch ID: E-6037		Prepared: 22-Oct-13		Analyzed: 22-Oct-13 0:00
Mercury (Hg)	NA	0.2992	0.00001	0.00002	µg/dry g	



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22482-R1 B13-8013 Matrix: Sediment Sampled: 26-Aug-13 8:18 Received: 27-Aug-13 Method: EPA 200.8 Batch ID: E-6009 Prepared: 18-Oct-13 Analyzed: 18-Oct-13 16:29						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.0667	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.042	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.015	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	2.8211	0.0015	0.003	µmol/dry g	
Sample ID: 22483-R1 B13-8014 Matrix: Sediment Sampled: 26-Aug-13 9:44 Received: 27-Aug-13 Method: EPA 200.8 Batch ID: E-6009 Prepared: 18-Oct-13 Analyzed: 18-Oct-13 16:48						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.0089	0.0062	0.0124	µmol/dry g	J
Lead (Pb) - SEM	NA	0.015	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0062	0.0033	0.0066	µmol/dry g	J
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.8449	0.0015	0.003	µmol/dry g	
Sample ID: 22484-R1 B13-8028 Matrix: Sediment Sampled: 26-Aug-13 11:29 Received: 27-Aug-13 Method: EPA 200.8 Batch ID: E-6009 Prepared: 18-Oct-13 Analyzed: 18-Oct-13 16:53						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.2484	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0506	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0125	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.1103	0.0015	0.003	µmol/dry g	
Sample ID: 22485-R1 B13-8030 Matrix: Sediment Sampled: 26-Aug-13 13:21 Received: 27-Aug-13 Method: EPA 200.8 Batch ID: E-6009 Prepared: 18-Oct-13 Analyzed: 18-Oct-13 16:57						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	ND	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0248	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0048	0.0033	0.0066	µmol/dry g	J



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.8007	0.0015	0.003	µmol/dry g	

Sample ID: 22486-R1**B13-8036**

Method: EPA 200.8

Matrix: Sediment

Batch ID: E-6009

Sampled: 26-Aug-13 14:28

Prepared: 18-Oct-13

Received: 27-Aug-13

Analyzed: 18-Oct-13 17:02

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	ND	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.031	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0071	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.9917	0.0015	0.003	µmol/dry g	

Sample ID: 22487-R1**B13-8038**

Method: EPA 200.8

Matrix: Sediment

Batch ID: E-6009

Sampled: 26-Aug-13 15:34

Prepared: 18-Oct-13

Received: 27-Aug-13

Analyzed: 18-Oct-13 17:07

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.1568	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0479	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0115	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.1274	0.0015	0.003	µmol/dry g	

Sample ID: 22488-R1**B13-8040**

Method: EPA 200.8

Matrix: Sediment

Batch ID: E-6009

Sampled: 26-Aug-13 16:36

Prepared: 18-Oct-13

Received: 27-Aug-13

Analyzed: 18-Oct-13 17:12

Cadmium (Cd) - SEM	NA	0.0022	0.0018	0.0036	µmol/dry g	J
Copper (Cu) - SEM	NA	0.1355	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0971	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0195	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	2.3163	0.0015	0.003	µmol/dry g	

Sample ID: 22489-R1**B13-8052**

Method: EPA 200.8

Matrix: Sediment

Batch ID: E-6009

Sampled: 27-Aug-13 8:19

Prepared: 18-Oct-13

Received: 27-Aug-13

Analyzed: 18-Oct-13 17:16

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.2102	0.0062	0.0124	µmol/dry g	



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Lead (Pb) - SEM	NA	0.0674	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0118	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.2282	0.0015	0.003	µmol/dry g	

Sample ID: 22490-R1**B13-8060**

Method: EPA 200.8

Matrix: Sediment

Batch ID: E-6009

Sampled: 27-Aug-13 11:20

Prepared: 18-Oct-13

Received: 27-Aug-13

Analyzed: 18-Oct-13 17:21

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.2941	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0692	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0107	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.1682	0.0015	0.003	µmol/dry g	

Sample ID: 22491-R1**B13-8078**

Method: EPA 200.8

Matrix: Sediment

Batch ID: E-6009

Sampled: 27-Aug-13 15:10

Prepared: 18-Oct-13

Received: 27-Aug-13

Analyzed: 18-Oct-13 17:26

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.3143	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0704	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0102	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.0138	0.0015	0.003	µmol/dry g	



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CA ELAP #2769

Fipronil & Degradates**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22482-R1 B13-8013 Matrix: Sediment Sampled: 26-Aug-13 8:18 Received: 27-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 09-Nov-13 19:52						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22483-R1 B13-8014 Matrix: Sediment Sampled: 26-Aug-13 9:44 Received: 27-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 09-Nov-13 22:00						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22484-R1 B13-8028 Matrix: Sediment Sampled: 26-Aug-13 11:29 Received: 27-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 09-Nov-13 23:04						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22485-R1 B13-8030 Matrix: Sediment Sampled: 26-Aug-13 13:21 Received: 27-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 10-Nov-13 0:08						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22486-R1 B13-8036 Matrix: Sediment Sampled: 26-Aug-13 14:28 Received: 27-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 10-Nov-13 1:12						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	



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Fipronil & Degradates**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22487-R1 B13-8038 Matrix: Sediment Sampled: 26-Aug-13 15:34 Received: 27-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 10-Nov-13 2:16						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22488-R1 B13-8040 Matrix: Sediment Sampled: 26-Aug-13 16:36 Received: 27-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 10-Nov-13 7:02						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22489-R1 B13-8052 Matrix: Sediment Sampled: 27-Aug-13 8:19 Received: 27-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 10-Nov-13 8:06						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22490-R1 B13-8060 Matrix: Sediment Sampled: 27-Aug-13 11:20 Received: 27-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 10-Nov-13 9:10						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22491-R1 B13-8078 Matrix: Sediment Sampled: 27-Aug-13 15:10 Received: 27-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 10-Nov-13 10:13						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	



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Fipronil & Degradates**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22482-R1</div> <div>B13-8013</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5136</div> </div> <div> <div>Sampled: 26-Aug-13 8:18</div> <div>Prepared: 22-Apr-14</div> </div> <div> <div>Received: 27-Aug-13</div> <div>Analyzed: 10-May-14 0:00</div> </div>						
PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	0.17	0.05	0.1	ng/dry g	
PCB095	NA	0.51	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.28	0.05	0.1	ng/dry g	
PCB101	NA	0.59	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.26	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.09	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	0.79	0.05	0.1	ng/dry g	
PCB151	NA	0.14	0.05	0.1	ng/dry g	
PCB153	NA	1.43	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	1.31	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	0.24	0.05	0.1	ng/dry g	
PCB177	NA	0.13	0.05	0.1	ng/dry g	
PCB180	NA	0.49	0.05	0.1	ng/dry g	
PCB183	NA	0.21	0.05	0.1	ng/dry g	
PCB187	NA	0.44	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22483-R1

B13-8014

Matrix: Sediment

Sampled: 26-Aug-13 9:44

Received: 27-Aug-13

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 10-May-14 1:38

PCB003	NA	ND	0.05	0.1	ng/dry g	
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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	0.14	0.05	0.1	ng/dry g	
PCB095	NA	0.14	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.11	0.05	0.1	ng/dry g	
PCB101	NA	0.35	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.19	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	0.8	0.05	0.1	ng/dry g	
PCB141	NA	0.13	0.05	0.1	ng/dry g	
PCB149	NA	0.58	0.05	0.1	ng/dry g	
PCB151	NA	0.13	0.05	0.1	ng/dry g	
PCB153	NA	0.87	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.2	0.1	0.2	ng/dry g	
PCB169	NA	0.33	0.05	0.1	ng/dry g	
PCB170	NA	0.15	0.05	0.1	ng/dry g	
PCB174	NA	0.16	0.05	0.1	ng/dry g	
PCB177	NA	0.12	0.05	0.1	ng/dry g	
PCB180	NA	0.27	0.05	0.1	ng/dry g	
PCB183	NA	0.1	0.05	0.1	ng/dry g	
PCB187	NA	0.18	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22484-R1**B13-8028**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-5136

Sampled: 26-Aug-13 11:29

Prepared: 22-Apr-14

Received: 27-Aug-13

Analyzed: 10-May-14 4:56

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	0.23	0.05	0.1	ng/dry g	
PCB095	NA	0.34	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.19	0.05	0.1	ng/dry g	
PCB101	NA	0.54	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.35	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.19	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.11	0.05	0.1	ng/dry g	
PCB141	NA	0.28	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB149	NA	0.92	0.05	0.1	ng/dry g	
PCB151	NA	0.18	0.05	0.1	ng/dry g	
PCB153	NA	1.28	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.22	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.3	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	0.24	0.05	0.1	ng/dry g	
PCB177	NA	0.19	0.05	0.1	ng/dry g	
PCB180	NA	0.53	0.05	0.1	ng/dry g	
PCB183	NA	0.14	0.05	0.1	ng/dry g	
PCB187	NA	0.32	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22485-R1**B13-8030**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-5136

Sampled: 26-Aug-13 13:21

Prepared: 22-Apr-14

Received: 27-Aug-13

Analyzed: 10-May-14 6:35

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.22	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.12	0.05	0.1	ng/dry g	
PCB101	NA	0.36	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.16	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	0.52	0.05	0.1	ng/dry g	
PCB141	NA	0.14	0.05	0.1	ng/dry g	
PCB149	NA	0.48	0.05	0.1	ng/dry g	
PCB151	NA	0.13	0.05	0.1	ng/dry g	
PCB153	NA	0.58	0.05	0.1	ng/dry g	



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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.15	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.2	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	0.16	0.05	0.1	ng/dry g	
PCB174	NA	0.14	0.05	0.1	ng/dry g	
PCB177	NA	0.11	0.05	0.1	ng/dry g	
PCB180	NA	0.32	0.05	0.1	ng/dry g	
PCB183	NA	0.07	0.05	0.1	ng/dry g	J
PCB187	NA	0.16	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22486-R1**B13-8036****Matrix: Sediment****Sampled: 26-Aug-13 14:28****Received: 27-Aug-13**

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 10-May-14 13:34

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.41	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.16	0.05	0.1	ng/dry g	
PCB101	NA	0.44	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.21	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	0.74	0.05	0.1	ng/dry g	
PCB141	NA	0.16	0.05	0.1	ng/dry g	
PCB149	NA	0.55	0.05	0.1	ng/dry g	
PCB151	NA	0.12	0.05	0.1	ng/dry g	
PCB153	NA	0.78	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.09	0.05	0.1	ng/dry g	J



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	0.21	0.05	0.1	ng/dry g	
PCB174	NA	0.15	0.05	0.1	ng/dry g	
PCB177	NA	0.1	0.05	0.1	ng/dry g	
PCB180	NA	0.4	0.05	0.1	ng/dry g	
PCB183	NA	0.09	0.05	0.1	ng/dry g	J
PCB187	NA	0.21	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	0.16	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22487-R1**B13-8038****Matrix: Sediment****Sampled: 26-Aug-13 15:34****Received: 27-Aug-13**

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 10-May-14 15:13

PCB003	NA	ND	0.05	0.1	ng/dry g
PCB005	NA	ND	0.05	0.1	ng/dry g
PCB008	NA	ND	0.05	0.1	ng/dry g
PCB015	NA	ND	0.05	0.1	ng/dry g
PCB018	NA	ND	0.05	0.1	ng/dry g
PCB027	NA	ND	0.05	0.1	ng/dry g
PCB028	NA	ND	0.05	0.1	ng/dry g
PCB029	NA	ND	0.05	0.1	ng/dry g
PCB031	NA	ND	0.05	0.1	ng/dry g
PCB033	NA	ND	0.05	0.1	ng/dry g
PCB037	NA	ND	0.05	0.1	ng/dry g
PCB044	NA	ND	0.05	0.1	ng/dry g
PCB049	NA	ND	0.05	0.1	ng/dry g



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.26	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.09	0.05	0.1	ng/dry g	J
PCB101	NA	0.32	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.24	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.18	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.11	0.05	0.1	ng/dry g	
PCB141	NA	0.24	0.05	0.1	ng/dry g	
PCB149	NA	0.7	0.05	0.1	ng/dry g	
PCB151	NA	0.23	0.05	0.1	ng/dry g	
PCB153	NA	1.05	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.22	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.2	0.1	0.2	ng/dry g	
PCB169	NA	0.42	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB170	NA	0.3	0.05	0.1	ng/dry g	
PCB174	NA	0.21	0.05	0.1	ng/dry g	
PCB177	NA	0.14	0.05	0.1	ng/dry g	
PCB180	NA	0.4	0.05	0.1	ng/dry g	
PCB183	NA	0.12	0.05	0.1	ng/dry g	
PCB187	NA	0.24	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22488-R1**B13-8040****Matrix: Sediment****Sampled: 26-Aug-13 16:36****Received: 27-Aug-13**

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 11-May-14 13:30

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	0.22	0.05	0.1	ng/dry g	
PCB095	NA	0.38	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.22	0.05	0.1	ng/dry g	
PCB101	NA	0.56	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.37	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.48	0.05	0.1	ng/dry g	
PCB141	NA	0.28	0.05	0.1	ng/dry g	
PCB149	NA	0.99	0.05	0.1	ng/dry g	
PCB151	NA	0.26	0.05	0.1	ng/dry g	
PCB153	NA	1.16	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.22	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.3	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	0.33	0.05	0.1	ng/dry g	
PCB174	NA	0.32	0.05	0.1	ng/dry g	
PCB177	NA	0.19	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB180	NA	0.56	0.05	0.1	ng/dry g	
PCB183	NA	0.14	0.05	0.1	ng/dry g	
PCB187	NA	0.39	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	0.21	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22489-R1**B13-8052**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-5136

Sampled: 27-Aug-13 8:19

Prepared: 22-Apr-14

Received: 27-Aug-13

Analyzed: 11-May-14 15:08

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	0.18	0.05	0.1	ng/dry g	
PCB095	NA	0.14	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.09	0.05	0.1	ng/dry g	J
PCB101	NA	0.21	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.14	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	0.68	0.05	0.1	ng/dry g	
PCB141	NA	0.08	0.05	0.1	ng/dry g	J
PCB149	NA	0.39	0.05	0.1	ng/dry g	
PCB151	NA	0.14	0.05	0.1	ng/dry g	
PCB153	NA	0.45	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	0.21	0.05	0.1	ng/dry g	
PCB174	NA	0.12	0.05	0.1	ng/dry g	
PCB177	NA	0.06	0.05	0.1	ng/dry g	J
PCB180	NA	0.32	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	0.2	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	0.08	0.05	0.1	ng/dry g	J
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22490-R1**B13-8060**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-5136

Sampled: 27-Aug-13 11:20

Prepared: 22-Apr-14

Received: 27-Aug-13

Analyzed: 11-May-14 16:47

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	0.12	0.05	0.1	ng/dry g	
PCB095	NA	0.21	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.21	0.05	0.1	ng/dry g	
PCB101	NA	0.42	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.25	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	0.98	0.05	0.1	ng/dry g	
PCB141	NA	0.18	0.05	0.1	ng/dry g	
PCB149	NA	0.72	0.05	0.1	ng/dry g	
PCB151	NA	0.15	0.05	0.1	ng/dry g	
PCB153	NA	1.13	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.13	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.3	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	0.36	0.05	0.1	ng/dry g	
PCB174	NA	0.2	0.05	0.1	ng/dry g	
PCB177	NA	0.17	0.05	0.1	ng/dry g	
PCB180	NA	0.34	0.05	0.1	ng/dry g	
PCB183	NA	0.13	0.05	0.1	ng/dry g	
PCB187	NA	0.28	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	0.17	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	0.15	0.05	0.1	ng/dry g	
PCB203	NA	0.13	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22491-R1**B13-8078****Matrix: Sediment****Sampled: 27-Aug-13 15:10****Received: 27-Aug-13**

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 11-May-14 18:26

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	0.29	0.05	0.1	ng/dry g	
PCB095	NA	0.5	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.22	0.05	0.1	ng/dry g	
PCB101	NA	0.77	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.57	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.37	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	0.2	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.56	0.05	0.1	ng/dry g	
PCB141	NA	0.22	0.05	0.1	ng/dry g	
PCB149	NA	0.99	0.05	0.1	ng/dry g	
PCB151	NA	0.29	0.05	0.1	ng/dry g	
PCB153	NA	1.32	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.17	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.2	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	0.26	0.05	0.1	ng/dry g	
PCB174	NA	0.28	0.05	0.1	ng/dry g	
PCB177	NA	0.2	0.05	0.1	ng/dry g	
PCB180	NA	0.57	0.05	0.1	ng/dry g	
PCB183	NA	0.17	0.05	0.1	ng/dry g	
PCB187	NA	0.4	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	0.16	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	0.16	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22482-R1 B13-8013 Matrix: Sediment Sampled: 26-Aug-13 8:18 Received: 27-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 19-Nov-13 23:56						
(DFPBDE)	NA	70			% Recovery	
(FTBDE)	NA	93			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.05	0.05	0.1	ng/dry g	J
PBDE071	NA	0.24	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	0.07	0.05	0.1	ng/dry g	J
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22483-R1 B13-8014 Matrix: Sediment Sampled: 26-Aug-13 9:44 Received: 27-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 20-Nov-13 1:15						
(DFPBDE)	NA	69			% Recovery	
(FTBDE)	NA	105			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	0.33	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	0.45	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22484-R1

B13-8028

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5034

Sampled: 26-Aug-13 11:29

Prepared: 06-Nov-13

Received: 27-Aug-13

Analyzed: 20-Nov-13 1:54

(DFPBDE)	NA	71			% Recovery	
(FTBDE)	NA	106			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	0.06	0.05	0.1	ng/dry g	J
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22485-R1

B13-8030

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5034

Sampled: 26-Aug-13 13:21

Prepared: 06-Nov-13

Received: 27-Aug-13

Analyzed: 20-Nov-13 2:33

(DFPBDE)	NA	79			% Recovery	
(FTBDE)	NA	98			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22486-R1

B13-8036

Matrix: Sediment

Sampled: 26-Aug-13 14:28

Received: 27-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 20-Nov-13 5:02

(DFPBDE)	NA	71			% Recovery	
(FTBDE)	NA	99			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	13.82	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	0.08	0.05	0.1	ng/dry g	J
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	0.07	0.05	0.1	ng/dry g	J
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	



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PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22487-R1

B13-8038

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5034

Sampled: 26-Aug-13 15:34

Prepared: 06-Nov-13

Received: 27-Aug-13

Analyzed: 20-Nov-13 5:41

(DFPBDE)	NA	86			% Recovery	
(FTBDE)	NA	92			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.19	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	0.15	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22488-R1

B13-8040

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5034

Sampled: 26-Aug-13 16:36

Prepared: 06-Nov-13

Received: 27-Aug-13

Analyzed: 20-Nov-13 6:21

(DFPBDE)	NA	58			% Recovery	
(FTBDE)	NA	97			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.07	0.05	0.1	ng/dry g	J
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.06	0.05	0.1	ng/dry g	J
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22489-R1

B13-8052

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5034

Sampled: 27-Aug-13 8:19

Prepared: 06-Nov-13

Received: 27-Aug-13

Analyzed: 20-Nov-13 7:00

(DFPBDE)	NA	57			% Recovery	
(FTBDE)	NA	95			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.05	0.05	0.1	ng/dry g	J
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22490-R1

B13-8060

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5034

Sampled: 27-Aug-13 11:20

Prepared: 06-Nov-13

Received: 27-Aug-13

Analyzed: 20-Nov-13 7:39

(DFPBDE)	NA	63			% Recovery	
(FTBDE)	NA	96			% Recovery	



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PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	0.08	0.05	0.1	ng/dry g	J
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22491-R1

B13-8078

Matrix: Sediment

Sampled: 27-Aug-13 15:10

Received: 27-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 20-Nov-13 8:18

(DFPBDE)	NA	71			% Recovery	
(FTBDE)	NA	91			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	0.06	0.05	0.1	ng/dry g	J
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	



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PolyBrominated Diphenyl Ethers**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22482-R1</div> <div>B13-8013</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5136</div> </div> <div> <div>Sampled: 26-Aug-13 8:18</div> <div>Prepared: 22-Apr-14</div> </div> <div> <div>Received: 27-Aug-13</div> <div>Analyzed: 10-May-14 0:00</div> </div>						
(d10-Acenaphthene)	NA	64			% Recovery	
(d10-Phenanthrene)	NA	67			% Recovery	
(d12-Chrysene)	NA	77			% Recovery	
(d8-Naphthalene)	NA	64			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	2.6	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	1	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	2.1	1	5	ng/dry g	J
Benz[a]anthracene	NA	21.8	1	5	ng/dry g	
Benzo[a]pyrene	NA	36.4	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	41.4	1	5	ng/dry g	
Benzo[e]pyrene	NA	32.8	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	42.1	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	20.3	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	39.1	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	7	1	5	ng/dry g	
Dibenzothiophene	NA	1.8	1	5	ng/dry g	J
Fluoranthene	NA	67	1	5	ng/dry g	
Fluorene	NA	1.5	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	40.1	1	5	ng/dry g	
Naphthalene	NA	1.3	1	5	ng/dry g	J
Perylene	NA	8.5	1	5	ng/dry g	
Phenanthrene	NA	20.9	1	5	ng/dry g	
Pyrene	NA	61.3	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22483-R1 B13-8014 Matrix: Sediment Sampled: 26-Aug-13 9:44 Received: 27-Aug-13 Method: EPA 8270C Batch ID: O-5136 Prepared: 22-Apr-14 Analyzed: 10-May-14 1:38						
(d10-Acenaphthene)	NA	70			% Recovery	
(d10-Phenanthrene)	NA	68			% Recovery	
(d12-Chrysene)	NA	65			% Recovery	
(d8-Naphthalene)	NA	72			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	1.1	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	ND	1	5	ng/dry g	
Benz[a]anthracene	NA	ND	1	5	ng/dry g	
Benzo[a]pyrene	NA	1.7	1	5	ng/dry g	J
Benzo[b]fluoranthene	NA	2	1	5	ng/dry g	J
Benzo[e]pyrene	NA	2	1	5	ng/dry g	J
Benzo[g,h,i]perylene	NA	4.7	1	5	ng/dry g	J
Benzo[k]fluoranthene	NA	ND	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	1.9	1	5	ng/dry g	J
Dibenz[a,h]anthracene	NA	ND	1	5	ng/dry g	
Dibenzothiophene	NA	ND	1	5	ng/dry g	
Fluoranthene	NA	4.8	1	5	ng/dry g	J
Fluorene	NA	ND	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	4.1	1	5	ng/dry g	J
Naphthalene	NA	ND	1	5	ng/dry g	
Perylene	NA	ND	1	5	ng/dry g	
Phenanthrene	NA	5.9	1	5	ng/dry g	
Pyrene	NA	5.2	1	5	ng/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22484-R1</div> <div>B13-8028</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5136</div> </div> <div> <div>Sampled: 26-Aug-13 11:29</div> <div>Prepared: 22-Apr-14</div> </div> <div> <div>Received: 27-Aug-13</div> <div>Analyzed: 10-May-14 4:56</div> </div>						
(d10-Acenaphthene)	NA	66			% Recovery	
(d10-Phenanthrene)	NA	63			% Recovery	
(d12-Chrysene)	NA	79			% Recovery	
(d8-Naphthalene)	NA	71			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	1.7	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	1.1	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	2.3	1	5	ng/dry g	J
Anthracene	NA	4.4	1	5	ng/dry g	J
Benz[a]anthracene	NA	9	1	5	ng/dry g	
Benzo[a]pyrene	NA	17.4	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	18	1	5	ng/dry g	
Benzo[e]pyrene	NA	14.5	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	16	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	9.6	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	15.5	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	2.7	1	5	ng/dry g	J
Dibenzothiophene	NA	1.2	1	5	ng/dry g	J
Fluoranthene	NA	15	1	5	ng/dry g	
Fluorene	NA	1.5	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	13.9	1	5	ng/dry g	
Naphthalene	NA	1.2	1	5	ng/dry g	J
Perylene	NA	4.4	1	5	ng/dry g	J
Phenanthrene	NA	9.3	1	5	ng/dry g	
Pyrene	NA	17.1	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22485-R1</div> <div>B13-8030</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5136</div> </div> <div> <div>Sampled: 26-Aug-13 13:21</div> <div>Prepared: 22-Apr-14</div> </div> <div> <div>Received: 27-Aug-13</div> <div>Analyzed: 10-May-14 6:35</div> </div>						
(d10-Acenaphthene)	NA	67			% Recovery	
(d10-Phenanthrene)	NA	62			% Recovery	
(d12-Chrysene)	NA	68			% Recovery	
(d8-Naphthalene)	NA	69			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	1.6	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	1.4	1	5	ng/dry g	J
Anthracene	NA	2.7	1	5	ng/dry g	J
Benz[a]anthracene	NA	13.2	1	5	ng/dry g	
Benzo[a]pyrene	NA	21.1	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	34.6	1	5	ng/dry g	
Benzo[e]pyrene	NA	22.6	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	16	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	19	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	47.4	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	3.2	1	5	ng/dry g	J
Dibenzothiophene	NA	ND	1	5	ng/dry g	
Fluoranthene	NA	15.8	1	5	ng/dry g	
Fluorene	NA	1.1	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	17.1	1	5	ng/dry g	
Naphthalene	NA	1	1	5	ng/dry g	J
Perylene	NA	4.6	1	5	ng/dry g	J
Phenanthrene	NA	7.4	1	5	ng/dry g	
Pyrene	NA	21.1	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22486-R1 B13-8036 Matrix: Sediment Sampled: 26-Aug-13 14:28 Received: 27-Aug-13 Method: EPA 8270C Batch ID: O-5136 Prepared: 22-Apr-14 Analyzed: 10-May-14 13:34						
(d10-Acenaphthene)	NA	72			% Recovery	
(d10-Phenanthrene)	NA	69			% Recovery	
(d12-Chrysene)	NA	80			% Recovery	
(d8-Naphthalene)	NA	73			% Recovery	
1-Methylnaphthalene	NA	1.3	1	5	ng/dry g	J
1-Methylphenanthrene	NA	2.4	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	3.6	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	5.2	1	5	ng/dry g	
2-Methylnaphthalene	NA	2.5	1	5	ng/dry g	J
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	5.5	1	5	ng/dry g	
Anthracene	NA	10.5	1	5	ng/dry g	
Benz[a]anthracene	NA	12	1	5	ng/dry g	
Benzo[a]pyrene	NA	110.3	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	121.4	1	5	ng/dry g	
Benzo[e]pyrene	NA	81	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	41.6	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	50.7	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	24	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	10.7	1	5	ng/dry g	
Dibenzothiophene	NA	1.4	1	5	ng/dry g	J
Fluoranthene	NA	16.4	1	5	ng/dry g	
Fluorene	NA	2.6	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	46.7	1	5	ng/dry g	
Naphthalene	NA	1.7	1	5	ng/dry g	J
Perylene	NA	28.7	1	5	ng/dry g	
Phenanthrene	NA	12.1	1	5	ng/dry g	
Pyrene	NA	24.2	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div> Sample ID: 22487-R1 Method: EPA 8270C </div> <div> B13-8038 Matrix: Sediment Batch ID: O-5136 </div> <div> Sampled: 26-Aug-13 15:34 Prepared: 22-Apr-14 </div> <div> Received: 27-Aug-13 Analyzed: 10-May-14 15:13 </div> </div>						
(d10-Acenaphthene)	NA	60			% Recovery	
(d10-Phenanthrene)	NA	61			% Recovery	
(d12-Chrysene)	NA	75			% Recovery	
(d8-Naphthalene)	NA	64			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	1.7	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	1	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	1.5	1	5	ng/dry g	J
Anthracene	NA	4.4	1	5	ng/dry g	J
Benz[a]anthracene	NA	14.2	1	5	ng/dry g	
Benzo[a]pyrene	NA	15	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	15.7	1	5	ng/dry g	
Benzo[e]pyrene	NA	11.6	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	12.6	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	9	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	21.8	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	2.3	1	5	ng/dry g	J
Dibenzothiophene	NA	1.2	1	5	ng/dry g	J
Fluoranthene	NA	19.3	1	5	ng/dry g	
Fluorene	NA	1.6	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	11.3	1	5	ng/dry g	
Naphthalene	NA	1.3	1	5	ng/dry g	J
Perylene	NA	3.7	1	5	ng/dry g	J
Phenanthrene	NA	12.1	1	5	ng/dry g	
Pyrene	NA	19.2	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22488-R1</div> <div>B13-8040</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5136</div> </div> <div> <div>Sampled: 26-Aug-13 16:36</div> <div>Prepared: 22-Apr-14</div> </div> <div> <div>Received: 27-Aug-13</div> <div>Analyzed: 11-May-14 13:30</div> </div>						
(d10-Acenaphthene)	NA	74			% Recovery	
(d10-Phenanthrene)	NA	73			% Recovery	
(d12-Chrysene)	NA	85			% Recovery	
(d8-Naphthalene)	NA	71			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	2.7	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	1.4	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	1.2	1	5	ng/dry g	J
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	1.2	1	5	ng/dry g	J
Anthracene	NA	3.7	1	5	ng/dry g	J
Benz[a]anthracene	NA	11.6	1	5	ng/dry g	
Benzo[a]pyrene	NA	13.6	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	15.3	1	5	ng/dry g	
Benzo[e]pyrene	NA	12.5	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	15.3	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	8.4	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	31.6	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	2.5	1	5	ng/dry g	J
Dibenzothiophene	NA	2	1	5	ng/dry g	J
Fluoranthene	NA	21.2	1	5	ng/dry g	
Fluorene	NA	2.2	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	12.5	1	5	ng/dry g	
Naphthalene	NA	2.1	1	5	ng/dry g	J
Perylene	NA	3.5	1	5	ng/dry g	J
Phenanthrene	NA	16.5	1	5	ng/dry g	
Pyrene	NA	22.9	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22489-R1 B13-8052 Matrix: Sediment Sampled: 27-Aug-13 8:19 Received: 27-Aug-13 Method: EPA 8270C Batch ID: O-5136 Prepared: 22-Apr-14 Analyzed: 11-May-14 15:08						
(d10-Acenaphthene)	NA	64			% Recovery	
(d10-Phenanthrene)	NA	56			% Recovery	
(d12-Chrysene)	NA	77			% Recovery	
(d8-Naphthalene)	NA	69			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	1.5	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	ND	1	5	ng/dry g	
Benz[a]anthracene	NA	2.7	1	5	ng/dry g	J
Benzo[a]pyrene	NA	6	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	5.7	1	5	ng/dry g	
Benzo[e]pyrene	NA	5	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	7.5	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	2.7	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	4.4	1	5	ng/dry g	J
Dibenz[a,h]anthracene	NA	1.1	1	5	ng/dry g	J
Dibenzothiophene	NA	1	1	5	ng/dry g	J
Fluoranthene	NA	7.7	1	5	ng/dry g	
Fluorene	NA	ND	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	6.2	1	5	ng/dry g	
Naphthalene	NA	1.4	1	5	ng/dry g	J
Perylene	NA	1.3	1	5	ng/dry g	J
Phenanthrene	NA	6.6	1	5	ng/dry g	
Pyrene	NA	8.1	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22490-R1</div> <div>B13-8060</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5136</div> </div> <div> <div>Sampled: 27-Aug-13 11:20</div> <div>Prepared: 22-Apr-14</div> </div> <div> <div>Received: 27-Aug-13</div> <div>Analyzed: 11-May-14 16:47</div> </div>						
(d10-Acenaphthene)	NA	69			% Recovery	
(d10-Phenanthrene)	NA	63			% Recovery	
(d12-Chrysene)	NA	73			% Recovery	
(d8-Naphthalene)	NA	72			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	1.7	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	1.3	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	1.1	1	5	ng/dry g	J
Anthracene	NA	1.8	1	5	ng/dry g	J
Benz[a]anthracene	NA	6.2	1	5	ng/dry g	
Benzo[a]pyrene	NA	11.7	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	9.8	1	5	ng/dry g	
Benzo[e]pyrene	NA	9.1	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	14.7	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	4.9	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	8.4	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	2.2	1	5	ng/dry g	J
Dibenzothiophene	NA	1.4	1	5	ng/dry g	J
Fluoranthene	NA	12.5	1	5	ng/dry g	
Fluorene	NA	1.2	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	12.1	1	5	ng/dry g	
Naphthalene	NA	1.9	1	5	ng/dry g	J
Perylene	NA	2.5	1	5	ng/dry g	J
Phenanthrene	NA	9.2	1	5	ng/dry g	
Pyrene	NA	15.8	1	5	ng/dry g	



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div> Sample ID: 22491-R1 Method: EPA 8270C </div> <div> B13-8078 Batch ID: O-5136 </div> <div> Matrix: Sediment Prepared: 22-Apr-14 </div> <div> Sampled: 27-Aug-13 15:10 Received: 27-Aug-13 Analyzed: 11-May-14 18:26 </div> </div>						
(d10-Acenaphthene)	NA	62			% Recovery	
(d10-Phenanthrene)	NA	58			% Recovery	
(d12-Chrysene)	NA	68			% Recovery	
(d8-Naphthalene)	NA	64			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	2.8	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	1.2	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	1.3	1	5	ng/dry g	J
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	3.9	1	5	ng/dry g	J
Anthracene	NA	4.4	1	5	ng/dry g	J
Benz[a]anthracene	NA	19.7	1	5	ng/dry g	
Benzo[a]pyrene	NA	32.8	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	25.9	1	5	ng/dry g	
Benzo[e]pyrene	NA	23.4	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	32.8	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	14.1	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	27.2	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	6	1	5	ng/dry g	
Dibenzothiophene	NA	1.4	1	5	ng/dry g	J
Fluoranthene	NA	27.3	1	5	ng/dry g	
Fluorene	NA	1.3	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	28.6	1	5	ng/dry g	
Naphthalene	NA	2.4	1	5	ng/dry g	J
Perylene	NA	6.7	1	5	ng/dry g	
Phenanthrene	NA	12.3	1	5	ng/dry g	
Pyrene	NA	40.9	1	5	ng/dry g	



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CA ELAP #2769

Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Sample ID: 22482-R1

B13-8013

Matrix: Sediment

Sampled: 26-Aug-13 8:18

Received: 27-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 29-Apr-14 7:47

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	1.4	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	0.91	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22483-R1

B13-8014

Matrix: Sediment

Sampled: 26-Aug-13 9:44

Received: 27-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 29-Apr-14 8:52

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Resmethrin	NA	ND	0.25	0.5	ng/dry g	
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Sample ID: 22484-R1

B13-8028

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5136

Sampled: 26-Aug-13 11:29

Prepared: 22-Apr-14

Received: 27-Aug-13

Analyzed: 29-Apr-14 11:01

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22485-R1

B13-8030

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5136

Sampled: 26-Aug-13 13:21

Prepared: 22-Apr-14

Received: 27-Aug-13

Analyzed: 29-Apr-14 12:06

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22486-R1

B13-8036

Matrix: Sediment

Sampled: 26-Aug-13 14:28

Received: 27-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 29-Apr-14 13:11

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22487-R1

B13-8038

Matrix: Sediment

Sampled: 26-Aug-13 15:34

Received: 27-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 29-Apr-14 14:15

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22488-R1

B13-8040

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5136

Sampled: 26-Aug-13 16:36

Prepared: 22-Apr-14

Received: 27-Aug-13

Analyzed: 29-Apr-14 16:51

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22489-R1

B13-8052

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5136

Sampled: 27-Aug-13 8:19

Prepared: 22-Apr-14

Received: 27-Aug-13

Analyzed: 30-Apr-14 12:39

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22490-R1**B13-8060**

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5136

Sampled: 27-Aug-13 11:20

Prepared: 22-Apr-14

Received: 27-Aug-13

Analyzed: 30-Apr-14 13:44

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22491-R1**B13-8078**

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5136

Sampled: 27-Aug-13 15:10

Prepared: 22-Apr-14

Received: 27-Aug-13

Analyzed: 30-Apr-14 14:49

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

QUALITY CONTROL REPORT

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CA ELAP #2769

Aroclor PCBs**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22481-B1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 09-May-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g					
Aroclor 1221	NA	ND	1	2	ng/dry g					
Aroclor 1232	NA	ND	1	2	ng/dry g					
Aroclor 1242	NA	ND	1	2	ng/dry g					
Aroclor 1248	NA	ND	1	2	ng/dry g					
Aroclor 1254	NA	ND	1	2	ng/dry g					
Aroclor 1260	NA	ND	1	2	ng/dry g					
Aroclor 1262	NA	ND	1	2	ng/dry g					
Aroclor 1268	NA	ND	1	2	ng/dry g					

Sample ID: 22483-R2**B13-8014****Matrix: Sediment****Sampled: 26-Aug-13 9:44****Received: 27-Aug-13**

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 10-May-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g				0	25	PASS	
Aroclor 1221	NA	ND	1	2	ng/dry g				0	25	PASS	
Aroclor 1232	NA	ND	1	2	ng/dry g				0	25	PASS	
Aroclor 1242	NA	ND	1	2	ng/dry g				0	25	PASS	
Aroclor 1248	NA	ND	1	2	ng/dry g				0	25	PASS	
Aroclor 1254	NA	ND	1	2	ng/dry g				0	25	PASS	
Aroclor 1260	NA	2.2	1	2	ng/dry g				27	25	FAIL	SL
Aroclor 1262	NA	ND	1	2	ng/dry g				0	25	PASS	
Aroclor 1268	NA	ND	1	2	ng/dry g				0	25	PASS	



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CA ELAP #2769

Chlorinated Pesticides**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22481-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C-NCI		Batch ID: O-5034		Prepared: 06-Nov-13		Analyzed: 09-Nov-13 12:57		
Toxaphene	NA	ND	0.1	0.2	ng/dry g					
		Method: EPA 8270C		Batch ID: O-5136		Prepared: 22-Apr-14		Analyzed: 09-May-14 13:44		
(PCB030)	NA	105			% Recovery	100		105	50 - 150% PASS	
(PCB112)	NA	102			% Recovery	100		102	50 - 150% PASS	
(PCB198)	NA	104			% Recovery	100		104	50 - 150% PASS	
(TCMX)	NA	101			% Recovery	100		101	50 - 150% PASS	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g					
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g					
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g					
Aldrin	NA	ND	0.05	0.1	ng/dry g					
BHC-alpha	NA	ND	0.05	0.1	ng/dry g					
BHC-beta	NA	ND	0.05	0.1	ng/dry g					
BHC-delta	NA	ND	0.05	0.1	ng/dry g					
BHC-gamma	NA	ND	0.05	0.1	ng/dry g					
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g					
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g					
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g					
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g					
Dicofol	NA	ND	0.05	0.1	ng/dry g					
Dieldrin	NA	ND	0.05	0.1	ng/dry g					
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g					
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g					
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g					
Endrin	NA	ND	0.05	0.1	ng/dry g					
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g					



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Chlorinated Pesticides**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Endrin ketone	NA	ND	0.05	0.1	ng/dry g					
Heptachlor	NA	ND	0.05	0.1	ng/dry g					
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g					
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g					
Methoxychlor	NA	ND	0.05	0.1	ng/dry g					
Mirex	NA	ND	0.05	0.1	ng/dry g					
Oxychlorodane	NA	ND	0.05	0.1	ng/dry g					
Perthane	NA	ND	0.05	0.1	ng/dry g					
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 22481-BS1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 09-Nov-13 14:01

Toxaphene	NA	8799	0.1	0.2	ng/dry g	10000	0	88	70 - 130%	PASS
Method: EPA 8270C										
Batch ID: O-5136										
(PCB030)	NA	104			% Recovery	100	0	104	70 - 130%	PASS
(PCB112)	NA	101			% Recovery	100	0	101	70 - 130%	PASS
(PCB198)	NA	105			% Recovery	100	0	105	70 - 130%	PASS
(TCMX)	NA	101			% Recovery	100	0	101	70 - 130%	PASS
2,4'-DDD	NA	986.17	0.05	0.1	ng/dry g	1000	0	99	70 - 130%	PASS
2,4'-DDE	NA	888.08	0.05	0.1	ng/dry g	1000	0	89	70 - 130%	PASS
2,4'-DDT	NA	1214.34	0.05	0.1	ng/dry g	1000	0	121	70 - 130%	PASS
4,4'-DDD	NA	1065.48	0.05	0.1	ng/dry g	1000	0	107	70 - 130%	PASS
4,4'-DDE	NA	905.8	0.05	0.1	ng/dry g	1000	0	91	70 - 130%	PASS
4,4'-DDMU	NA	938.5	0.05	0.1	ng/dry g	1000	0	94	70 - 130%	PASS
4,4'-DDT	NA	1231.14	0.05	0.1	ng/dry g	1000	0	123	70 - 130%	PASS
Aldrin	NA	949.95	0.05	0.1	ng/dry g	1000	0	95	70 - 130%	PASS
BHC-alpha	NA	1025.55	0.05	0.1	ng/dry g	1000	0	103	70 - 130%	PASS
BHC-beta	NA	1117.09	0.05	0.1	ng/dry g	1000	0	112	70 - 130%	PASS
BHC-delta	NA	976.62	0.05	0.1	ng/dry g	1000	0	98	70 - 130%	PASS
BHC-gamma	NA	1104.62	0.05	0.1	ng/dry g	1000	0	110	70 - 130%	PASS
Chlordane-alpha	NA	954.34	0.05	0.1	ng/dry g	1000	0	95	70 - 130%	PASS
Chlordane-gamma	NA	995.13	0.05	0.1	ng/dry g	1000	0	100	70 - 130%	PASS

CA ELAP #2769

QUALITY CONTROL REPORT

Sample ID: 22481-BS2		QAQC Procedural Blank			Matrix: DI Water			Sampled:			Received:		
		Method: EPA 8270C-NCI			Batch ID: O-5034			Prepared: 06-Nov-13			Analyzed: 09-Nov-13 15:05		
Toxaphene	NA	9250	0.1	0.2	ng/dry g	10000	0	93	70 - 130%	PASS	5	25	PASS
		Method: EPA 8270C			Batch ID: O-5136			Prepared: 22-Apr-14			Analyzed: 09-May-14 17:01		
(PCB030)	NA	105			% Recovery	100	0	105	70 - 130%	PASS	1	25	PASS
(PCB112)	NA	102			% Recovery	100	0	102	70 - 130%	PASS	1	25	PASS
(PCB198)	NA	107			% Recovery	100	0	107	70 - 130%	PASS	2	25	PASS
(TCMX)	NA	102			% Recovery	100	0	102	70 - 130%	PASS	1	25	PASS
2,4'-DDD	NA	978.51	0.05	0.1	ng/dry g	1000	0	98	70 - 130%	PASS	1	25	PASS
2,4'-DDE	NA	879.91	0.05	0.1	ng/dry g	1000	0	88	70 - 130%	PASS	1	25	PASS
2,4'-DDT	NA	1197.64	0.05	0.1	ng/dry g	1000	0	120	70 - 130%	PASS	1	25	PASS
4,4'-DDD	NA	1060.48	0.05	0.1	ng/dry g	1000	0	106	70 - 130%	PASS	1	25	PASS
4,4'-DDE	NA	900.88	0.05	0.1	ng/dry g	1000	0	90	70 - 130%	PASS	1	25	PASS



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CA ELAP #2769

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
4,4'-DDMU	NA	932.26	0.05	0.1	ng/dry g	1000	0	93	70 - 130% PASS	1	25	PASS
4,4'-DDT	NA	1245.92	0.05	0.1	ng/dry g	1000	0	125	70 - 130% PASS	2	25	PASS
Aldrin	NA	949.89	0.05	0.1	ng/dry g	1000	0	95	70 - 130% PASS	0	25	PASS
BHC-alpha	NA	1028.01	0.05	0.1	ng/dry g	1000	0	103	70 - 130% PASS	0	25	PASS
BHC-beta	NA	1115.94	0.05	0.1	ng/dry g	1000	0	112	70 - 130% PASS	0	25	PASS
BHC-delta	NA	1048.49	0.05	0.1	ng/dry g	1000	0	105	70 - 130% PASS	7	25	PASS
BHC-gamma	NA	1126.67	0.05	0.1	ng/dry g	1000	0	113	70 - 130% PASS	3	25	PASS
Chlordane-alpha	NA	946.84	0.05	0.1	ng/dry g	1000	0	95	70 - 130% PASS	0	25	PASS
Chlordane-gamma	NA	989.98	0.05	0.1	ng/dry g	1000	0	99	70 - 130% PASS	1	25	PASS
cis-Nonachlor	NA	910.62	0.05	0.1	ng/dry g	1000	0	91	70 - 130% PASS	0	25	PASS
DCPA (Dacthal)	NA	1003.38	0.05	0.1	ng/dry g	1000	0	100	70 - 130% PASS	0	25	PASS
Dicofol	NA	1414.76	0.05	0.1	ng/dry g	1000	0	141	70 - 130% FAIL	23	25	PASS R
Dieldrin	NA	842.17	0.05	0.1	ng/dry g	1000	0	84	70 - 130% PASS	2	25	PASS
Endosulfan sulfate	NA	1001.98	0.05	0.1	ng/dry g	1000	0	100	70 - 130% PASS	5	25	PASS
Endosulfan-I	NA	511.83	0.05	0.1	ng/dry g	1000	0	51	70 - 130% FAIL	10	25	PASS *
Endosulfan-II	NA	661.57	0.05	0.1	ng/dry g	1000	0	66	70 - 130% FAIL	10	25	PASS *
Endrin	NA	1232.39	0.05	0.1	ng/dry g	1000	0	123	70 - 130% PASS	1	25	PASS
Endrin aldehyde	NA	259.86	0.05	0.1	ng/dry g	1000	0	26	70 - 130% FAIL	147	25	FAIL *
Endrin ketone	NA	1111.61	0.05	0.1	ng/dry g	1000	0	111	70 - 130% PASS	9	25	PASS
Heptachlor	NA	1243.44	0.05	0.1	ng/dry g	1000	0	124	70 - 130% PASS	0	25	PASS
Heptachlor epoxide	NA	1078.81	0.05	0.1	ng/dry g	1000	0	108	70 - 130% PASS	1	25	PASS
Hexachlorobenzene	NA	923.09	0.05	0.1	ng/dry g	1000	0	92	70 - 130% PASS	0	25	PASS
Methoxychlor	NA	1145	0.05	0.1	ng/dry g	1000	0	115	70 - 130% PASS	8	25	PASS
Mirex	NA	1027.35	0.05	0.1	ng/dry g	1000	0	103	70 - 130% PASS	5	25	PASS
Oxychlordane	NA	1097.5	0.05	0.1	ng/dry g	1000	0	110	70 - 130% PASS	10	25	PASS
Perthane	NA	1205.84	0.05	0.1	ng/dry g	1000	0	121	70 - 130% PASS	2	25	PASS
trans-Nonachlor	NA	966.18	0.05	0.1	ng/dry g	1000	0	97	70 - 130% PASS	0	25	PASS

Sample ID: 22482-MS1

B13-8013

Matrix: Sediment

Sampled: 26-Aug-13 8:18

Received: 27-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 09-Nov-13 16:09

Toxaphene	NA	1791.5	0.1	0.2	ng/dry g	1430	0	125	50 - 150% PASS			
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Chlorinated Pesticides**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Sample ID: 22482-MS2		B13-8013			Matrix: Sediment		Sampled: 26-Aug-13		8:18	
		Method: EPA 8270C-NCI			Batch ID: O-5034		Prepared: 06-Nov-13		Received: 27-Aug-13	
Toxaphene	NA	1297.5	0.1	0.2	ng/dry g	1406	0	92	50 - 150%	30 25 FAIL R
Sample ID: 22482-R2		B13-8013			Matrix: Sediment		Sampled: 26-Aug-13		8:18	
		Method: EPA 8270C-NCI			Batch ID: O-5034		Prepared: 06-Nov-13		Received: 27-Aug-13	
Toxaphene	NA	ND	0.1	0.2	ng/dry g				0 25 PASS	Analyzed: 09-Nov-13 17:13
Sample ID: 22483-MS1		B13-8014			Matrix: Sediment		Sampled: 26-Aug-13		9:44	
		Method: EPA 8270C			Batch ID: O-5136		Prepared: 22-Apr-14		Received: 27-Aug-13	
(PCB030)	NA	97			% Recovery	100	0	97	50 - 150%	Analyzed: 09-May-14 18:40
(PCB112)	NA	99			% Recovery	100	0	99	50 - 150%	
(PCB198)	NA	105			% Recovery	100	0	105	50 - 150%	
(TCMX)	NA	97			% Recovery	100	0	97	50 - 150%	
2,4'-DDD	NA	156.58	0.05	0.1	ng/dry g	154.2	0	102	50 - 150%	
2,4'-DDE	NA	140.68	0.05	0.1	ng/dry g	154.2	0	91	50 - 150%	
2,4'-DDT	NA	186.95	0.05	0.1	ng/dry g	154.2	0	121	25 - 125%	
4,4'-DDD	NA	166.87	0.05	0.1	ng/dry g	154.2	0	108	50 - 150%	
4,4'-DDE	NA	143.48	0.05	0.1	ng/dry g	154.2	0	93	50 - 150%	
4,4'-DDMU	NA	148.77	0.05	0.1	ng/dry g	154.2	0	96	50 - 150%	
4,4'-DDT	NA	190.22	0.05	0.1	ng/dry g	154.2	0	123	25 - 125%	
Aldrin	NA	148.8	0.05	0.1	ng/dry g	154.2	0	96	50 - 150%	
BHC-alpha	NA	160.79	0.05	0.1	ng/dry g	154.2	0	104	50 - 150%	
BHC-beta	NA	172.26	0.05	0.1	ng/dry g	154.2	0	112	50 - 150%	
BHC-delta	NA	159.84	0.05	0.1	ng/dry g	154.2	0	104	50 - 150%	
BHC-gamma	NA	175.23	0.05	0.1	ng/dry g	154.2	0	114	50 - 150%	
Chlordane-alpha	NA	149.39	0.05	0.1	ng/dry g	154.2	0	97	50 - 150%	
Chlordane-gamma	NA	157.4	0.05	0.1	ng/dry g	154.2	0	102	50 - 150%	
cis-Nonachlor	NA	141.46	0.05	0.1	ng/dry g	154.2	0	92	50 - 150%	
DCPA (Dacthal)	NA	156.34	0.05	0.1	ng/dry g	154.2	0	101	50 - 150%	
Dicofol	NA	186.36	0.05	0.1	ng/dry g	154.2	0	121	50 - 150%	



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Dieldrin	NA	131.62	0.05	0.1	ng/dry g	154.2	0	85	50 - 150%	PASS
Endosulfan sulfate	NA	150.32	0.05	0.1	ng/dry g	154.2	0	97	50 - 150%	PASS
Endosulfan-I	NA	73.96	0.05	0.1	ng/dry g	154.2	0	48	50 - 150%	FAIL
Endosulfan-II	NA	100.78	0.05	0.1	ng/dry g	154.2	0	65	50 - 150%	PASS
Endrin	NA	189.8	0.05	0.1	ng/dry g	154.2	0	123	25 - 125%	PASS
Endrin aldehyde	NA	14.75	0.05	0.1	ng/dry g	154.2	0	10	0 - 125%	PASS
Endrin ketone	NA	155.64	0.05	0.1	ng/dry g	154.2	0	101	25 - 125%	PASS
Heptachlor	NA	189.41	0.05	0.1	ng/dry g	154.2	0	123	50 - 150%	PASS
Heptachlor epoxide	NA	164.62	0.05	0.1	ng/dry g	154.2	0	107	50 - 150%	PASS
Hexachlorobenzene	NA	145.77	0.05	0.1	ng/dry g	154.2	0	95	50 - 150%	PASS
Methoxychlor	NA	196.06	0.05	0.1	ng/dry g	154.2	0	127	50 - 150%	PASS
Mirex	NA	150.26	0.05	0.1	ng/dry g	154.2	0	97	50 - 150%	PASS
Oxychlorane	NA	162.56	0.05	0.1	ng/dry g	154.2	0	105	50 - 150%	PASS
Perthane	NA	187.13	0.05	0.1	ng/dry g	154.2	0	121	50 - 150%	PASS
trans-Nonachlor	NA	152.73	0.05	0.1	ng/dry g	154.2	0	99	50 - 150%	PASS

Sample ID: 22483-MS2

B13-8014

Matrix: Sediment

Sampled: 26-Aug-13 9:44

Received: 27-Aug-13

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 09-May-14 20:18

(PCB030)	NA	100			% Recovery	100	0	100	50 - 150%	PASS	3	25	PASS
(PCB112)	NA	100			% Recovery	100	0	100	50 - 150%	PASS	1	25	PASS
(PCB198)	NA	111			% Recovery	100	0	111	50 - 150%	PASS	6	25	PASS
(TCMX)	NA	100			% Recovery	100	0	100	50 - 150%	PASS	3	25	PASS
2,4'-DDD	NA	162.12	0.05	0.1	ng/dry g	159.4	0	102	50 - 150%	PASS	0	25	PASS
2,4'-DDE	NA	146.8	0.05	0.1	ng/dry g	159.4	0	92	50 - 150%	PASS	1	25	PASS
2,4'-DDT	NA	198.35	0.05	0.1	ng/dry g	159.4	0	124	25 - 125%	PASS	2	25	PASS
4,4'-DDD	NA	173.67	0.05	0.1	ng/dry g	159.4	0	109	50 - 150%	PASS	1	25	PASS
4,4'-DDE	NA	149.62	0.05	0.1	ng/dry g	159.4	0	94	50 - 150%	PASS	1	25	PASS
4,4'-DDMU	NA	153.87	0.05	0.1	ng/dry g	159.4	0	97	50 - 150%	PASS	1	25	PASS
4,4'-DDT	NA	197.15	0.05	0.1	ng/dry g	159.4	0	124	25 - 125%	PASS	1	25	PASS
Aldrin	NA	155.42	0.05	0.1	ng/dry g	159.4	0	98	50 - 150%	PASS	2	25	PASS
BHC-alpha	NA	168.09	0.05	0.1	ng/dry g	159.4	0	105	50 - 150%	PASS	1	25	PASS
BHC-beta	NA	183.64	0.05	0.1	ng/dry g	159.4	0	115	50 - 150%	PASS	3	25	PASS



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
BHC-delta	NA	169.58	0.05	0.1	ng/dry g	159.4	0	106 50 - 150% PASS	2 25 PASS	
BHC-gamma	NA	182.53	0.05	0.1	ng/dry g	159.4	0	115 50 - 150% PASS	1 25 PASS	
Chlordane-alpha	NA	156.54	0.05	0.1	ng/dry g	159.4	0	98 50 - 150% PASS	1 25 PASS	
Chlordane-gamma	NA	162.57	0.05	0.1	ng/dry g	159.4	0	102 50 - 150% PASS	0 25 PASS	
cis-Nonachlor	NA	149.44	0.05	0.1	ng/dry g	159.4	0	94 50 - 150% PASS	2 25 PASS	
DCPA (Dacthal)	NA	164.5	0.05	0.1	ng/dry g	159.4	0	103 50 - 150% PASS	2 25 PASS	
Dicofol	NA	194.6	0.05	0.1	ng/dry g	159.4	0	122 50 - 150% PASS	1 25 PASS	
Dieldrin	NA	135.04	0.05	0.1	ng/dry g	159.4	0	85 50 - 150% PASS	0 25 PASS	
Endosulfan sulfate	NA	158.91	0.05	0.1	ng/dry g	159.4	0	100 50 - 150% PASS	3 25 PASS	
Endosulfan-I	NA	64.25	0.05	0.1	ng/dry g	159.4	0	40 50 - 150% FAIL	18 25 PASS	M
Endosulfan-II	NA	104.19	0.05	0.1	ng/dry g	159.4	0	65 50 - 150% PASS	0 25 PASS	
Endrin	NA	190.89	0.05	0.1	ng/dry g	159.4	0	120 25 - 125% PASS	2 25 PASS	
Endrin aldehyde	NA	18.96	0.05	0.1	ng/dry g	159.4	0	12 0 - 125% PASS	18 25 PASS	
Endrin ketone	NA	166.13	0.05	0.1	ng/dry g	159.4	0	104 25 - 125% PASS	3 25 PASS	
Heptachlor	NA	197.01	0.05	0.1	ng/dry g	159.4	0	124 50 - 150% PASS	1 25 PASS	
Heptachlor epoxide	NA	174.77	0.05	0.1	ng/dry g	159.4	0	110 50 - 150% PASS	3 25 PASS	
Hexachlorobenzene	NA	153.82	0.05	0.1	ng/dry g	159.4	0	96 50 - 150% PASS	1 25 PASS	
Methoxychlor	NA	211.61	0.05	0.1	ng/dry g	159.4	0	133 50 - 150% PASS	5 25 PASS	
Mirex	NA	158.92	0.05	0.1	ng/dry g	159.4	0	100 50 - 150% PASS	3 25 PASS	
Oxychlordane	NA	162.77	0.05	0.1	ng/dry g	159.4	0	102 50 - 150% PASS	3 25 PASS	
Perthane	NA	196.21	0.05	0.1	ng/dry g	159.4	0	123 50 - 150% PASS	2 25 PASS	
trans-Nonachlor	NA	159.37	0.05	0.1	ng/dry g	159.4	0	100 50 - 150% PASS	1 25 PASS	

Sample ID: 22483-R2

B13-8014

Matrix: Sediment

Sampled: 26-Aug-13 9:44

Received: 27-Aug-13

Method: EPA 8270C

Batch ID: 0-5136

Prepared: 22-Apr-14

Analyzed: 10-May-14 3:17

(PCB030)	NA	93			% Recovery	100	93	50 - 150% PASS	14	25	PASS
(PCB112)	NA	105			% Recovery	100	105	50 - 150% PASS	14	25	PASS
(PCB198)	NA	102			% Recovery	100	102	50 - 150% PASS	14	25	PASS
(TCMX)	NA	93			% Recovery	100	93	50 - 150% PASS	10	25	PASS
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g				0	25	PASS
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g				0	25	PASS
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g				0	25	PASS



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Aldrin	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
BHC-beta	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
BHC-delta	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Dicofol	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Dieldrin	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endrin	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Heptachlor	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Mirex	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Perthane	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	

Sample ID: 22492-CRM1

QAQC CRM - SRM 1944

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-5136

Sampled:

Prepared: 22-Apr-14

Received:

Analyzed: 09-May-14 22:21



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CA ELAP #2769

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
(PCB030)	NA	112			% Recovery	100		112 60 - 140% PASS		
(PCB112)	NA	110			% Recovery	100		110 60 - 140% PASS		
(PCB198)	NA	71			% Recovery	100		71 60 - 140% PASS		
(TCMX)	NA	111			% Recovery	100		111 60 - 140% PASS		
2,4'-DDD	NA	33.22	0.05	0.1	ng/dry g	38		87 60 - 140% PASS		
2,4'-DDE	NA	32.93	0.05	0.1	ng/dry g	19		173 60 - 140% FAIL		R
4,4'-DDD	NA	79.19	0.05	0.1	ng/dry g	108		73 60 - 140% PASS		
4,4'-DDE	NA	76.74	0.05	0.1	ng/dry g	86		89 60 - 140% PASS		
4,4'-DDT	NA	225.54	0.05	0.1	ng/dry g	170		133 60 - 140% PASS		
Chlordane-alpha	NA	13.18	0.05	0.1	ng/dry g	16.5		80 60 - 140% PASS		
Chlordane-gamma	NA	22.46	0.05	0.1	ng/dry g	19		118 60 - 140% PASS		
cis-Nonachlor	NA	4.75	0.05	0.1	ng/dry g	3.7		128 60 - 140% PASS		
Hexachlorobenzene	NA	6.49	0.05	0.1	ng/dry g	6		108 60 - 140% PASS		
trans-Nonachlor	NA	9.98	0.05	0.1	ng/dry g	8.2		122 60 - 140% PASS		



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CA ELAP #2769

Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
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Acid Volatile Sulfides

Method: Plumb, 1981 and TERL

Fraction: NA

22481-B1	QAQC Procedural Blank	C-14062 ND Prepared: 11-Oct-13	0.05	0.1	mg/dry kg	Analyzed: 11-Oct-13 0:00						
22481-BS1	QAQC Procedural Blank	C-14062 9.43 Prepared: 11-Oct-13	0.05	0.1	mg/dry kg	8.29	0	114	80 - 120% PASS			
22481-BS2	QAQC Procedural Blank	C-14062 9.65 Prepared: 11-Oct-13	0.05	0.1	mg/dry kg	8.29	0	116	80 - 120% PASS	2	25	PASS
22482-MS1	B13-8013	C-14062 194.93 Prepared: 11-Oct-13	0.05	0.1	mg/dry kg	54.07	109.13	159	50 - 130% FAIL			SH
22482-MS2	B13-8013	C-14062 223.91 Prepared: 11-Oct-13	0.05	0.1	mg/dry kg	50.32	109.13	228	50 - 130% FAIL	36	25	FAIL SH
22482-R2	B13-8013	C-14062 115.99 Prepared: 11-Oct-13	0.05	0.1	mg/dry kg	Analyzed: 11-Oct-13 0:00				13	25	PASS

Ammonia as N

Method: SM 4500-NH₃ D

Fraction: NA

22481-B1	QAQC Procedural Blank	C-14064 ND Prepared: 14-Oct-13	0.02	0.03	mg/dry kg	Analyzed: 14-Oct-13 0:00						
22481-BS1	QAQC Procedural Blank	C-14064 4.29 Prepared: 14-Oct-13	0.02	0.03	mg/dry kg	4.38	0	98	80 - 120% PASS			
22481-BS2	QAQC Procedural Blank	C-14064 4.34 Prepared: 14-Oct-13	0.02	0.03	mg/dry kg	4.38	0	99	80 - 120% PASS	1	25	PASS
22482-MS1	B13-8013	C-14064 10.53 Prepared: 14-Oct-13	0.02	0.03	mg/dry kg	5.34	4.01	122	70 - 130% PASS			
22482-MS2	B13-8013	C-14064 10.09 Prepared: 14-Oct-13	0.02	0.03	mg/dry kg	5.17	4.01	118	70 - 130% PASS	3	25	PASS
22482-R2	B13-8013	C-14064 4.58 Prepared: 14-Oct-13	0.02	0.03	mg/dry kg	Analyzed: 14-Oct-13 0:00				28	25	FAIL R

Percent Solids

Method: SM 2540B

Fraction: NA

22481-B1	QAQC Procedural Blank	C-14061 ND Prepared: 11-Oct-13	0.1	0.1	% Dry Weight	Analyzed: 11-Oct-13 0:00						
22482-R2	B13-8013	C-14061 46.2 Prepared: 11-Oct-13	0.1	0.1	% Dry Weight	Analyzed: 11-Oct-13 0:00				0	25	PASS



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CA ELAP #2769

Conventional

QUALITY CONTROL REPORT

SAMPLE ID		BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS		PRECISION %	LIMITS		QA CODE
Total Phosphorus				Method: EPA 6020						Fraction: NA					
22481-B1	QAQC Procedural Blank	E-6005	ND	0.016	0.05	µg/dry g									
		Prepared: 12-Oct-13				Analyzed: 21-Oct-13 13:00									
22481-BS1	QAQC Procedural Blank	E-6005	50.982	0.016	0.05	µg/dry g	50	0	102	80 - 120%	PASS				
		Prepared: 12-Oct-13				Analyzed: 21-Oct-13 14:05									
22481-BS2	QAQC Procedural Blank	E-6005	50.821	0.016	0.05	µg/dry g	50	0	102	80 - 120%	PASS	0	25	PASS	
		Prepared: 12-Oct-13				Analyzed: 21-Oct-13 14:10									
22482-MS1	B13-8013	E-6005	2249.568	0.016	0.05	µg/dry g	1638.5	519.049	106	70 - 130%	PASS				
		Prepared: 12-Oct-13				Analyzed: 21-Oct-13 14:23									
22482-MS2	B13-8013	E-6005	2299.013	0.016	0.05	µg/dry g	1638.5	519.049	109	70 - 130%	PASS	3	25	PASS	
		Prepared: 12-Oct-13				Analyzed: 21-Oct-13 14:28									
22482-R2	B13-8013	E-6005	521.252	0.016	0.05	µg/dry g						1	25	PASS	
		Prepared: 12-Oct-13				Analyzed: 21-Oct-13 13:10									



Innovative Solutions for Nature

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CA ELAP #2769

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22481-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 6020

Batch ID: E-6005

Prepared: 12-Oct-13

Analyzed: 22-Oct-13 16:04

Aluminum (Al)	NA	ND	1	5	µg/dry g					
Antimony (Sb)	NA	ND	0.025	0.05	µg/dry g					
Arsenic (As)	NA	ND	0.025	0.05	µg/dry g					
Barium (Ba)	NA	ND	0.025	0.05	µg/dry g					
Beryllium (Be)	NA	ND	0.025	0.05	µg/dry g					
Cadmium (Cd)	NA	ND	0.0025	0.005	µg/dry g					
Chromium (Cr)	NA	ND	0.0025	0.005	µg/dry g					
Copper (Cu)	NA	ND	0.0025	0.005	µg/dry g					
Iron (Fe)	NA	ND	1	5	µg/dry g					
Lead (Pb)	NA	ND	0.0025	0.005	µg/dry g					
Nickel (Ni)	NA	ND	0.01	0.02	µg/dry g					
Selenium (Se)	NA	ND	0.025	0.05	µg/dry g					
Silver (Ag)	NA	ND	0.01	0.02	µg/dry g					
Zinc (Zn)	NA	ND	0.025	0.05	µg/dry g					

Method: EPA 245.7

Batch ID: E-6037

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	ND	0.00001	0.00002	µg/dry g					
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Sample ID: 22481-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 6020

Batch ID: E-6005

Prepared: 12-Oct-13

Analyzed: 22-Oct-13 17:15

Aluminum (Al)	NA	2	1	5	µg/dry g	2	0	100	80 - 120%	PASS
Antimony (Sb)	NA	2.14	0.025	0.05	µg/dry g	2	0	107	80 - 120%	PASS
Arsenic (As)	NA	2.141	0.025	0.05	µg/dry g	2	0	107	80 - 120%	PASS
Barium (Ba)	NA	2.018	0.025	0.05	µg/dry g	2	0	101	80 - 120%	PASS
Beryllium (Be)	NA	2.105	0.025	0.05	µg/dry g	2	0	105	80 - 120%	PASS
Cadmium (Cd)	NA	2.1279	0.0025	0.005	µg/dry g	2	0	106	80 - 120%	PASS
Chromium (Cr)	NA	2.0453	0.0025	0.005	µg/dry g	2	0	102	80 - 120%	PASS
Copper (Cu)	NA	2.0504	0.0025	0.005	µg/dry g	2	0	103	80 - 120%	PASS
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS
Lead (Pb)	NA	2.0511	0.0025	0.005	µg/dry g	2	0	103	80 - 120%	PASS



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Nickel (Ni)	NA	2.02	0.01	0.02	µg/dry g	2	0	101 80 - 120%	PASS	
Selenium (Se)	NA	2.21	0.025	0.05	µg/dry g	2	0	111 80 - 120%	PASS	
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	0.2	0	100 80 - 120%	PASS	
Zinc (Zn)	NA	2.329	0.025	0.05	µg/dry g	2	0	116 80 - 120%	PASS	

Method: EPA 245.7

Batch ID: E-6037

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.971	0.00001	0.00002	µg/dry g	1	0	97 80 - 120%	PASS	
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Sample ID: 22481-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 6020

Batch ID: E-6005

Prepared: 12-Oct-13

Analyzed: 22-Oct-13 17:19

Aluminum (Al)	NA	1.9	1	5	µg/dry g	2	0	95 80 - 120%	PASS	5 25 PASS
Antimony (Sb)	NA	2.129	0.025	0.05	µg/dry g	2	0	106 80 - 120%	PASS	1 25 PASS
Arsenic (As)	NA	2.143	0.025	0.05	µg/dry g	2	0	107 80 - 120%	PASS	0 25 PASS
Barium (Ba)	NA	1.973	0.025	0.05	µg/dry g	2	0	99 80 - 120%	PASS	2 25 PASS
Beryllium (Be)	NA	2.108	0.025	0.05	µg/dry g	2	0	105 80 - 120%	PASS	0 25 PASS
Cadmium (Cd)	NA	2.1512	0.0025	0.005	µg/dry g	2	0	108 80 - 120%	PASS	2 25 PASS
Chromium (Cr)	NA	2.0426	0.0025	0.005	µg/dry g	2	0	102 80 - 120%	PASS	0 25 PASS
Copper (Cu)	NA	2.0523	0.0025	0.005	µg/dry g	2	0	103 80 - 120%	PASS	0 25 PASS
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95 80 - 120%	PASS	0 25 PASS
Lead (Pb)	NA	2.0496	0.0025	0.005	µg/dry g	2	0	102 80 - 120%	PASS	1 25 PASS
Nickel (Ni)	NA	2.02	0.01	0.02	µg/dry g	2	0	101 80 - 120%	PASS	0 25 PASS
Selenium (Se)	NA	2.187	0.025	0.05	µg/dry g	2	0	109 80 - 120%	PASS	1 25 PASS
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	0.2	0	100 80 - 120%	PASS	0 25 PASS
Zinc (Zn)	NA	2.336	0.025	0.05	µg/dry g	2	0	117 80 - 120%	PASS	1 25 PASS

Method: EPA 245.7

Batch ID: E-6037

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.916	0.00001	0.00002	µg/dry g	1	0	92 80 - 120%	PASS	5 25 PASS
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Sample ID: 22482-MS1**B13-8013****Matrix: Sediment****Sampled: 26-Aug-13 8:18****Received: 27-Aug-13**

Method: EPA 6020

Batch ID: E-6005

Prepared: 12-Oct-13

Analyzed: 22-Oct-13 17:24

Aluminum (Al)	NA	35455.6	1	5	µg/dry g	1310	33136.7	177 75 - 125%	FAIL	SH
Antimony (Sb)	NA	67.733	0.025	0.05	µg/dry g	65.54	0.307	103 75 - 125%	PASS	
Arsenic (As)	NA	77.694	0.025	0.05	µg/dry g	65.54	6.82	108 75 - 125%	PASS	
Barium (Ba)	NA	145.982	0.025	0.05	µg/dry g	65.54	79.843	101 75 - 125%	PASS	



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Beryllium (Be)	NA	73.621	0.025	0.05	µg/dry g	65.54	0.657	111 75 - 125%	PASS	
Cadmium (Cd)	NA	66.3605	0.0025	0.005	µg/dry g	65.54	0.2036	101 75 - 125%	PASS	
Chromium (Cr)	NA	127.2629	0.0025	0.005	µg/dry g	65.54	51.6858	115 75 - 125%	PASS	
Copper (Cu)	NA	276.562	0.0025	0.005	µg/dry g	65.54	208.8237	103 75 - 125%	PASS	
Iron (Fe)	NA	32395.3	1	5	µg/dry g	1310	31604.6	60 75 - 125%	FAIL	SH
Lead (Pb)	NA	84.4151	0.0025	0.005	µg/dry g	65.54	24.2648	92 75 - 125%	PASS	
Nickel (Ni)	NA	84.13	0.01	0.02	µg/dry g	65.54	15.23	105 75 - 125%	PASS	
Selenium (Se)	NA	74.427	0.025	0.05	µg/dry g	65.54	0.311	113 75 - 125%	PASS	
Silver (Ag)	NA	7.18	0.01	0.02	µg/dry g	6.55	0.72	99 75 - 125%	PASS	
Zinc (Zn)	NA	349.826	0.025	0.05	µg/dry g	65.54	285.755	98 75 - 125%	PASS	

Method: EPA 245.7

Batch ID: E-6037

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.5412	0.00001	0.00002	µg/dry g	0.328	0.19895	104 75 - 125%	PASS	
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Sample ID: 22482-MS2**B13-8013****Matrix: Sediment****Sampled: 26-Aug-13 8:18****Received: 27-Aug-13**

Method: EPA 6020

Batch ID: E-6005

Prepared: 12-Oct-13

Analyzed: 22-Oct-13 17:29

Aluminum (Al)	NA	35474.8	1	5	µg/dry g	1310	33136.7	178 75 - 125%	FAIL	1 25 PASS	SH
Antimony (Sb)	NA	68.61	0.025	0.05	µg/dry g	65.54	0.307	104 75 - 125%	PASS	1 25 PASS	
Arsenic (As)	NA	78.768	0.025	0.05	µg/dry g	65.54	6.82	110 75 - 125%	PASS	2 25 PASS	
Barium (Ba)	NA	148.157	0.025	0.05	µg/dry g	65.54	79.843	104 75 - 125%	PASS	3 25 PASS	
Beryllium (Be)	NA	72.843	0.025	0.05	µg/dry g	65.54	0.657	110 75 - 125%	PASS	1 25 PASS	
Cadmium (Cd)	NA	65.6983	0.0025	0.005	µg/dry g	65.54	0.2036	100 75 - 125%	PASS	1 25 PASS	
Chromium (Cr)	NA	125.9625	0.0025	0.005	µg/dry g	65.54	51.6858	113 75 - 125%	PASS	2 25 PASS	
Copper (Cu)	NA	278.5776	0.0025	0.005	µg/dry g	65.54	208.8237	106 75 - 125%	PASS	3 25 PASS	
Iron (Fe)	NA	32556.1	1	5	µg/dry g	1310	31604.6	73 75 - 125%	FAIL	20 25 PASS	SH
Lead (Pb)	NA	84.2502	0.0025	0.005	µg/dry g	65.54	24.2648	92 75 - 125%	PASS	0 25 PASS	
Nickel (Ni)	NA	83.47	0.01	0.02	µg/dry g	65.54	15.23	104 75 - 125%	PASS	1 25 PASS	
Selenium (Se)	NA	73.898	0.025	0.05	µg/dry g	65.54	0.311	112 75 - 125%	PASS	1 25 PASS	
Silver (Ag)	NA	7.17	0.01	0.02	µg/dry g	6.55	0.72	98 75 - 125%	PASS	1 25 PASS	
Zinc (Zn)	NA	352.078	0.025	0.05	µg/dry g	65.54	285.755	101 75 - 125%	PASS	3 25 PASS	

Method: EPA 245.7

Batch ID: E-6037

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.5412	0.00001	0.00002	µg/dry g	0.328	0.19895	104 75 - 125%	PASS	0 25 PASS	
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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22482-R2		B13-8013	Matrix: Sediment		Sampled: 26-Aug-13 8:18		Received: 27-Aug-13			
		Method: EPA 6020			Batch ID: E-6005		Prepared: 12-Oct-13		Analyzed: 22-Oct-13 16:14	
Aluminum (Al)	NA	31615.5	1	5	µg/dry g			9	25	PASS
Antimony (Sb)	NA	0.291	0.025	0.05	µg/dry g			10	25	PASS
Arsenic (As)	NA	6.676	0.025	0.05	µg/dry g			4	25	PASS
Barium (Ba)	NA	77.588	0.025	0.05	µg/dry g			6	25	PASS
Beryllium (Be)	NA	0.637	0.025	0.05	µg/dry g			6	25	PASS
Cadmium (Cd)	NA	0.2064	0.0025	0.005	µg/dry g			3	25	PASS
Chromium (Cr)	NA	50.7887	0.0025	0.005	µg/dry g			3	25	PASS
Copper (Cu)	NA	208.7439	0.0025	0.005	µg/dry g			0	25	PASS
Iron (Fe)	NA	31626.3	1	5	µg/dry g			0	25	PASS
Lead (Pb)	NA	24.0247	0.0025	0.005	µg/dry g			2	25	PASS
Nickel (Ni)	NA	14.93	0.01	0.02	µg/dry g			4	25	PASS
Selenium (Se)	NA	0.274	0.025	0.05	µg/dry g			24	25	PASS
Silver (Ag)	NA	0.71	0.01	0.02	µg/dry g			3	25	PASS
Zinc (Zn)	NA	283.208	0.025	0.05	µg/dry g			2	25	PASS
		Method: EPA 245.7			Batch ID: E-6037		Prepared: 22-Oct-13		Analyzed: 22-Oct-13 0:00	
Mercury (Hg)	NA	0.1964	0.00001	0.00002	µg/dry g			3	25	PASS

Sample ID: 22493-CRM1		QAQC CRM - RTC 016-050	Matrix: Sediment		Sampled:		Received:			
		Method: EPA 6020			Batch ID: E-6005		Prepared: 12-Oct-13		Analyzed: 22-Oct-13 17:01	
Aluminum (Al)	NA	28368.8	1	5	µg/dry g	8920	318	80 - 120%	FAIL	*
Arsenic (As)	NA	9.789	0.025	0.05	µg/dry g	7.76	126	80 - 120%	FAIL	*
Beryllium (Be)	NA	0.963	0.025	0.05	µg/dry g	0.49	197	80 - 120%	FAIL	*
Cadmium (Cd)	NA	0.3078	0.0025	0.005	µg/dry g	0.47	65	80 - 120%	FAIL	R
Chromium (Cr)	NA	42.6422	0.0025	0.005	µg/dry g	14.5	294	80 - 120%	FAIL	*
Copper (Cu)	NA	16.1331	0.0025	0.005	µg/dry g	15.5	104	80 - 120%	PASS	
Iron (Fe)	NA	21280.6	1	5	µg/dry g	16800	127	80 - 120%	FAIL	*
Lead (Pb)	NA	15.5037	0.0025	0.005	µg/dry g	14.01	111	80 - 120%	PASS	
Nickel (Ni)	NA	21.49	0.01	0.02	µg/dry g	16.7	129	80 - 120%	FAIL	*
Zinc (Zn)	NA	79.48	0.025	0.05	µg/dry g	69.7	114	80 - 120%	PASS	



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
<div> <div>Method: EPA 245.7</div> <div>Batch ID: E-6037</div> <div>Prepared: 22-Oct-13</div> <div>Analyzed: 22-Oct-13 0:00</div> </div>										
Mercury (Hg)	NA	0.1578	0.00001	0.00002	µg/dry g	0.158		100 80 - 120% PASS		
<div> <div>Sample ID: 22494-CRM1</div> <div>QAQC CRM - ERA 540</div> <div>Method: EPA 6020</div> <div>Matrix: Sediment</div> <div>Batch ID: E-6005</div> <div>Sampled: 12-Oct-13</div> <div>Received: 22-Oct-13 17:05</div> </div>										
Aluminum (Al)	NA	16025.2	1	5	µg/dry g	9060		177 80 - 120% FAIL		*
Antimony (Sb)	NA	183.363	0.025	0.05	µg/dry g	106		173 80 - 120% FAIL		*
Arsenic (As)	NA	189.255	0.025	0.05	µg/dry g	182		104 80 - 120% PASS		
Beryllium (Be)	NA	105.761	0.025	0.05	µg/dry g	98.3		108 80 - 120% PASS		
Cadmium (Cd)	NA	60.1822	0.0025	0.005	µg/dry g	60.4		100 80 - 120% PASS		
Chromium (Cr)	NA	145.8352	0.0025	0.005	µg/dry g	125		117 80 - 120% PASS		
Copper (Cu)	NA	81.2692	0.0025	0.005	µg/dry g	80.1		101 80 - 120% PASS		
Iron (Fe)	NA	18441.2	1	5	µg/dry g	12900		143 80 - 120% FAIL		*
Lead (Pb)	NA	129.692	0.0025	0.005	µg/dry g	136		95 80 - 120% PASS		
Nickel (Ni)	NA	132.04	0.01	0.02	µg/dry g	128		103 80 - 120% PASS		
Selenium (Se)	NA	95.443	0.025	0.05	µg/dry g	85.9		111 80 - 120% PASS		
Silver (Ag)	NA	61.23	0.01	0.02	µg/dry g	61.3		100 80 - 120% PASS		
Zinc (Zn)	NA	212.327	0.025	0.05	µg/dry g	204		104 80 - 120% PASS		
<div> <div>Method: EPA 245.7</div> <div>Batch ID: E-6037</div> <div>Prepared: 22-Oct-13</div> <div>Analyzed: 22-Oct-13 0:00</div> </div>										
Mercury (Hg)	NA	9.3229	0.00001	0.00002	µg/dry g	9.25		101 80 - 120% PASS	25	



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CA ELAP #2769

Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Sample ID: 22481-B1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 200.8			Batch ID: E-6009		Prepared: 18-Oct-13		Analyzed: 18-Oct-13 16:24	
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g					
Copper (Cu) - SEM	NA	ND	0.0062	0.0124	µmol/dry g					
Lead (Pb) - SEM	NA	ND	0.0002	0.0004	µmol/dry g					
Nickel (Ni) - SEM	NA	ND	0.0033	0.0066	µmol/dry g					
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g					
Zinc (Zn) - SEM	NA	ND	0.0015	0.003	µmol/dry g					
Sample ID: 22481-BS1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 200.8			Batch ID: E-6009		Prepared: 18-Oct-13		Analyzed: 18-Oct-13 17:31	
Cadmium (Cd) - SEM	NA	0.0191	0.0018	0.0036	µmol/dry g	0.0178	0	107	75 - 130% PASS	
Copper (Cu) - SEM	NA	0.0316	0.0062	0.0124	µmol/dry g	0.0315	0	100	70 - 130% PASS	
Lead (Pb) - SEM	NA	0.0098	0.0002	0.0004	µmol/dry g	0.0097	0	101	65 - 135% PASS	
Nickel (Ni) - SEM	NA	0.0341	0.0033	0.0066	µmol/dry g	0.0341	0	100	70 - 130% PASS	
Silver (Ag) - SEM	NA	0.0019	0.0047	0.0094	µmol/dry g	0.0019	0	100	50 - 155% PASS	
Zinc (Zn) - SEM	NA	0.0356	0.0015	0.003	µmol/dry g	0.0306	0	116	50 - 150% PASS	
Sample ID: 22481-BS2		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 200.8			Batch ID: E-6009		Prepared: 18-Oct-13		Analyzed: 18-Oct-13 17:35	
Cadmium (Cd) - SEM	NA	0.0192	0.0018	0.0036	µmol/dry g	0.0178	0	108	75 - 130% PASS	1 25 PASS
Copper (Cu) - SEM	NA	0.0317	0.0062	0.0124	µmol/dry g	0.0315	0	101	70 - 130% PASS	1 25 PASS
Lead (Pb) - SEM	NA	0.0098	0.0002	0.0004	µmol/dry g	0.0097	0	101	65 - 135% PASS	0 25 PASS
Nickel (Ni) - SEM	NA	0.0339	0.0033	0.0066	µmol/dry g	0.0341	0	99	70 - 130% PASS	1 25 PASS
Silver (Ag) - SEM	NA	0.0019	0.0047	0.0094	µmol/dry g	0.0019	0	100	50 - 155% PASS	0 25 PASS
Zinc (Zn) - SEM	NA	0.0353	0.0015	0.003	µmol/dry g	0.0306	0	115	50 - 150% PASS	1 25 PASS
Sample ID: 22482-MS1		B13-8013			Matrix: Sediment		Sampled: 26-Aug-13 8:18		Received: 27-Aug-13	
		Method: EPA 200.8			Batch ID: E-6009		Prepared: 18-Oct-13		Analyzed: 18-Oct-13 17:40	
Cadmium (Cd) - SEM	NA	0.5069	0.0018	0.0036	µmol/dry g	0.4759	0	107	75 - 130% PASS	
Copper (Cu) - SEM	NA	0.9245	0.0062	0.0124	µmol/dry g	0.842	0.0821	100	70 - 130% PASS	
Lead (Pb) - SEM	NA	0.287	0.0002	0.0004	µmol/dry g	0.2582	0.0436	94	65 - 135% PASS	



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Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Nickel (Ni) - SEM	NA	0.9477	0.0033	0.0066	µmol/dry g	0.9116	0.0157	102	70 - 130%	PASS		
Silver (Ag) - SEM	NA	0.0354	0.0047	0.0094	µmol/dry g	0.0496	0	71	50 - 155%	PASS		
Zinc (Zn) - SEM	NA	3.6981	0.0015	0.003	µmol/dry g	0.8183	2.857	103	50 - 150%	PASS		

Sample ID: 22482-MS2**B13-8013****Matrix: Sediment****Sampled: 26-Aug-13 8:18****Received: 27-Aug-13**

Method: EPA 200.8

Batch ID: E-6009

Prepared: 18-Oct-13

Analyzed: 18-Oct-13 17:44

Cadmium (Cd) - SEM	NA	0.5049	0.0018	0.0036	µmol/dry g	0.4759	0	106	75 - 130%	PASS	1	25	PASS
Copper (Cu) - SEM	NA	0.9311	0.0062	0.0124	µmol/dry g	0.842	0.0821	101	70 - 130%	PASS	1	25	PASS
Lead (Pb) - SEM	NA	0.2879	0.0002	0.0004	µmol/dry g	0.2582	0.0436	95	65 - 135%	PASS	1	25	PASS
Nickel (Ni) - SEM	NA	0.9497	0.0033	0.0066	µmol/dry g	0.9116	0.0157	102	70 - 130%	PASS	0	25	PASS
Silver (Ag) - SEM	NA	0.0368	0.0047	0.0094	µmol/dry g	0.0496	0	74	50 - 155%	PASS	4	25	PASS
Zinc (Zn) - SEM	NA	3.7073	0.0015	0.003	µmol/dry g	0.8183	2.857	104	50 - 150%	PASS	1	25	PASS

Sample ID: 22482-R2**B13-8013****Matrix: Sediment****Sampled: 26-Aug-13 8:18****Received: 27-Aug-13**

Method: EPA 200.8

Batch ID: E-6009

Prepared: 18-Oct-13

Analyzed: 18-Oct-13 16:43

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g						0	25	PASS
Copper (Cu) - SEM	NA	0.0976	0.0062	0.0124	µmol/dry g						38	25	FAIL R
Lead (Pb) - SEM	NA	0.0452	0.0002	0.0004	µmol/dry g						7	25	PASS
Nickel (Ni) - SEM	NA	0.0164	0.0033	0.0066	µmol/dry g						9	25	PASS
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g						0	25	PASS
Zinc (Zn) - SEM	NA	2.893	0.0015	0.003	µmol/dry g						3	25	PASS



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CA ELAP #2769

Fipronil & Degradates

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22481-B1
QAQC Procedural Blank

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5034

Sampled:

Prepared: 06-Nov-13

Received:

Analyzed: 09-Nov-13 12:57

Fipronil	NA	ND	0.25	0.5	ng/dry g					
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g					
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g					
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g					

Sample ID: 22481-BS1
QAQC Procedural Blank

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5034

Sampled:

Prepared: 06-Nov-13

Received:

Analyzed: 09-Nov-13 14:01

Fipronil	NA	1109.2	0.25	0.5	ng/dry g	1000	0	111	50 - 150%	PASS
Fipronil Desulfinyl	NA	866.25	0.25	0.5	ng/dry g	1000	0	87	50 - 150%	PASS
Fipronil Sulfide	NA	1117.54	0.25	0.5	ng/dry g	1000	0	112	50 - 150%	PASS
Fipronil Sulfone	NA	1215.67	0.25	0.5	ng/dry g	1000	0	122	50 - 150%	PASS

Sample ID: 22481-BS2
QAQC Procedural Blank

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5034

Sampled:

Prepared: 06-Nov-13

Received:

Analyzed: 09-Nov-13 15:05

Fipronil	NA	1438.64	0.25	0.5	ng/dry g	1000	0	144	50 - 150%	PASS	26	25	FAIL	R
Fipronil Desulfinyl	NA	1216.78	0.25	0.5	ng/dry g	1000	0	122	50 - 150%	PASS	33	25	FAIL	R
Fipronil Sulfide	NA	1256.14	0.25	0.5	ng/dry g	1000	0	126	50 - 150%	PASS	12	25	PASS	
Fipronil Sulfone	NA	1443.58	0.25	0.5	ng/dry g	1000	0	144	50 - 150%	PASS	17	25	PASS	

Sample ID: 22482-MS1
B13-8013

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5034

Sampled: 26-Aug-13 8:18

Prepared: 06-Nov-13

Received: 27-Aug-13

Analyzed: 09-Nov-13 16:09

Fipronil	NA	210.89	0.25	0.5	ng/dry g	143	0	147	50 - 150%	PASS				
Fipronil Desulfinyl	NA	191.51	0.25	0.5	ng/dry g	143	0	134	50 - 150%	PASS				
Fipronil Sulfide	NA	211.04	0.25	0.5	ng/dry g	143	0	148	50 - 150%	PASS				
Fipronil Sulfone	NA	192.67	0.25	0.5	ng/dry g	143	0	135	50 - 150%	PASS				

Sample ID: 22482-MS2
B13-8013

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5034

Sampled: 26-Aug-13 8:18

Prepared: 06-Nov-13

Received: 27-Aug-13

Analyzed: 09-Nov-13 17:13

Fipronil	NA	165.72	0.25	0.5	ng/dry g	140.6	0	118	50 - 150%	PASS	22	25	PASS	
Fipronil Desulfinyl	NA	145.51	0.25	0.5	ng/dry g	140.6	0	103	50 - 150%	PASS	26	25	FAIL	R



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Fipronil & Degradates

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Fipronil Sulfide	NA	163.67	0.25	0.5	ng/dry g	140.6	0	116	50 - 150% PASS	24	25 PASS	
Fipronil Sulfone	NA	181.53	0.25	0.5	ng/dry g	140.6	0	129	50 - 150% PASS	5	25 PASS	

Sample ID: 22482-R2

B13-8013

Matrix: Sediment

Sampled: 26-Aug-13 8:18

Received: 27-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 09-Nov-13 20:56

Fipronil	NA	ND	0.25	0.5	ng/dry g					0	25 PASS	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g					0	25 PASS	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g					0	25 PASS	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g					0	25 PASS	



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22481-B1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 09-May-14 13:44

PCB003	NA	ND	0.05	0.1	ng/dry g					
PCB005	NA	ND	0.05	0.1	ng/dry g					
PCB008	NA	ND	0.05	0.1	ng/dry g					
PCB015	NA	ND	0.05	0.1	ng/dry g					
PCB018	NA	ND	0.05	0.1	ng/dry g					
PCB027	NA	ND	0.05	0.1	ng/dry g					
PCB028	NA	ND	0.05	0.1	ng/dry g					
PCB029	NA	ND	0.05	0.1	ng/dry g					
PCB031	NA	ND	0.05	0.1	ng/dry g					
PCB033	NA	ND	0.05	0.1	ng/dry g					
PCB037	NA	ND	0.05	0.1	ng/dry g					
PCB044	NA	ND	0.05	0.1	ng/dry g					
PCB049	NA	ND	0.05	0.1	ng/dry g					
PCB052	NA	ND	0.05	0.1	ng/dry g					
PCB056(060)	NA	ND	0.1	0.2	ng/dry g					
PCB066	NA	ND	0.05	0.1	ng/dry g					
PCB070	NA	ND	0.05	0.1	ng/dry g					
PCB074	NA	ND	0.05	0.1	ng/dry g					
PCB077	NA	ND	0.05	0.1	ng/dry g					
PCB081	NA	ND	0.05	0.1	ng/dry g					
PCB087	NA	ND	0.05	0.1	ng/dry g					
PCB095	NA	ND	0.05	0.1	ng/dry g					
PCB097	NA	ND	0.05	0.1	ng/dry g					
PCB099	NA	ND	0.05	0.1	ng/dry g					
PCB101	NA	ND	0.05	0.1	ng/dry g					
PCB105	NA	ND	0.05	0.1	ng/dry g					
PCB110	NA	ND	0.05	0.1	ng/dry g					
PCB114	NA	ND	0.05	0.1	ng/dry g					
PCB118	NA	ND	0.05	0.1	ng/dry g					



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB119	NA	ND	0.05	0.1	ng/dry g					
PCB123	NA	ND	0.05	0.1	ng/dry g					
PCB126	NA	ND	0.05	0.1	ng/dry g					
PCB128	NA	ND	0.05	0.1	ng/dry g					
PCB137	NA	ND	0.05	0.1	ng/dry g					
PCB138	NA	ND	0.05	0.1	ng/dry g					
PCB141	NA	ND	0.05	0.1	ng/dry g					
PCB149	NA	ND	0.05	0.1	ng/dry g					
PCB151	NA	ND	0.05	0.1	ng/dry g					
PCB153	NA	ND	0.05	0.1	ng/dry g					
PCB156	NA	ND	0.05	0.1	ng/dry g					
PCB157	NA	ND	0.05	0.1	ng/dry g					
PCB158	NA	ND	0.05	0.1	ng/dry g					
PCB167	NA	ND	0.05	0.1	ng/dry g					
PCB168+132	NA	ND	0.1	0.2	ng/dry g					
PCB169	NA	ND	0.05	0.1	ng/dry g					
PCB170	NA	ND	0.05	0.1	ng/dry g					
PCB174	NA	ND	0.05	0.1	ng/dry g					
PCB177	NA	ND	0.05	0.1	ng/dry g					
PCB180	NA	ND	0.05	0.1	ng/dry g					
PCB183	NA	ND	0.05	0.1	ng/dry g					
PCB187	NA	ND	0.05	0.1	ng/dry g					
PCB189	NA	ND	0.05	0.1	ng/dry g					
PCB194	NA	ND	0.05	0.1	ng/dry g					
PCB195	NA	ND	0.05	0.1	ng/dry g					
PCB199(200)	NA	ND	0.1	0.2	ng/dry g					
PCB201	NA	ND	0.05	0.1	ng/dry g					
PCB203	NA	ND	0.05	0.1	ng/dry g					
PCB206	NA	ND	0.05	0.1	ng/dry g					
PCB209	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 22481-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

PHYSIS Project ID: 1307002-010

Client: AMEC

Project: RHMP Bight '13

qcb - 21 of 48



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
		LIMITS						LIMITS		
Method: EPA 8270C			Batch ID: O-5136			Prepared: 22-Apr-14			Analyzed: 09-May-14 15:23	
PCB003	NA	200.25	0.05	0.1	ng/dry g	200	0	100	70 - 130%	PASS
PCB005	NA	199.67	0.05	0.1	ng/dry g	200	0	100	70 - 130%	PASS
PCB008	NA	163.17	0.05	0.1	ng/dry g	200	0	82	70 - 130%	PASS
PCB015	NA	211.67	0.05	0.1	ng/dry g	200	0	106	70 - 130%	PASS
PCB018	NA	171.62	0.05	0.1	ng/dry g	200	0	86	70 - 130%	PASS
PCB027	NA	165.75	0.05	0.1	ng/dry g	200	0	83	70 - 130%	PASS
PCB028	NA	176.32	0.05	0.1	ng/dry g	200	0	88	70 - 130%	PASS
PCB029	NA	195.51	0.05	0.1	ng/dry g	200	0	98	70 - 130%	PASS
PCB031	NA	249	0.05	0.1	ng/dry g	200	0	125	70 - 130%	PASS
PCB033	NA	206.79	0.05	0.1	ng/dry g	200	0	103	70 - 130%	PASS
PCB037	NA	249.22	0.05	0.1	ng/dry g	200	0	125	70 - 130%	PASS
PCB044	NA	187.38	0.05	0.1	ng/dry g	200	0	94	70 - 130%	PASS
PCB049	NA	189.49	0.05	0.1	ng/dry g	200	0	95	70 - 130%	PASS
PCB052	NA	176.57	0.05	0.1	ng/dry g	200	0	88	70 - 130%	PASS
PCB056(060)	NA	233.8	0.1	0.2	ng/dry g	200	0	117	70 - 130%	PASS
PCB066	NA	215.34	0.05	0.1	ng/dry g	200	0	108	70 - 130%	PASS
PCB070	NA	212.52	0.05	0.1	ng/dry g	200	0	106	70 - 130%	PASS
PCB074	NA	223.17	0.05	0.1	ng/dry g	200	0	112	70 - 130%	PASS
PCB077	NA	256.7	0.05	0.1	ng/dry g	200	0	128	70 - 130%	PASS
PCB081	NA	249.3	0.05	0.1	ng/dry g	200	0	125	70 - 130%	PASS
PCB087	NA	209.53	0.05	0.1	ng/dry g	200	0	105	70 - 130%	PASS
PCB095	NA	172.11	0.05	0.1	ng/dry g	200	0	86	70 - 130%	PASS
PCB097	NA	221.8	0.05	0.1	ng/dry g	200	0	111	70 - 130%	PASS
PCB099	NA	205.87	0.05	0.1	ng/dry g	200	0	103	70 - 130%	PASS
PCB101	NA	200.1	0.05	0.1	ng/dry g	200	0	100	70 - 130%	PASS
PCB105	NA	216.89	0.05	0.1	ng/dry g	200	0	108	70 - 130%	PASS
PCB110	NA	208.57	0.05	0.1	ng/dry g	200	0	104	70 - 130%	PASS
PCB114	NA	247.51	0.05	0.1	ng/dry g	200	0	124	70 - 130%	PASS
PCB118	NA	226.7	0.05	0.1	ng/dry g	200	0	113	70 - 130%	PASS
PCB119	NA	230.12	0.05	0.1	ng/dry g	200	0	115	70 - 130%	PASS



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PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB123	NA	242.84	0.05	0.1	ng/dry g	200	0	121	70 - 130% PASS	
PCB126	NA	257.98	0.05	0.1	ng/dry g	200	0	129	70 - 130% PASS	
PCB128	NA	237.93	0.05	0.1	ng/dry g	200	0	119	70 - 130% PASS	
PCB137	NA	220.02	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	
PCB138	NA	216.48	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	
PCB141	NA	194.02	0.05	0.1	ng/dry g	200	0	97	70 - 130% PASS	
PCB149	NA	186.39	0.05	0.1	ng/dry g	200	0	93	70 - 130% PASS	
PCB151	NA	195.44	0.05	0.1	ng/dry g	200	0	98	70 - 130% PASS	
PCB153	NA	223.58	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	
PCB156	NA	248.4	0.05	0.1	ng/dry g	200	0	124	70 - 130% PASS	
PCB157	NA	229.38	0.05	0.1	ng/dry g	200	0	115	70 - 130% PASS	
PCB158	NA	200.58	0.05	0.1	ng/dry g	200	0	100	70 - 130% PASS	
PCB167	NA	228.4	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	
PCB168+132	NA	384	0.1	0.2	ng/dry g	400	0	96	70 - 130% PASS	
PCB169	NA	305.94	0.05	0.1	ng/dry g	200	0	153	70 - 130% FAIL	R
PCB170	NA	234	0.05	0.1	ng/dry g	200	0	117	70 - 130% PASS	
PCB174	NA	196.37	0.05	0.1	ng/dry g	200	0	98	70 - 130% PASS	
PCB177	NA	192.66	0.05	0.1	ng/dry g	200	0	96	70 - 130% PASS	
PCB180	NA	223.85	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	
PCB183	NA	194.13	0.05	0.1	ng/dry g	200	0	97	70 - 130% PASS	
PCB187	NA	196.75	0.05	0.1	ng/dry g	200	0	98	70 - 130% PASS	
PCB189	NA	245.46	0.05	0.1	ng/dry g	200	0	123	70 - 130% PASS	
PCB194	NA	216.02	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	
PCB195	NA	192.73	0.05	0.1	ng/dry g	200	0	96	70 - 130% PASS	
PCB199(200)	NA	158	0.1	0.2	ng/dry g	200	0	79	70 - 130% PASS	
PCB201	NA	191.85	0.05	0.1	ng/dry g	200	0	96	70 - 130% PASS	
PCB203	NA	188.27	0.05	0.1	ng/dry g	200	0	94	70 - 130% PASS	
PCB206	NA	210.75	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	
PCB209	NA	168.99	0.05	0.1	ng/dry g	200	0	84	70 - 130% PASS	

Sample ID: 22481-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 09-May-14 17:01



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB003	NA	204.92	0.05	0.1	ng/dry g	200	0	102 70 - 130% PASS	2 25 PASS	
PCB005	NA	212.07	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS	6 25 PASS	
PCB008	NA	170.98	0.05	0.1	ng/dry g	200	0	85 70 - 130% PASS	4 25 PASS	
PCB015	NA	217.54	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS	3 25 PASS	
PCB018	NA	175.64	0.05	0.1	ng/dry g	200	0	88 70 - 130% PASS	2 25 PASS	
PCB027	NA	167.58	0.05	0.1	ng/dry g	200	0	84 70 - 130% PASS	1 25 PASS	
PCB028	NA	189.3	0.05	0.1	ng/dry g	200	0	95 70 - 130% PASS	8 25 PASS	
PCB029	NA	201.91	0.05	0.1	ng/dry g	200	0	101 70 - 130% PASS	3 25 PASS	
PCB031	NA	245.68	0.05	0.1	ng/dry g	200	0	123 70 - 130% PASS	1 25 PASS	
PCB033	NA	213.56	0.05	0.1	ng/dry g	200	0	107 70 - 130% PASS	4 25 PASS	
PCB037	NA	255.68	0.05	0.1	ng/dry g	200	0	128 70 - 130% PASS	2 25 PASS	
PCB044	NA	197.99	0.05	0.1	ng/dry g	200	0	99 70 - 130% PASS	5 25 PASS	
PCB049	NA	196.57	0.05	0.1	ng/dry g	200	0	98 70 - 130% PASS	3 25 PASS	
PCB052	NA	182.43	0.05	0.1	ng/dry g	200	0	91 70 - 130% PASS	3 25 PASS	
PCB056(060)	NA	240.5	0.1	0.2	ng/dry g	200	0	120 70 - 130% PASS	3 25 PASS	
PCB066	NA	222.43	0.05	0.1	ng/dry g	200	0	111 70 - 130% PASS	3 25 PASS	
PCB070	NA	219.96	0.05	0.1	ng/dry g	200	0	110 70 - 130% PASS	4 25 PASS	
PCB074	NA	227.65	0.05	0.1	ng/dry g	200	0	114 70 - 130% PASS	2 25 PASS	
PCB077	NA	246.62	0.05	0.1	ng/dry g	200	0	123 70 - 130% PASS	4 25 PASS	
PCB081	NA	242.11	0.05	0.1	ng/dry g	200	0	121 70 - 130% PASS	3 25 PASS	
PCB087	NA	219.18	0.05	0.1	ng/dry g	200	0	110 70 - 130% PASS	5 25 PASS	
PCB095	NA	179.04	0.05	0.1	ng/dry g	200	0	90 70 - 130% PASS	5 25 PASS	
PCB097	NA	232.23	0.05	0.1	ng/dry g	200	0	116 70 - 130% PASS	4 25 PASS	
PCB099	NA	213.42	0.05	0.1	ng/dry g	200	0	107 70 - 130% PASS	4 25 PASS	
PCB101	NA	208.85	0.05	0.1	ng/dry g	200	0	104 70 - 130% PASS	4 25 PASS	
PCB105	NA	221.29	0.05	0.1	ng/dry g	200	0	111 70 - 130% PASS	3 25 PASS	
PCB110	NA	217.37	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS	5 25 PASS	
PCB114	NA	249.98	0.05	0.1	ng/dry g	200	0	125 70 - 130% PASS	1 25 PASS	
PCB118	NA	238.22	0.05	0.1	ng/dry g	200	0	119 70 - 130% PASS	5 25 PASS	
PCB119	NA	238.38	0.05	0.1	ng/dry g	200	0	119 70 - 130% PASS	3 25 PASS	
PCB123	NA	273.24	0.05	0.1	ng/dry g	200	0	137 70 - 130% FAIL	12 25 PASS	R



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB126	NA	261.53	0.05	0.1	ng/dry g	200	0	131 70 - 130% FAIL	2 25 PASS	R
PCB128	NA	248.99	0.05	0.1	ng/dry g	200	0	124 70 - 130% PASS	4 25 PASS	
PCB137	NA	227.92	0.05	0.1	ng/dry g	200	0	114 70 - 130% PASS	4 25 PASS	
PCB138	NA	223.52	0.05	0.1	ng/dry g	200	0	112 70 - 130% PASS	4 25 PASS	
PCB141	NA	199.03	0.05	0.1	ng/dry g	200	0	100 70 - 130% PASS	3 25 PASS	
PCB149	NA	195.95	0.05	0.1	ng/dry g	200	0	98 70 - 130% PASS	5 25 PASS	
PCB151	NA	205.31	0.05	0.1	ng/dry g	200	0	103 70 - 130% PASS	5 25 PASS	
PCB153	NA	228.5	0.05	0.1	ng/dry g	200	0	114 70 - 130% PASS	2 25 PASS	
PCB156	NA	259.88	0.05	0.1	ng/dry g	200	0	130 70 - 130% PASS	5 25 PASS	
PCB157	NA	239.94	0.05	0.1	ng/dry g	200	0	120 70 - 130% PASS	4 25 PASS	
PCB158	NA	208.42	0.05	0.1	ng/dry g	200	0	104 70 - 130% PASS	4 25 PASS	
PCB167	NA	239.86	0.05	0.1	ng/dry g	200	0	120 70 - 130% PASS	5 25 PASS	
PCB168+132	NA	393.7	0.1	0.2	ng/dry g	400	0	98 70 - 130% PASS	2 25 PASS	
PCB169	NA	315	0.05	0.1	ng/dry g	200	0	158 70 - 130% FAIL	3 25 PASS	R
PCB170	NA	230.45	0.05	0.1	ng/dry g	200	0	115 70 - 130% PASS	2 25 PASS	
PCB174	NA	201.08	0.05	0.1	ng/dry g	200	0	101 70 - 130% PASS	3 25 PASS	
PCB177	NA	200.32	0.05	0.1	ng/dry g	200	0	100 70 - 130% PASS	4 25 PASS	
PCB180	NA	234.09	0.05	0.1	ng/dry g	200	0	117 70 - 130% PASS	4 25 PASS	
PCB183	NA	202.48	0.05	0.1	ng/dry g	200	0	101 70 - 130% PASS	4 25 PASS	
PCB187	NA	204.06	0.05	0.1	ng/dry g	200	0	102 70 - 130% PASS	4 25 PASS	
PCB189	NA	251.94	0.05	0.1	ng/dry g	200	0	126 70 - 130% PASS	2 25 PASS	
PCB194	NA	225.57	0.05	0.1	ng/dry g	200	0	113 70 - 130% PASS	5 25 PASS	
PCB195	NA	204.96	0.05	0.1	ng/dry g	200	0	102 70 - 130% PASS	6 25 PASS	
PCB199(200)	NA	147.3	0.1	0.2	ng/dry g	200	0	74 70 - 130% PASS	7 25 PASS	
PCB201	NA	202.9	0.05	0.1	ng/dry g	200	0	101 70 - 130% PASS	5 25 PASS	
PCB203	NA	202.37	0.05	0.1	ng/dry g	200	0	101 70 - 130% PASS	7 25 PASS	
PCB206	NA	214.13	0.05	0.1	ng/dry g	200	0	107 70 - 130% PASS	2 25 PASS	
PCB209	NA	179.96	0.05	0.1	ng/dry g	200	0	90 70 - 130% PASS	7 25 PASS	

Sample ID: 22483-MS1

B13-8014

Matrix: Sediment

Sampled: 26-Aug-13 9:44

Received: 27-Aug-13

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 09-May-14 18:40

PCB003	NA	32.31	0.05	0.1	ng/dry g	30.84	0	105 50 - 150% PASS		
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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB005	NA	33.27	0.05	0.1	ng/dry g	30.84	0	108	50 - 150% PASS	
PCB008	NA	30.62	0.05	0.1	ng/dry g	30.84	0	99	50 - 150% PASS	
PCB015	NA	34.19	0.05	0.1	ng/dry g	30.84	0	111	50 - 150% PASS	
PCB018	NA	27.68	0.05	0.1	ng/dry g	30.84	0	90	50 - 150% PASS	
PCB027	NA	26.49	0.05	0.1	ng/dry g	30.84	0	86	50 - 150% PASS	
PCB028	NA	29.5	0.05	0.1	ng/dry g	30.84	0	96	50 - 150% PASS	
PCB029	NA	31.36	0.05	0.1	ng/dry g	30.84	0	102	50 - 150% PASS	
PCB031	NA	33.19	0.05	0.1	ng/dry g	30.84	0	108	50 - 150% PASS	
PCB033	NA	33.02	0.05	0.1	ng/dry g	30.84	0	107	50 - 150% PASS	
PCB037	NA	38.2	0.05	0.1	ng/dry g	30.84	0	124	50 - 150% PASS	
PCB044	NA	29.56	0.05	0.1	ng/dry g	30.84	0	96	50 - 150% PASS	
PCB049	NA	30.74	0.05	0.1	ng/dry g	30.84	0	100	50 - 150% PASS	
PCB052	NA	29.07	0.05	0.1	ng/dry g	30.84	0	94	50 - 150% PASS	
PCB056(060)	NA	36.5	0.1	0.2	ng/dry g	30.8	0	119	50 - 150% PASS	
PCB066	NA	33.99	0.05	0.1	ng/dry g	30.84	0	110	50 - 150% PASS	
PCB070	NA	33.74	0.05	0.1	ng/dry g	30.84	0	109	50 - 150% PASS	
PCB074	NA	35.89	0.05	0.1	ng/dry g	30.84	0	116	50 - 150% PASS	
PCB077	NA	38.34	0.05	0.1	ng/dry g	30.84	0	124	50 - 150% PASS	
PCB081	NA	38.17	0.05	0.1	ng/dry g	30.84	0	124	50 - 150% PASS	
PCB087	NA	33.02	0.05	0.1	ng/dry g	30.84	0.16	107	50 - 150% PASS	
PCB095	NA	27.46	0.05	0.1	ng/dry g	30.84	0.2	88	50 - 150% PASS	
PCB097	NA	35.04	0.05	0.1	ng/dry g	30.84	0	114	50 - 150% PASS	
PCB099	NA	32.64	0.05	0.1	ng/dry g	30.84	0.12	105	50 - 150% PASS	
PCB101	NA	32.03	0.05	0.1	ng/dry g	30.84	0.3	103	50 - 150% PASS	
PCB105	NA	33.28	0.05	0.1	ng/dry g	30.84	0	108	50 - 150% PASS	
PCB110	NA	32.76	0.05	0.1	ng/dry g	30.84	0.09	106	50 - 150% PASS	
PCB114	NA	37.92	0.05	0.1	ng/dry g	30.84	0	123	50 - 150% PASS	
PCB118	NA	35.25	0.05	0.1	ng/dry g	30.84	0	114	50 - 150% PASS	
PCB119	NA	36.14	0.05	0.1	ng/dry g	30.84	0	117	50 - 150% PASS	
PCB123	NA	37.2	0.05	0.1	ng/dry g	30.84	0	121	50 - 150% PASS	
PCB126	NA	41.5	0.05	0.1	ng/dry g	30.84	0	135	50 - 150% PASS	



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB128	NA	37.45	0.05	0.1	ng/dry g	30.84	0	121	50 - 150% PASS	
PCB137	NA	34.72	0.05	0.1	ng/dry g	30.84	0	113	50 - 150% PASS	
PCB138	NA	34.02	0.05	0.1	ng/dry g	30.84	0.69	108	50 - 150% PASS	
PCB141	NA	30.14	0.05	0.1	ng/dry g	30.84	0.07	98	50 - 150% PASS	
PCB149	NA	29.69	0.05	0.1	ng/dry g	30.84	0.46	95	50 - 150% PASS	
PCB151	NA	30.85	0.05	0.1	ng/dry g	30.84	0.15	100	50 - 150% PASS	
PCB153	NA	35.37	0.05	0.1	ng/dry g	30.84	0.76	112	50 - 150% PASS	
PCB156	NA	38.33	0.05	0.1	ng/dry g	30.84	0	124	50 - 150% PASS	
PCB157	NA	35.47	0.05	0.1	ng/dry g	30.84	0	115	50 - 150% PASS	
PCB158	NA	31.34	0.05	0.1	ng/dry g	30.84	0.06	101	50 - 150% PASS	
PCB167	NA	35.37	0.05	0.1	ng/dry g	30.84	0	115	50 - 150% PASS	
PCB168+132	NA	60.5	0.1	0.2	ng/dry g	61.7	0.1	98	50 - 150% PASS	
PCB169	NA	45.39	0.05	0.1	ng/dry g	30.84	0.34	146	50 - 150% PASS	
PCB170	NA	36.07	0.05	0.1	ng/dry g	30.84	0.07	117	50 - 150% PASS	
PCB174	NA	30.47	0.05	0.1	ng/dry g	30.84	0.13	98	50 - 150% PASS	
PCB177	NA	30.11	0.05	0.1	ng/dry g	30.84	0.1	97	50 - 150% PASS	
PCB180	NA	34.61	0.05	0.1	ng/dry g	30.84	0.24	111	50 - 150% PASS	
PCB183	NA	30.58	0.05	0.1	ng/dry g	30.84	0.09	99	50 - 150% PASS	
PCB187	NA	29.87	0.05	0.1	ng/dry g	30.84	0.17	96	50 - 150% PASS	
PCB189	NA	37.38	0.05	0.1	ng/dry g	30.84	0	121	50 - 150% PASS	
PCB194	NA	33.36	0.05	0.1	ng/dry g	30.84	0	108	50 - 150% PASS	
PCB195	NA	29.3	0.05	0.1	ng/dry g	30.84	0	95	50 - 150% PASS	
PCB199(200)	NA	24.5	0.1	0.2	ng/dry g	30.8	0	80	50 - 150% PASS	
PCB201	NA	29.77	0.05	0.1	ng/dry g	30.84	0	97	50 - 150% PASS	
PCB203	NA	29.62	0.05	0.1	ng/dry g	30.84	0	96	50 - 150% PASS	
PCB206	NA	31.94	0.05	0.1	ng/dry g	30.84	0	104	50 - 150% PASS	
PCB209	NA	25.69	0.05	0.1	ng/dry g	30.84	0	83	50 - 150% PASS	

Sample ID: 22483-MS2

B13-8014

Matrix: Sediment

Sampled: 26-Aug-13 9:44

Received: 27-Aug-13

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 09-May-14 20:18

PCB003	NA	33.59	0.05	0.1	ng/dry g	31.88	0	105	50 - 150% PASS	0	25	PASS
PCB005	NA	34.03	0.05	0.1	ng/dry g	31.88	0	107	50 - 150% PASS	1	25	PASS



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PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
PCB008	NA	33.41	0.05	0.1	ng/dry g	31.88	0	105	50 - 150% PASS	6	25	PASS
PCB015	NA	34.8	0.05	0.1	ng/dry g	31.88	0	109	50 - 150% PASS	2	25	PASS
PCB018	NA	28.81	0.05	0.1	ng/dry g	31.88	0	90	50 - 150% PASS	0	25	PASS
PCB027	NA	27.35	0.05	0.1	ng/dry g	31.88	0	86	50 - 150% PASS	0	25	PASS
PCB028	NA	30.05	0.05	0.1	ng/dry g	31.88	0	94	50 - 150% PASS	2	25	PASS
PCB029	NA	32.79	0.05	0.1	ng/dry g	31.88	0	103	50 - 150% PASS	1	25	PASS
PCB031	NA	33.33	0.05	0.1	ng/dry g	31.88	0	105	50 - 150% PASS	3	25	PASS
PCB033	NA	34.64	0.05	0.1	ng/dry g	31.88	0	109	50 - 150% PASS	2	25	PASS
PCB037	NA	38.27	0.05	0.1	ng/dry g	31.88	0	120	50 - 150% PASS	3	25	PASS
PCB044	NA	30.79	0.05	0.1	ng/dry g	31.88	0	97	50 - 150% PASS	1	25	PASS
PCB049	NA	31.76	0.05	0.1	ng/dry g	31.88	0	100	50 - 150% PASS	0	25	PASS
PCB052	NA	29.82	0.05	0.1	ng/dry g	31.88	0	94	50 - 150% PASS	0	25	PASS
PCB056(060)	NA	38.4	0.1	0.2	ng/dry g	31.9	0	120	50 - 150% PASS	1	25	PASS
PCB066	NA	35.34	0.05	0.1	ng/dry g	31.88	0	111	50 - 150% PASS	1	25	PASS
PCB070	NA	34.97	0.05	0.1	ng/dry g	31.88	0	110	50 - 150% PASS	1	25	PASS
PCB074	NA	37.34	0.05	0.1	ng/dry g	31.88	0	117	50 - 150% PASS	1	25	PASS
PCB077	NA	39.37	0.05	0.1	ng/dry g	31.88	0	123	50 - 150% PASS	1	25	PASS
PCB081	NA	37.99	0.05	0.1	ng/dry g	31.88	0	119	50 - 150% PASS	4	25	PASS
PCB087	NA	34.12	0.05	0.1	ng/dry g	31.88	0.16	107	50 - 150% PASS	0	25	PASS
PCB095	NA	28.33	0.05	0.1	ng/dry g	31.88	0.2	88	50 - 150% PASS	0	25	PASS
PCB097	NA	36.44	0.05	0.1	ng/dry g	31.88	0	114	50 - 150% PASS	0	25	PASS
PCB099	NA	33.96	0.05	0.1	ng/dry g	31.88	0.12	106	50 - 150% PASS	1	25	PASS
PCB101	NA	33.43	0.05	0.1	ng/dry g	31.88	0.3	104	50 - 150% PASS	1	25	PASS
PCB105	NA	34.85	0.05	0.1	ng/dry g	31.88	0	109	50 - 150% PASS	1	25	PASS
PCB110	NA	34.41	0.05	0.1	ng/dry g	31.88	0.09	108	50 - 150% PASS	2	25	PASS
PCB114	NA	39.26	0.05	0.1	ng/dry g	31.88	0	123	50 - 150% PASS	0	25	PASS
PCB118	NA	36.39	0.05	0.1	ng/dry g	31.88	0	114	50 - 150% PASS	0	25	PASS
PCB119	NA	38.61	0.05	0.1	ng/dry g	31.88	0	121	50 - 150% PASS	3	25	PASS
PCB123	NA	35.71	0.05	0.1	ng/dry g	31.88	0	112	50 - 150% PASS	8	25	PASS
PCB126	NA	41.14	0.05	0.1	ng/dry g	31.88	0	129	50 - 150% PASS	5	25	PASS
PCB128	NA	35.51	0.05	0.1	ng/dry g	31.88	0	111	50 - 150% PASS	9	25	PASS



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PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB137	NA	35.87	0.05	0.1	ng/dry g	31.88	0	113 50 - 150% PASS	0 25 PASS	
PCB138	NA	35.72	0.05	0.1	ng/dry g	31.88	0.69	110 50 - 150% PASS	2 25 PASS	
PCB141	NA	31.5	0.05	0.1	ng/dry g	31.88	0.07	99 50 - 150% PASS	1 25 PASS	
PCB149	NA	30.81	0.05	0.1	ng/dry g	31.88	0.46	95 50 - 150% PASS	0 25 PASS	
PCB151	NA	32.08	0.05	0.1	ng/dry g	31.88	0.15	100 50 - 150% PASS	0 25 PASS	
PCB153	NA	37.04	0.05	0.1	ng/dry g	31.88	0.76	114 50 - 150% PASS	2 25 PASS	
PCB156	NA	37.18	0.05	0.1	ng/dry g	31.88	0	117 50 - 150% PASS	6 25 PASS	
PCB157	NA	36.97	0.05	0.1	ng/dry g	31.88	0	116 50 - 150% PASS	1 25 PASS	
PCB158	NA	32.45	0.05	0.1	ng/dry g	31.88	0.06	102 50 - 150% PASS	1 25 PASS	
PCB167	NA	36.73	0.05	0.1	ng/dry g	31.88	0	115 50 - 150% PASS	0 25 PASS	
PCB168+132	NA	61.6	0.1	0.2	ng/dry g	63.8	0.1	96 50 - 150% PASS	2 25 PASS	
PCB169	NA	45.22	0.05	0.1	ng/dry g	31.88	0.34	141 50 - 150% PASS	3 25 PASS	
PCB170	NA	38.37	0.05	0.1	ng/dry g	31.88	0.07	120 50 - 150% PASS	3 25 PASS	
PCB174	NA	32.15	0.05	0.1	ng/dry g	31.88	0.13	100 50 - 150% PASS	2 25 PASS	
PCB177	NA	31.96	0.05	0.1	ng/dry g	31.88	0.1	100 50 - 150% PASS	3 25 PASS	
PCB180	NA	36.28	0.05	0.1	ng/dry g	31.88	0.24	113 50 - 150% PASS	2 25 PASS	
PCB183	NA	31.63	0.05	0.1	ng/dry g	31.88	0.09	99 50 - 150% PASS	0 25 PASS	
PCB187	NA	32.05	0.05	0.1	ng/dry g	31.88	0.17	100 50 - 150% PASS	4 25 PASS	
PCB189	NA	38.27	0.05	0.1	ng/dry g	31.88	0	120 50 - 150% PASS	1 25 PASS	
PCB194	NA	35.06	0.05	0.1	ng/dry g	31.88	0	110 50 - 150% PASS	2 25 PASS	
PCB195	NA	31.34	0.05	0.1	ng/dry g	31.88	0	98 50 - 150% PASS	3 25 PASS	
PCB199(200)	NA	25.9	0.1	0.2	ng/dry g	31.9	0	81 50 - 150% PASS	1 25 PASS	
PCB201	NA	31.44	0.05	0.1	ng/dry g	31.88	0	99 50 - 150% PASS	2 25 PASS	
PCB203	NA	30.93	0.05	0.1	ng/dry g	31.88	0	97 50 - 150% PASS	1 25 PASS	
PCB206	NA	34	0.05	0.1	ng/dry g	31.88	0	107 50 - 150% PASS	3 25 PASS	
PCB209	NA	27.37	0.05	0.1	ng/dry g	31.88	0	86 50 - 150% PASS	4 25 PASS	

Sample ID: 22483-R2

B13-8014

Matrix: Sediment

Sampled: 26-Aug-13 9:44

Received: 27-Aug-13

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 10-May-14 3:17

PCB003	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB005	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB008	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB015	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB018	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB027	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB028	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB029	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB031	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB033	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB037	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB044	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB049	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB052	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g				0 25 PASS	
PCB066	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB070	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB074	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB077	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB081	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB087	NA	0.17	0.05	0.1	ng/dry g				19 25 PASS	
PCB095	NA	0.26	0.05	0.1	ng/dry g				60 25 FAIL	SL
PCB097	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB099	NA	0.12	0.05	0.1	ng/dry g				9 25 PASS	
PCB101	NA	0.25	0.05	0.1	ng/dry g				33 25 FAIL	SL
PCB105	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB110	NA	ND	0.05	0.1	ng/dry g				117 25 FAIL	SL
PCB114	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB118	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB119	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB123	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB126	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB128	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB137	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB138	NA	0.58	0.05	0.1	ng/dry g				32 25 FAIL	SL
PCB141	NA	ND	0.05	0.1	ng/dry g				89 25 FAIL	SL
PCB149	NA	0.34	0.05	0.1	ng/dry g				52 25 FAIL	SL
PCB151	NA	0.18	0.05	0.1	ng/dry g				32 25 FAIL	SL
PCB153	NA	0.65	0.05	0.1	ng/dry g				29 25 FAIL	SL
PCB156	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB157	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB158	NA	0.11	0.05	0.1	ng/dry g				75 25 FAIL	SL
PCB167	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB168+132	NA	0.1	0.1	0.2	ng/dry g				67 25 FAIL	J,SL
PCB169	NA	0.35	0.05	0.1	ng/dry g				6 25 PASS	
PCB170	NA	ND	0.05	0.1	ng/dry g				100 25 FAIL	SL
PCB174	NA	0.11	0.05	0.1	ng/dry g				37 25 FAIL	SL
PCB177	NA	0.09	0.05	0.1	ng/dry g				29 25 FAIL	J,SL
PCB180	NA	0.21	0.05	0.1	ng/dry g				25 25 PASS	
PCB183	NA	0.07	0.05	0.1	ng/dry g				35 25 FAIL	J,SL
PCB187	NA	0.17	0.05	0.1	ng/dry g				6 25 PASS	
PCB189	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB194	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB195	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g				0 25 PASS	
PCB201	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB203	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB206	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB209	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	

Sample ID: 22492-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 09-May-14 22:21

PCB008	NA	21.38	0.05	0.1	ng/dry g	22.3	96	60 - 140%	PASS
PCB018	NA	39.62	0.05	0.1	ng/dry g	51	78	60 - 140%	PASS
PCB028	NA	70.19	0.05	0.1	ng/dry g	80.8	87	60 - 140%	PASS
PCB031	NA	74.79	0.05	0.1	ng/dry g	78.7	95	60 - 140%	PASS



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB044	NA	56.3	0.05	0.1	ng/dry g	60.2		94 60 - 140% PASS		
PCB049	NA	39.93	0.05	0.1	ng/dry g	53		75 60 - 140% PASS		
PCB052	NA	69.4	0.05	0.1	ng/dry g	79.4		87 60 - 140% PASS		
PCB066	NA	74.3	0.05	0.1	ng/dry g	71.9		103 60 - 140% PASS		
PCB087	NA	24.3	0.05	0.1	ng/dry g	29.9		81 60 - 140% PASS		
PCB095	NA	44.13	0.05	0.1	ng/dry g	65		68 60 - 140% PASS		
PCB099	NA	31.5	0.05	0.1	ng/dry g	37.5		84 60 - 140% PASS		
PCB101	NA	49.04	0.05	0.1	ng/dry g	73.4		67 60 - 140% PASS		
PCB105	NA	22.6	0.05	0.1	ng/dry g	24.5		92 60 - 140% PASS		
PCB110	NA	40.16	0.05	0.1	ng/dry g	63.5		63 60 - 140% PASS		
PCB118	NA	52.2	0.05	0.1	ng/dry g	58		90 60 - 140% PASS		
PCB128	NA	7.44	0.05	0.1	ng/dry g	8.5		88 60 - 140% PASS		
PCB138	NA	43.59	0.05	0.1	ng/dry g	62.1		70 60 - 140% PASS		
PCB149	NA	35.16	0.05	0.1	ng/dry g	49.7		71 60 - 140% PASS		
PCB151	NA	12.64	0.05	0.1	ng/dry g	16.9		75 60 - 140% PASS		
PCB153	NA	47.96	0.05	0.1	ng/dry g	74		65 60 - 140% PASS		
PCB156	NA	5.22	0.05	0.1	ng/dry g	6.5		80 60 - 140% PASS		
PCB170	NA	20.61	0.05	0.1	ng/dry g	22.6		91 60 - 140% PASS		
PCB180	NA	39.78	0.05	0.1	ng/dry g	44.3		90 60 - 140% PASS		
PCB183	NA	11.04	0.05	0.1	ng/dry g	12.2		90 60 - 140% PASS		
PCB187	NA	22.47	0.05	0.1	ng/dry g	25.1		90 60 - 140% PASS		
PCB194	NA	12.29	0.05	0.1	ng/dry g	11.2		110 60 - 140% PASS		
PCB195	NA	2.78	0.05	0.1	ng/dry g	3.8		73 60 - 140% PASS		
PCB206	NA	6.31	0.05	0.1	ng/dry g	9.2		69 60 - 140% PASS		
PCB209	NA	5.94	0.05	0.1	ng/dry g	6.8		87 60 - 140% PASS		



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22481-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 19-Nov-13 19:30

(DFPBDE)	NA	97			% Recovery	100		97	50 - 150%	PASS
(FTBDE)	NA	91			% Recovery	100		91	50 - 150%	PASS
PBDE017	NA	ND	0.05	0.1	ng/dry g					
PBDE028	NA	ND	0.05	0.1	ng/dry g					
PBDE047	NA	ND	0.05	0.1	ng/dry g					
PBDE049	NA	ND	0.05	0.1	ng/dry g					
PBDE066	NA	ND	0.05	0.1	ng/dry g					
PBDE071	NA	ND	0.05	0.1	ng/dry g					
PBDE085	NA	ND	0.05	0.1	ng/dry g					
PBDE099	NA	ND	0.05	0.1	ng/dry g					
PBDE100	NA	ND	0.05	0.1	ng/dry g					
PBDE138	NA	ND	0.05	0.1	ng/dry g					
PBDE153	NA	ND	0.05	0.1	ng/dry g					
PBDE154	NA	ND	0.05	0.1	ng/dry g					
PBDE183	NA	ND	0.05	0.1	ng/dry g					
PBDE190	NA	ND	0.05	0.1	ng/dry g					
PBDE209	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 22481-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 19-Nov-13 20:09

(DFPBDE)	NA	118			% Recovery	100	0	118	70 - 130%	PASS
(FTBDE)	NA	120			% Recovery	100	0	120	70 - 130%	PASS
PBDE017	NA	129.71	0.05	0.1	ng/dry g	100	0	130	70 - 130%	PASS
PBDE028	NA	128.09	0.05	0.1	ng/dry g	100	0	128	70 - 130%	PASS
PBDE047	NA	124.94	0.05	0.1	ng/dry g	100	0	125	70 - 130%	PASS
PBDE049	NA	84.96	0.05	0.1	ng/dry g	100	0	85	70 - 130%	PASS
PBDE066	NA	127.51	0.05	0.1	ng/dry g	100	0	128	70 - 130%	PASS
PBDE071	NA	106.88	0.05	0.1	ng/dry g	100	0	107	70 - 130%	PASS
PBDE085	NA	123.37	0.05	0.1	ng/dry g	100	0	123	70 - 130%	PASS



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PBDE099	NA	124.85	0.05	0.1	ng/dry g	100	0	125 70 - 130%	PASS	
PBDE100	NA	129.77	0.05	0.1	ng/dry g	100	0	130 70 - 130%	PASS	
PBDE138	NA	99.02	0.05	0.1	ng/dry g	100	0	99 70 - 130%	PASS	
PBDE153	NA	124.34	0.05	0.1	ng/dry g	100	0	124 70 - 130%	PASS	
PBDE154	NA	125.86	0.05	0.1	ng/dry g	100	0	126 70 - 130%	PASS	
PBDE183	NA	102.56	0.05	0.1	ng/dry g	100	0	103 70 - 130%	PASS	
PBDE190	NA	72.43	0.05	0.1	ng/dry g	100	0	72 70 - 130%	PASS	
PBDE209	NA	401	0.05	0.1	ng/dry g	500	0	80 70 - 130%	PASS	

Sample ID: 22481-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 19-Nov-13 20:48

(DFPBDE)	NA	115			% Recovery	100	0	115 70 - 130%	PASS	3	25	PASS
(FTBDE)	NA	119			% Recovery	100	0	119 70 - 130%	PASS	1	25	PASS
PBDE017	NA	129.18	0.05	0.1	ng/dry g	100	0	129 70 - 130%	PASS	1	25	PASS
PBDE028	NA	128.08	0.05	0.1	ng/dry g	100	0	128 70 - 130%	PASS	0	25	PASS
PBDE047	NA	125.93	0.05	0.1	ng/dry g	100	0	126 70 - 130%	PASS	1	25	PASS
PBDE049	NA	84.53	0.05	0.1	ng/dry g	100	0	85 70 - 130%	PASS	0	25	PASS
PBDE066	NA	127.8	0.05	0.1	ng/dry g	100	0	128 70 - 130%	PASS	0	25	PASS
PBDE071	NA	103.59	0.05	0.1	ng/dry g	100	0	104 70 - 130%	PASS	3	25	PASS
PBDE085	NA	127.57	0.05	0.1	ng/dry g	100	0	128 70 - 130%	PASS	4	25	PASS
PBDE099	NA	127.97	0.05	0.1	ng/dry g	100	0	128 70 - 130%	PASS	2	25	PASS
PBDE100	NA	129.22	0.05	0.1	ng/dry g	100	0	129 70 - 130%	PASS	1	25	PASS
PBDE138	NA	109.1	0.05	0.1	ng/dry g	100	0	109 70 - 130%	PASS	10	25	PASS
PBDE153	NA	128.86	0.05	0.1	ng/dry g	100	0	129 70 - 130%	PASS	4	25	PASS
PBDE154	NA	129.9	0.05	0.1	ng/dry g	100	0	130 70 - 130%	PASS	3	25	PASS
PBDE183	NA	121.08	0.05	0.1	ng/dry g	100	0	121 70 - 130%	PASS	16	25	PASS
PBDE190	NA	86.97	0.05	0.1	ng/dry g	100	0	87 70 - 130%	PASS	19	25	PASS
PBDE209	NA	374	0.05	0.1	ng/dry g	500	0	75 70 - 130%	PASS	6	25	FAIL

Sample ID: 22482-MS1

B13-8013

Matrix: Sediment

Sampled: 26-Aug-13 8:18

Received: 27-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 19-Nov-13 21:27

(DFPBDE)	NA	118			% Recovery	100	0	118 70 - 130%	PASS			
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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
(FTBDE)	NA	155			% Recovery	100	0	155	70 - 130% FAIL	M
PBDE017	NA	23.7	0.05	0.1	ng/dry g	14.3	0	166	70 - 130% FAIL	M
PBDE028	NA	21.37	0.05	0.1	ng/dry g	14.3	0	149	70 - 130% FAIL	M
PBDE047	NA	18.56	0.05	0.1	ng/dry g	14.3	0	130	70 - 130% PASS	
PBDE049	NA	14.14	0.05	0.1	ng/dry g	14.3	0	99	70 - 130% PASS	
PBDE066	NA	19.12	0.05	0.1	ng/dry g	14.3	0.05	133	70 - 130% FAIL	M
PBDE071	NA	17.47	0.05	0.1	ng/dry g	14.3	0.25	120	70 - 130% PASS	
PBDE085	NA	16.32	0.05	0.1	ng/dry g	14.3	0	114	70 - 130% PASS	
PBDE099	NA	17.33	0.05	0.1	ng/dry g	14.3	0	121	70 - 130% PASS	
PBDE100	NA	18.37	0.05	0.1	ng/dry g	14.3	0	128	70 - 130% PASS	
PBDE138	NA	11.96	0.05	0.1	ng/dry g	14.3	0	84	70 - 130% PASS	
PBDE153	NA	16.06	0.05	0.1	ng/dry g	14.3	0	112	70 - 130% PASS	
PBDE154	NA	16.42	0.05	0.1	ng/dry g	14.3	0	115	70 - 130% PASS	
PBDE183	NA	14.08	0.05	0.1	ng/dry g	14.3	0.17	97	70 - 130% PASS	
PBDE190	NA	11.9	0.05	0.1	ng/dry g	14.3	0	83	70 - 130% PASS	
PBDE209	NA	39.93	0.05	0.1	ng/dry g	71.5	0	56	70 - 130% FAIL	M

Sample ID: 22482-MS2

B13-8013

Matrix: Sediment

Sampled: 26-Aug-13 8:18

Received: 27-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 19-Nov-13 22:07

(DFPBDE)	NA	81			% Recovery	100	0	81	70 - 130% PASS	37	25	FAIL	M
(FTBDE)	NA	106			% Recovery	100	0	106	70 - 130% PASS	38	25	FAIL	M
PBDE017	NA	15.57	0.05	0.1	ng/dry g	14.06	0	111	70 - 130% PASS	40	25	FAIL	M
PBDE028	NA	14.77	0.05	0.1	ng/dry g	14.06	0	105	70 - 130% PASS	35	25	FAIL	M
PBDE047	NA	12.6	0.05	0.1	ng/dry g	14.06	0	90	70 - 130% PASS	36	25	FAIL	M
PBDE049	NA	8.69	0.05	0.1	ng/dry g	14.06	0	62	70 - 130% FAIL	46	25	FAIL	M
PBDE066	NA	12.22	0.05	0.1	ng/dry g	14.06	0.05	87	70 - 130% PASS	42	25	FAIL	M
PBDE071	NA	11.47	0.05	0.1	ng/dry g	14.06	0.25	80	70 - 130% PASS	40	25	FAIL	M
PBDE085	NA	11.28	0.05	0.1	ng/dry g	14.06	0	80	70 - 130% PASS	35	25	FAIL	M
PBDE099	NA	11.58	0.05	0.1	ng/dry g	14.06	0	82	70 - 130% PASS	38	25	FAIL	M
PBDE100	NA	12.57	0.05	0.1	ng/dry g	14.06	0	89	70 - 130% PASS	36	25	FAIL	M
PBDE138	NA	8.66	0.05	0.1	ng/dry g	14.06	0	62	70 - 130% FAIL	30	25	FAIL	M
PBDE153	NA	10.21	0.05	0.1	ng/dry g	14.06	0	73	70 - 130% PASS	42	25	FAIL	M



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
PBDE154	NA	11.69	0.05	0.1	ng/dry g	14.06	0	83	70 - 130% PASS	32	25 FAIL	M
PBDE183	NA	12.22	0.05	0.1	ng/dry g	14.06	0.17	86	70 - 130% PASS	12	25 PASS	
PBDE190	NA	9.8	0.05	0.1	ng/dry g	14.06	0	70	70 - 130% PASS	17	25 PASS	
PBDE209	NA	32.81	0.05	0.1	ng/dry g	70.3	0	47	70 - 130% FAIL	17	25 PASS	M

Sample ID: 22482-R2

B13-8013

Matrix: Sediment

Sampled: 26-Aug-13 8:18

Received: 27-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 20-Nov-13 0:35

(DFPBDE)	NA	72			% Recovery	100		72	50 - 150% PASS	3	25 PASS	
(FTBDE)	NA	97			% Recovery	100		97	50 - 150% PASS	4	25 PASS	
PBDE017	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PBDE028	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PBDE047	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PBDE049	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PBDE066	NA	0.06	0.05	0.1	ng/dry g					18	25 PASS	J
PBDE071	NA	0.27	0.05	0.1	ng/dry g					12	25 PASS	
PBDE085	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PBDE099	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PBDE100	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PBDE138	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PBDE153	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PBDE154	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PBDE183	NA	0.26	0.05	0.1	ng/dry g					115	25 FAIL	SL
PBDE190	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PBDE209	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	

Sample ID: 22492-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 19-Nov-13 23:17

PBDE047	NA	1.74	0.05	0.1	ng/dry g	1.72		101	60 - 140% PASS			
PBDE099	NA	2.63	0.05	0.1	ng/dry g	2		132	60 - 140% PASS			
PBDE100	NA	0.5	0.05	0.1	ng/dry g	0.4		125	60 - 140% PASS			
PBDE153	NA	6.35	0.05	0.1	ng/dry g	6.44		99	60 - 140% PASS			
PBDE154	NA	2.2	0.05	0.1	ng/dry g	1.06		208	60 - 140% FAIL			R



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PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PBDE183	NA	19.19	0.05	0.1	ng/dry g	31.8		60 60 - 140% PASS		
PBDE209	NA	71.77	0.05	0.1	ng/dry g	93.5		77 60 - 140% PASS		



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22481-B1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5136		Prepared: 22-Apr-14		Analyzed: 09-May-14 13:44	
(d10-Acenaphthene)	NA	84			% Recovery	100	84	50 - 150% PASS		
(d10-Phenanthrene)	NA	86			% Recovery	100	86	50 - 150% PASS		
(d12-Chrysene)	NA	94			% Recovery	100	94	50 - 150% PASS		
(d8-Naphthalene)	NA	80			% Recovery	100	80	25 - 125% PASS		
1-Methylnaphthalene	NA	ND	1	5	ng/dry g					
1-Methylphenanthrene	NA	ND	1	5	ng/dry g					
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g					
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g					
2-Methylnaphthalene	NA	ND	1	5	ng/dry g					
Acenaphthene	NA	ND	1	5	ng/dry g					
Acenaphthylene	NA	ND	1	5	ng/dry g					
Anthracene	NA	ND	1	5	ng/dry g					
Benz[a]anthracene	NA	ND	1	5	ng/dry g					
Benzo[a]pyrene	NA	ND	1	5	ng/dry g					
Benzo[b]fluoranthene	NA	ND	1	5	ng/dry g					
Benzo[e]pyrene	NA	ND	1	5	ng/dry g					
Benzo[g,h,i]perylene	NA	ND	1	5	ng/dry g					
Benzo[k]fluoranthene	NA	ND	1	5	ng/dry g					
Biphenyl	NA	ND	1	5	ng/dry g					
Chrysene	NA	ND	1	5	ng/dry g					
Dibenz[a,h]anthracene	NA	ND	1	5	ng/dry g					
Dibenzothiophene	NA	ND	1	5	ng/dry g					
Fluoranthene	NA	ND	1	5	ng/dry g					
Fluorene	NA	ND	1	5	ng/dry g					
Indeno[1,2,3-c,d]pyrene	NA	ND	1	5	ng/dry g					
Naphthalene	NA	ND	1	5	ng/dry g					
Perylene	NA	ND	1	5	ng/dry g					
Phenanthrene	NA	ND	1	5	ng/dry g					
Pyrene	NA	ND	1	5	ng/dry g					



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Sample ID: 22481-BS1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5136		Prepared: 22-Apr-14		Analyzed: 09-May-14 15:23	
(d10-Acenaphthene)	NA	88			% Recovery	100	0	88	70 - 130%	PASS
(d10-Phenanthrene)	NA	93			% Recovery	100	0	93	70 - 130%	PASS
(d12-Chrysene)	NA	92			% Recovery	100	0	92	70 - 130%	PASS
(d8-Naphthalene)	NA	84			% Recovery	100	0	84	70 - 130%	PASS
1-Methylnaphthalene	NA	767.4	1	5	ng/dry g	1000	0	77	70 - 130%	PASS
1-Methylphenanthrene	NA	1057.7	1	5	ng/dry g	1000	0	106	70 - 130%	PASS
2,3,5-Trimethylnaphthalene	NA	1029.4	1	5	ng/dry g	1000	0	103	70 - 130%	PASS
2,6-Dimethylnaphthalene	NA	829.8	1	5	ng/dry g	1000	0	83	70 - 130%	PASS
2-Methylnaphthalene	NA	768.1	1	5	ng/dry g	1000	0	77	70 - 130%	PASS
Acenaphthene	NA	863.2	1	5	ng/dry g	1000	0	86	70 - 130%	PASS
Acenaphthylene	NA	902	1	5	ng/dry g	1000	0	90	70 - 130%	PASS
Anthracene	NA	1031.4	1	5	ng/dry g	1000	0	103	70 - 130%	PASS
Benz[a]anthracene	NA	1021.5	1	5	ng/dry g	1000	0	102	70 - 130%	PASS
Benzo[a]pyrene	NA	905.2	1	5	ng/dry g	1000	0	91	70 - 130%	PASS
Benzo[b]fluoranthene	NA	937.8	1	5	ng/dry g	1000	0	94	70 - 130%	PASS
Benzo[e]pyrene	NA	923.7	1	5	ng/dry g	1000	0	92	70 - 130%	PASS
Benzo[g,h,i]perylene	NA	1086	1	5	ng/dry g	1000	0	109	70 - 130%	PASS
Benzo[k]fluoranthene	NA	899.4	1	5	ng/dry g	1000	0	90	70 - 130%	PASS
Biphenyl	NA	795.1	1	5	ng/dry g	1000	0	80	70 - 130%	PASS
Chrysene	NA	988.7	1	5	ng/dry g	1000	0	99	70 - 130%	PASS
Dibenz[a,h]anthracene	NA	951.6	1	5	ng/dry g	1000	0	95	70 - 130%	PASS
Dibenzothiophene	NA	996.1	1	5	ng/dry g	1000	0	100	70 - 130%	PASS
Fluoranthene	NA	1035.2	1	5	ng/dry g	1000	0	104	70 - 130%	PASS
Fluorene	NA	1039.5	1	5	ng/dry g	1000	0	104	70 - 130%	PASS
Indeno[1,2,3-c,d]pyrene	NA	1044.3	1	5	ng/dry g	1000	0	104	70 - 130%	PASS
Naphthalene	NA	697.4	1	5	ng/dry g	1000	0	70	70 - 130%	PASS
Perylene	NA	918.2	1	5	ng/dry g	1000	0	92	70 - 130%	PASS
Phenanthrene	NA	1046.3	1	5	ng/dry g	1000	0	105	70 - 130%	PASS
Pyrene	NA	1053	1	5	ng/dry g	1000	0	105	70 - 130%	PASS



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Sample ID: 22481-BS2		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-5136		Prepared: 22-Apr-14		Analyzed: 09-May-14 17:01		
(d10-Acenaphthene)	NA	93			% Recovery	100	0	93	70 - 130% PASS	6 25 PASS
(d10-Phenanthrene)	NA	98			% Recovery	100	0	98	70 - 130% PASS	5 25 PASS
(d12-Chrysene)	NA	104			% Recovery	100	0	104	70 - 130% PASS	12 25 PASS
(d8-Naphthalene)	NA	93			% Recovery	100	0	93	70 - 130% PASS	10 25 PASS
1-Methylnaphthalene	NA	848.3	1	5	ng/dry g	1000	0	85	70 - 130% PASS	10 25 PASS
1-Methylphenanthrene	NA	1136.8	1	5	ng/dry g	1000	0	114	70 - 130% PASS	7 25 PASS
2,3,5-Trimethylnaphthalene	NA	1100.5	1	5	ng/dry g	1000	0	110	70 - 130% PASS	7 25 PASS
2,6-Dimethylnaphthalene	NA	901.9	1	5	ng/dry g	1000	0	90	70 - 130% PASS	8 25 PASS
2-Methylnaphthalene	NA	848.9	1	5	ng/dry g	1000	0	85	70 - 130% PASS	10 25 PASS
Acenaphthene	NA	930.7	1	5	ng/dry g	1000	0	93	70 - 130% PASS	8 25 PASS
Acenaphthylene	NA	966.1	1	5	ng/dry g	1000	0	97	70 - 130% PASS	7 25 PASS
Anthracene	NA	1084	1	5	ng/dry g	1000	0	108	70 - 130% PASS	5 25 PASS
Benz[a]anthracene	NA	1174.1	1	5	ng/dry g	1000	0	117	70 - 130% PASS	14 25 PASS
Benzo[a]pyrene	NA	1068.9	1	5	ng/dry g	1000	0	107	70 - 130% PASS	16 25 PASS
Benzo[b]fluoranthene	NA	1120.6	1	5	ng/dry g	1000	0	112	70 - 130% PASS	17 25 PASS
Benzo[e]pyrene	NA	1092	1	5	ng/dry g	1000	0	109	70 - 130% PASS	17 25 PASS
Benzo[g,h,i]perylene	NA	1148.7	1	5	ng/dry g	1000	0	115	70 - 130% PASS	5 25 PASS
Benzo[k]fluoranthene	NA	1084.8	1	5	ng/dry g	1000	0	108	70 - 130% PASS	18 25 PASS
Biphenyl	NA	866.8	1	5	ng/dry g	1000	0	87	70 - 130% PASS	8 25 PASS
Chrysene	NA	1140.7	1	5	ng/dry g	1000	0	114	70 - 130% PASS	14 25 PASS
Dibenz[a,h]anthracene	NA	1154.6	1	5	ng/dry g	1000	0	115	70 - 130% PASS	19 25 PASS
Dibenzothiophene	NA	1072.5	1	5	ng/dry g	1000	0	107	70 - 130% PASS	7 25 PASS
Fluoranthene	NA	1132.2	1	5	ng/dry g	1000	0	113	70 - 130% PASS	8 25 PASS
Fluorene	NA	1113.5	1	5	ng/dry g	1000	0	111	70 - 130% PASS	7 25 PASS
Indeno[1,2,3-c,d]pyrene	NA	1154.1	1	5	ng/dry g	1000	0	115	70 - 130% PASS	10 25 PASS
Naphthalene	NA	786.1	1	5	ng/dry g	1000	0	79	70 - 130% PASS	12 25 PASS
Perylene	NA	1079	1	5	ng/dry g	1000	0	108	70 - 130% PASS	16 25 PASS
Phenanthrene	NA	1120.6	1	5	ng/dry g	1000	0	112	70 - 130% PASS	6 25 PASS
Pyrene	NA	1152.5	1	5	ng/dry g	1000	0	115	70 - 130% PASS	9 25 PASS



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22483-MS1		B13-8014		Matrix: Sediment		Sampled: 26-Aug-13 9:44		Received: 27-Aug-13		
		Method: EPA 8270C		Batch ID: O-5136		Prepared: 22-Apr-14		Analyzed: 09-May-14 18:40		
(d10-Acenaphthene)	NA	90			% Recovery	100	0	90	50 - 150%	PASS
(d10-Phenanthrene)	NA	92			% Recovery	100	0	92	50 - 150%	PASS
(d12-Chrysene)	NA	82			% Recovery	100	0	82	50 - 150%	PASS
(d8-Naphthalene)	NA	91			% Recovery	100	0	91	25 - 125%	PASS
1-Methylnaphthalene	NA	133.4	1	5	ng/dry g	154.2	0	87	50 - 150%	PASS
1-Methylphenanthrene	NA	176.4	1	5	ng/dry g	154.2	1.2	114	50 - 150%	PASS
2,3,5-Trimethylnaphthalene	NA	174	1	5	ng/dry g	154.2	0	113	50 - 150%	PASS
2,6-Dimethylnaphthalene	NA	142.2	1	5	ng/dry g	154.2	0	92	50 - 150%	PASS
2-Methylnaphthalene	NA	132.8	1	5	ng/dry g	154.2	0	86	50 - 150%	PASS
Acenaphthene	NA	147.4	1	5	ng/dry g	154.2	0	96	50 - 150%	PASS
Acenaphthylene	NA	152.1	1	5	ng/dry g	154.2	0	99	50 - 150%	PASS
Anthracene	NA	173.9	1	5	ng/dry g	154.2	0	113	50 - 150%	PASS
Benz[a]anthracene	NA	153.7	1	5	ng/dry g	154.2	0	100	50 - 150%	PASS
Benzo[a]pyrene	NA	123.8	1	5	ng/dry g	154.2	1.7	79	50 - 150%	PASS
Benzo[b]fluoranthene	NA	139.4	1	5	ng/dry g	154.2	2.1	89	50 - 150%	PASS
Benzo[e]pyrene	NA	132.7	1	5	ng/dry g	154.2	2.1	85	50 - 150%	PASS
Benzo[g,h,i]perylene	NA	178.9	1	5	ng/dry g	154.2	4.7	113	50 - 150%	PASS
Benzo[k]fluoranthene	NA	128.3	1	5	ng/dry g	154.2	0	83	50 - 150%	PASS
Biphenyl	NA	135.7	1	5	ng/dry g	154.2	0	88	50 - 150%	PASS
Chrysene	NA	147.7	1	5	ng/dry g	154.2	1.9	95	50 - 150%	PASS
Dibenz[a,h]anthracene	NA	143.4	1	5	ng/dry g	154.2	0	93	50 - 150%	PASS
Dibenzothiophene	NA	159.5	1	5	ng/dry g	154.2	0.6	103	50 - 150%	PASS
Fluoranthene	NA	174	1	5	ng/dry g	154.2	5.3	109	50 - 150%	PASS
Fluorene	NA	177.2	1	5	ng/dry g	154.2	0.5	115	50 - 150%	PASS
Indeno[1,2,3-c,d]pyrene	NA	192.5	1	5	ng/dry g	154.2	4.1	122	50 - 150%	PASS
Naphthalene	NA	123.5	1	5	ng/dry g	154.2	0	80	25 - 125%	PASS
Perylene	NA	129.1	1	5	ng/dry g	154.2	0	84	50 - 150%	PASS
Phenanthrene	NA	178.7	1	5	ng/dry g	154.2	6.1	112	50 - 150%	PASS
Pyrene	NA	174.9	1	5	ng/dry g	154.2	5.4	110	50 - 150%	PASS



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Sample ID: 22483-MS2		B13-8014		Matrix: Sediment		Sampled: 26-Aug-13 9:44		Received: 27-Aug-13		
		Method: EPA 8270C		Batch ID: O-5136		Prepared: 22-Apr-14		Analyzed: 09-May-14 20:18		
(d10-Acenaphthene)	NA	88			% Recovery	100	0	88	50 - 150%	PASS
(d10-Phenanthrene)	NA	88			% Recovery	100	0	88	50 - 150%	PASS
(d12-Chrysene)	NA	80			% Recovery	100	0	80	50 - 150%	PASS
(d8-Naphthalene)	NA	88			% Recovery	100	0	88	25 - 125%	PASS
1-Methylnaphthalene	NA	69.2	1	5	ng/dry g	79.7	0	87	50 - 150%	PASS
1-Methylphenanthrene	NA	91.4	1	5	ng/dry g	79.7	1.2	113	50 - 150%	PASS
2,3,5-Trimethylnaphthalene	NA	88.9	1	5	ng/dry g	79.7	0	112	50 - 150%	PASS
2,6-Dimethylnaphthalene	NA	73.4	1	5	ng/dry g	79.7	0	92	50 - 150%	PASS
2-Methylnaphthalene	NA	68.8	1	5	ng/dry g	79.7	0	86	50 - 150%	PASS
Acenaphthene	NA	75.7	1	5	ng/dry g	79.7	0	95	50 - 150%	PASS
Acenaphthylene	NA	76.1	1	5	ng/dry g	79.7	0	95	50 - 150%	PASS
Anthracene	NA	88.1	1	5	ng/dry g	79.7	0	111	50 - 150%	PASS
Benz[a]anthracene	NA	78.8	1	5	ng/dry g	79.7	0	99	50 - 150%	PASS
Benzo[a]pyrene	NA	63.5	1	5	ng/dry g	79.7	1.7	78	50 - 150%	PASS
Benzo[b]fluoranthene	NA	74.2	1	5	ng/dry g	79.7	2.1	90	50 - 150%	PASS
Benzo[e]pyrene	NA	70.1	1	5	ng/dry g	79.7	2.1	85	50 - 150%	PASS
Benzo[g,h,i]perylene	NA	92.4	1	5	ng/dry g	79.7	4.7	110	50 - 150%	PASS
Benzo[k]fluoranthene	NA	66.3	1	5	ng/dry g	79.7	0	83	50 - 150%	PASS
Biphenyl	NA	70.2	1	5	ng/dry g	79.7	0	88	50 - 150%	PASS
Chrysene	NA	76.8	1	5	ng/dry g	79.7	1.9	94	50 - 150%	PASS
Dibenz[a,h]anthracene	NA	68	1	5	ng/dry g	79.7	0	85	50 - 150%	PASS
Dibenzothiophene	NA	80	1	5	ng/dry g	79.7	0.6	100	50 - 150%	PASS
Fluoranthene	NA	91.3	1	5	ng/dry g	79.7	5.3	108	50 - 150%	PASS
Fluorene	NA	90.5	1	5	ng/dry g	79.7	0.5	113	50 - 150%	PASS
Indeno[1,2,3-c,d]pyrene	NA	96.3	1	5	ng/dry g	79.7	4.1	116	50 - 150%	PASS
Naphthalene	NA	64	1	5	ng/dry g	79.7	0	80	25 - 125%	PASS
Perylene	NA	67.6	1	5	ng/dry g	79.7	0	85	50 - 150%	PASS
Phenanthrene	NA	93.2	1	5	ng/dry g	79.7	6.1	109	50 - 150%	PASS
Pyrene	NA	92.6	1	5	ng/dry g	79.7	5.4	109	50 - 150%	PASS



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22483-R2		B13-8014		Matrix: Sediment		Sampled: 26-Aug-13 9:44		Received: 27-Aug-13		
		Method: EPA 8270C		Batch ID: O-5136		Prepared: 22-Apr-14		Analyzed: 10-May-14 3:17		
(d10-Acenaphthene)	NA	71			% Recovery	100	71	50 - 150% PASS	1 25	PASS
(d10-Phenanthrene)	NA	72			% Recovery	100	72	50 - 150% PASS	6 25	PASS
(d12-Chrysene)	NA	67			% Recovery	100	67	50 - 150% PASS	3 25	PASS
(d8-Naphthalene)	NA	70			% Recovery	100	70	25 - 125% PASS	3 25	PASS
1-Methylnaphthalene	NA	ND	1	5	ng/dry g				0 25	PASS
1-Methylphenanthrene	NA	1.3	1	5	ng/dry g				17 25	PASS J
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g				0 25	PASS
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g				0 25	PASS
2-Methylnaphthalene	NA	ND	1	5	ng/dry g				0 25	PASS
Acenaphthene	NA	ND	1	5	ng/dry g				0 25	PASS
Acenaphthylene	NA	ND	1	5	ng/dry g				0 25	PASS
Anthracene	NA	ND	1	5	ng/dry g				0 25	PASS
Benz[a]anthracene	NA	ND	1	5	ng/dry g				0 25	PASS
Benzo[a]pyrene	NA	1.8	1	5	ng/dry g				6 25	PASS J
Benzo[b]fluoranthene	NA	2.2	1	5	ng/dry g				10 25	PASS J
Benzo[e]pyrene	NA	2.2	1	5	ng/dry g				10 25	PASS J
Benzo[g,h,i]perylene	NA	4.7	1	5	ng/dry g				0 25	PASS J
Benzo[k]fluoranthene	NA	ND	1	5	ng/dry g				0 25	PASS
Biphenyl	NA	ND	1	5	ng/dry g				0 25	PASS
Chrysene	NA	1.9	1	5	ng/dry g				0 25	PASS J
Dibenz[a,h]anthracene	NA	ND	1	5	ng/dry g				0 25	PASS
Dibenzothiophene	NA	1.1	1	5	ng/dry g				10 25	PASS J
Fluoranthene	NA	5.8	1	5	ng/dry g				19 25	PASS
Fluorene	NA	1.1	1	5	ng/dry g				10 25	PASS J
Indeno[1,2,3-c,d]pyrene	NA	4.1	1	5	ng/dry g				0 25	PASS J
Naphthalene	NA	ND	1	5	ng/dry g				0 25	PASS
Perylene	NA	ND	1	5	ng/dry g				0 25	PASS
Phenanthrene	NA	6.3	1	5	ng/dry g				7 25	PASS
Pyrene	NA	5.5	1	5	ng/dry g				6 25	PASS



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22492-CRM1		QAQC CRM - SRM 1944			Matrix: Sediment		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5136		Prepared: 22-Apr-14		Analyzed: 09-May-14 22:21	
(d10-Acenaphthene)	NA	102			% Recovery	100	102	60 - 140% PASS		
(d10-Phenanthrene)	NA	100			% Recovery	100	100	60 - 140% PASS		
(d12-Chrysene)	NA	73			% Recovery	100	73	60 - 140% PASS		
(d8-Naphthalene)	NA	110			% Recovery	100	110	60 - 140% PASS		
1-Methylnaphthalene	NA	390.3	1	5	ng/dry g	470	83	60 - 140% PASS		
1-Methylphenanthrene	NA	1151.7	1	5	ng/dry g	1700	68	60 - 140% PASS		
2,6-Dimethylnaphthalene	NA	617.7	1	5	ng/dry g	790	78	60 - 140% PASS		
2-Methylnaphthalene	NA	609.1	1	5	ng/dry g	740	82	60 - 140% PASS		
Acenaphthene	NA	246	1	5	ng/dry g	390	63	60 - 140% PASS		
Anthracene	NA	1058.2	1	5	ng/dry g	1130	94	60 - 140% PASS		
Benz[a]anthracene	NA	3449.2	1	5	ng/dry g	4720	73	60 - 140% PASS		
Benzo[a]pyrene	NA	2495.6	1	5	ng/dry g	4300	58	60 - 140% FAIL		R
Benzo[b]fluoranthene	NA	3079	1	5	ng/dry g	3870	80	60 - 140% PASS		
Benzo[e]pyrene	NA	2429.8	1	5	ng/dry g	3280	74	60 - 140% PASS		
Benzo[g,h,i]perylene	NA	2914.7	1	5	ng/dry g	2840	103	60 - 140% PASS		
Benzo[k]fluoranthene	NA	2547.5	1	5	ng/dry g	2300	111	60 - 140% PASS		
Biphenyl	NA	188.8	1	5	ng/dry g	250	76	60 - 140% PASS		
Chrysene	NA	4812.6	1	5	ng/dry g	4860	99	60 - 140% PASS		
Dibenz[a,h]anthracene	NA	714.4	1	5	ng/dry g	424	168	60 - 140% FAIL		R
Dibenzothiophene	NA	669.9	1	5	ng/dry g	500	134	60 - 140% PASS		
Fluoranthene	NA	7827.3	1	5	ng/dry g	8920	88	60 - 140% PASS		
Fluorene	NA	336.9	1	5	ng/dry g	480	70	60 - 140% PASS		
Indeno[1,2,3-c,d]pyrene	NA	2841.2	1	5	ng/dry g	2780	102	60 - 140% PASS		
Naphthalene	NA	1162	1	5	ng/dry g	1280	91	60 - 140% PASS		
Perylene	NA	630	1	5	ng/dry g	1170	54	60 - 140% FAIL		R
Phenanthrene	NA	5172.7	1	5	ng/dry g	5270	98	60 - 140% PASS		
Pyrene	NA	7960.1	1	5	ng/dry g	9700	82	60 - 140% PASS		



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CA ELAP #2769

Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22481-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 29-Apr-14 0:53

Allethrin	NA	ND	0.25	0.5	ng/dry g					
Bifenthrin	NA	ND	0.25	0.5	ng/dry g					
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g					
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g					
Cypermethrin	NA	ND	0.25	0.5	ng/dry g					
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g					
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g					
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g					
Fenvalerate	NA	ND	0.25	0.5	ng/dry g					
Fluvalinate	NA	ND	0.25	0.5	ng/dry g					
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g					
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g					
Prallethrin	NA	ND	0.25	0.5	ng/dry g					
Resmethrin	NA	ND	0.25	0.5	ng/dry g					

Sample ID: 22481-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 29-Apr-14 1:57

Allethrin	NA	940.12	0.25	0.5	ng/dry g	1000	0	94	70 - 130%	PASS
Bifenthrin	NA	1069.36	0.25	0.5	ng/dry g	1000	0	107	70 - 130%	PASS
Cyfluthrin	NA	829.21	0.25	0.5	ng/dry g	1000	0	83	70 - 130%	PASS
Cyhalothrin, Total Lambda	NA	1127.68	0.25	0.5	ng/dry g	1000	0	113	70 - 130%	PASS
Cypermethrin	NA	815.21	0.25	0.5	ng/dry g	1000	0	82	70 - 130%	PASS
Danitol (Fenpropathrin)	NA	1026.7	0.25	0.5	ng/dry g	1000	0	103	70 - 130%	PASS
Deltamethrin/Tralomethrin	NA	1491.36	0.25	0.5	ng/dry g	2000	0	75	70 - 130%	PASS
Esfenvalerate	NA	866.06	0.25	0.5	ng/dry g	1000	0	87	70 - 130%	PASS
Fenvalerate	NA	781.16	0.25	0.5	ng/dry g	1000	0	78	70 - 130%	PASS
Fluvalinate	NA	906.21	0.25	0.5	ng/dry g	1000	0	91	70 - 130%	PASS
Permethrin, cis-	NA	316.12	0.25	0.5	ng/dry g	267	0	118	70 - 130%	PASS
Permethrin, trans-	NA	821.33	0.25	0.5	ng/dry g	716	0	115	70 - 130%	PASS



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CA ELAP #2769

Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Prallethrin	NA	1147.74	0.25	0.5	ng/dry g	1000	0	115 70 - 130%	PASS	
Resmethrin	NA	1192.95	0.25	0.5	ng/dry g	1000	0	119 70 - 130%	PASS	

Sample ID: 22481-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 29-Apr-14 3:02

Allethrin	NA	1187.68	0.25	0.5	ng/dry g	1000	0	119 70 - 130%	PASS	23 25 PASS
Bifenthrin	NA	1109.76	0.25	0.5	ng/dry g	1000	0	111 70 - 130%	PASS	4 25 PASS
Cyfluthrin	NA	854.85	0.25	0.5	ng/dry g	1000	0	85 70 - 130%	PASS	2 25 PASS
Cyhalothrin, Total Lambda	NA	1175.98	0.25	0.5	ng/dry g	1000	0	118 70 - 130%	PASS	4 25 PASS
Cypermethrin	NA	848.83	0.25	0.5	ng/dry g	1000	0	85 70 - 130%	PASS	4 25 PASS
Danitol (Fenpropathrin)	NA	1080.16	0.25	0.5	ng/dry g	1000	0	108 70 - 130%	PASS	5 25 PASS
Deltamethrin/Tralomethrin	NA	1530.54	0.25	0.5	ng/dry g	2000	0	77 70 - 130%	PASS	3 25 PASS
Esfenvalerate	NA	895.58	0.25	0.5	ng/dry g	1000	0	90 70 - 130%	PASS	3 25 PASS
Fenvalerate	NA	801.01	0.25	0.5	ng/dry g	1000	0	80 70 - 130%	PASS	3 25 PASS
Fluvalinate	NA	925.83	0.25	0.5	ng/dry g	1000	0	93 70 - 130%	PASS	2 25 PASS
Permethrin, cis-	NA	341.68	0.25	0.5	ng/dry g	267	0	128 70 - 130%	PASS	8 25 PASS
Permethrin, trans-	NA	885.18	0.25	0.5	ng/dry g	716	0	124 70 - 130%	PASS	8 25 PASS
Prallethrin	NA	1139.51	0.25	0.5	ng/dry g	1000	0	114 70 - 130%	PASS	1 25 PASS
Resmethrin	NA	1217.85	0.25	0.5	ng/dry g	1000	0	122 70 - 130%	PASS	2 25 PASS

Sample ID: 22483-MS1

B13-8014

Matrix: Sediment

Sampled: 26-Aug-13 9:44

Received: 27-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 29-Apr-14 4:07

Allethrin	NA	166.94	0.25	0.5	ng/dry g	154.2	0	108 70 - 130%	PASS	
Bifenthrin	NA	191.8	0.25	0.5	ng/dry g	154.2	0	124 70 - 130%	PASS	
Cyfluthrin	NA	134.45	0.25	0.5	ng/dry g	154.2	0	87 70 - 130%	PASS	
Cyhalothrin, Total Lambda	NA	182.58	0.25	0.5	ng/dry g	154.2	0	118 70 - 130%	PASS	
Cypermethrin	NA	132.97	0.25	0.5	ng/dry g	154.2	0	86 70 - 130%	PASS	
Danitol (Fenpropathrin)	NA	168.16	0.25	0.5	ng/dry g	154.2	0	109 70 - 130%	PASS	
Deltamethrin/Tralomethrin	NA	217.13	0.25	0.5	ng/dry g	308.4	0	70 70 - 130%	PASS	
Esfenvalerate	NA	136.25	0.25	0.5	ng/dry g	154.2	0	88 70 - 130%	PASS	
Fenvalerate	NA	123.68	0.25	0.5	ng/dry g	154.2	0	80 70 - 130%	PASS	
Fluvalinate	NA	140.44	0.25	0.5	ng/dry g	154.2	0	91 70 - 130%	PASS	



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Pyrethroids**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Permethrin, cis-	NA	61.41	0.25	0.5	ng/dry g	41.17	0	149 70 - 130% FAIL		M
Permethrin, trans-	NA	145.95	0.25	0.5	ng/dry g	110.41	0	132 70 - 130% FAIL		M
Prallethrin	NA	163.06	0.25	0.5	ng/dry g	154.2	0	106 70 - 130% PASS		
Resmethrin	NA	189.79	0.25	0.5	ng/dry g	154.2	0	123 70 - 130% PASS		

Sample ID: 22483-MS2**B13-8014****Matrix: Sediment****Sampled: 26-Aug-13 9:44****Received: 27-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 29-Apr-14 5:12

Allethrin	NA	164.68	0.25	0.5	ng/dry g	159.4	0	103 70 - 130% PASS	5 25 PASS	
Bifenthrin	NA	216.94	0.25	0.5	ng/dry g	159.4	0	136 70 - 130% FAIL	9 25 PASS	M
Cyfluthrin	NA	149.94	0.25	0.5	ng/dry g	159.4	0	94 70 - 130% PASS	8 25 PASS	
Cyhalothrin, Total Lambda	NA	202.4	0.25	0.5	ng/dry g	159.4	0	127 70 - 130% PASS	7 25 PASS	
Cypermethrin	NA	148.39	0.25	0.5	ng/dry g	159.4	0	93 70 - 130% PASS	8 25 PASS	
Danitol (Fenpropathrin)	NA	194.8	0.25	0.5	ng/dry g	159.4	0	122 70 - 130% PASS	11 25 PASS	
Deltamethrin/Tralomethrin	NA	249.08	0.25	0.5	ng/dry g	318.8	0	78 70 - 130% PASS	8 25 PASS	
Esfenvalerate	NA	152.26	0.25	0.5	ng/dry g	159.4	0	96 70 - 130% PASS	9 25 PASS	
Fenvalerate	NA	138.31	0.25	0.5	ng/dry g	159.4	0	87 70 - 130% PASS	8 25 PASS	
Fluvalinate	NA	154.43	0.25	0.5	ng/dry g	159.4	0	97 70 - 130% PASS	6 25 PASS	
Permethrin, cis-	NA	75.39	0.25	0.5	ng/dry g	42.56	0	177 70 - 130% FAIL	17 25 PASS	M
Permethrin, trans-	NA	190.74	0.25	0.5	ng/dry g	114.13	0	167 70 - 130% FAIL	23 25 PASS	M
Prallethrin	NA	181.81	0.25	0.5	ng/dry g	159.4	0	114 70 - 130% PASS	7 25 PASS	
Resmethrin	NA	203.02	0.25	0.5	ng/dry g	159.4	0	127 70 - 130% PASS	3 25 PASS	

Sample ID: 22483-R2**B13-8014****Matrix: Sediment****Sampled: 26-Aug-13 9:44****Received: 27-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 29-Apr-14 9:57

Allethrin	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	



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CA ELAP #2769

Pyrethroids**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Fenvalerate	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Prallethrin	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Resmethrin	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	

PHYSIS

CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8013	8/26/13	0818	General Chemistry	Grab	8 oz Glass	None	1
B13-8013	8/26/13	0818	Metals	Grab	8 oz Glass	None	1
B13-8013	8/26/13	0818	PBDE	Grab	8 oz Glass	None	1
B13-8013	8/26/13	0818	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8013	8/26/13	0818	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JS*

Relinquished By: *Chris Stransky*

Date/Time: 8/27/13 1900

Received By: *Misty Mercier*

Date/Time: 8/27/13 1900

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8014	8/26/13	0944	General Chemistry	Grab	8 oz Glass	None	1
B13-8014	8/26/13	0944	Metals	Grab	8 oz Glass	None	1
B13-8014	8/26/13	0944	PBDE	Grab	8 oz Glass	None	1
B13-8014	8/26/13	0944	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8014	8/26/13	0944	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JS*

Relinquished By: *[Signature]*

Date/Time: 8/27/13 1900

Received By: *[Signature]*

Date/Time: 8/27/13 1906

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

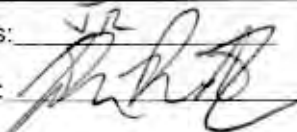
AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

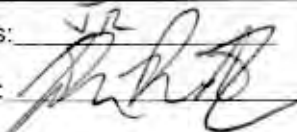
To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8028	8/26/13	1129	General Chemistry	Grab	8 oz Glass	None	1
B13-8028	8/26/13	1129	Metals	Grab	8 oz Glass	None	1
B13-8028	8/26/13	1129	PBDE	Grab	8 oz Glass	None	1
B13-8028	8/26/13	1129	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8028	8/26/13	1129	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

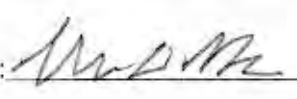
Sampler's Initials: 

Relinquished By: 

Relinquished By: _____

Date/Time: 8/27/13 1900

Date/Time: _____

Received By: 

Received By: _____

Date/Time: 8/27/13 1900

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
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To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8030	8/26/13	1321	General Chemistry	Grab	8 oz Glass	None	1
B13-8030	8/26/13	1321	Metals	Grab	8 oz Glass	None	1
B13-8030	8/26/13	1321	PBDE	Grab	8 oz Glass	None	1
B13-8030	8/26/13	1321	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8030	8/26/13	1321	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JSR

Relinquished By: [Signature]

Date/Time: 8/27/13 1900

Received By: [Signature]

Date/Time: 8/27/13 1900

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8036	8/26/13	1428	General Chemistry	Grab	8 oz Glass	None	1
B13-8036	8/26/13	1428	Metals	Grab	8 oz Glass	None	1
B13-8036	8/26/13	1428	PBDE	Grab	8 oz Glass	None	1
B13-8036	8/26/13	1428	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8036	8/26/13	1428	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JS*

Relinquished By: *[Signature]*

Date/Time: 8/27/13 1900

Received By: *[Signature]*

Date/Time: 8/27/13 1900

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8038	8/26/13	1534	General Chemistry	Grab	8 oz Glass	None	1
B13-8038	8/26/13	1534	Metals	Grab	8 oz Glass	None	1
B13-8038	8/26/13	1534	PBDE	Grab	8 oz Glass	None	1
B13-8038	8/26/13	1534	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8038	8/26/13	1534	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JS

Relinquished By: [Signature]

Date/Time: 8/27/13 1900

Received By: [Signature]

Date/Time: 8/27/13 1900

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8040	8/26/13	1636	General Chemistry	Grab	8 oz Glass	None	1
B13-8040	8/26/13	1636	Metals	Grab	8 oz Glass	None	1
B13-8040	8/26/13	1636	PBDE	Grab	8 oz Glass	None	1
B13-8040	8/26/13	1636	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8040	8/26/13	1636	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JS

Relinquished By: [Signature]

Date/Time: 8/27/13 1900

Received By: [Signature]

Date/Time: 8/27/13 1900

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8052	8/27/13	0819	General Chemistry	Grab	8 oz Glass	None	1
B13-8052	8/27/13	0819	Metals	Grab	8 oz Glass	None	1
B13-8052	8/27/13	0819	PBDE	Grab	8 oz Glass	None	1
B13-8052	8/27/13	0819	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8052	8/27/13	0819	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JSR*

Relinquished By: *[Signature]*

Date/Time: 8/27/13 1900

Received By: *[Signature]*

Date/Time: 8/27/13 1900

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8060	8/27/13	1120	General Chemistry	Grab	8 oz Glass	None	1
B13-8060	8/27/13	1120	Metals	Grab	8 oz Glass	None	1
B13-8060	8/27/13	1120	PBDE	Grab	8 oz Glass	None	1
B13-8060	8/27/13	1120	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8060	8/27/13	1120	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JTS

Relinquished By: [Signature]

Date/Time: 8/27/13 1900

Received By: [Signature]

Date/Time: 8/27/13 1900

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8078	8/27/13	1510	General Chemistry	Grab	8 oz Glass	None	1
B13-8078	8/27/13	1510	Metals	Grab	8 oz Glass	None	1
B13-8078	8/27/13	1510	PBDE	Grab	8 oz Glass	None	1
B13-8078	8/27/13	1510	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8078	8/27/13	1510	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JB*

Relinquished By: *[Signature]*

Date/Time: 8/27/13 1900

Received By: *[Signature]*

Date/Time: 8/27/13 1900

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Table 4-2.
Chemical Analyses of Sediment Samples

Analyte	Analysis Method	Sediment Target Reporting Limits ^{a,b}	Units
Total Solids	SM 2540 B ^c	0.1	%
Total Organic Carbon	9060	0.01	%
Grain Size	SM2560	0.1	%
Aluminum	6020/6010B ^d	5.0	mg/kg
Antimony	6020/6010B ^d	0.05	mg/kg
Arsenic	6020/6010B ^d	0.05	mg/kg
Barium	6020/6010B ^d	0.05	mg/kg
Beryllium	6020/6010B ^d	0.05	mg/kg
Cadmium	6020/6010B ^d	0.01	mg/kg
Chromium	6020/6010B ^d	0.05	mg/kg
Copper	6020/6010B ^d	0.01	mg/kg
Iron	6020/6010B ^d	5.0	mg/kg
Lead	6020/6010B ^d	0.01	mg/kg
Mercury	6020/6010B ^d	0.02	mg/kg
Nickel	6020/6010B ^d	0.02	mg/kg
Selenium	6020/6010B ^d	0.05	mg/kg
Silver	6020/6010B ^d	0.02	mg/kg
Zinc	6020/6010B ^d	0.05	mg/kg
Total Nitrogen	TKN / SM 4500-NO ³ E(M) / SM 4500-NO ³ B(M)	4.0	mg/kg
Total Phosphorus	SM 4500-P B/E(M)	4.0	mg/kg
Ammonia	SM 4500-NH ³	0.2	mg/kg
Acid Volatile Sulfides	Plumb 1981 and TERL	0.1	mg/kg
Simultaneous Extracted Metals	EPA 200.8	0.0004-0.0124	µmol/g
PAHs ^e	EPA 8270C ^d	5.0	µg/kg
Chlorinated Pesticides ^f	EPA 8270C ^d	0.5-50	µg/kg
Pyrethroid Pesticides	EPA 8270 C NCI	0.5-10	µg/kg
PCB Congeners ^g	EPA 8270C ^d	0.2	µg/kg
PBDEs ^h	EPA 8270 C NCI	0.1	µg/kg
Alkylphenol ⁱ	GC/MS SIM	0.00-0.05	mg/kg
Perfluorinated Compounds ^j	EPA 8210M	5.0	µg/kg

Notes:

^a Sediment minimum detection limits are on a dry-weight basis.

^b Reporting limits provided by Physis Environmental Laboratories.

^c Standard Methods for the Examination of Water and Wastewater, 19th Ed. American Public Health Association, 1995.

^d USEPA 1996-1996, SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 3rd Ed.

^e Includes Aconaphthene, Aconaphthylene, Anthracene, Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[e]pyrene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Biphenyl, Chrysene, Dibenz[a,h]anthracene, Di benzo[ghi]perylene, Fluoranthene, Fluorene, Indeno[1,2,3-c,d]pyrene, Naphthalene, Perylene, Phenanthrene, Pyrene, 2,6-Dimethylnaphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene, 1-Methylphenanthrene, 2,3,5-Trimethylnaphthalene, and 1,6,7-Trimethylnaphthalene.

^f Includes cis-chlordane, trans-chlordane, o,p'-DDT, p,p'-DDT, o,p'-DDD, p,p'-DDD, o,p'-DDE, p,p'-DDE, p,p'-DDMU, aldrin, BHC-alpha, BHC-beta, BHC-gamma, cis-nonachlor, trans-nonachlor, oxychlordane, DCPA (Dacthal), dicofol, dieldrin, toxaphene, endosulfan sulfate, endosulfan-I, endosulfan-II, endrin, endrin aldehyde, endrin ketone, heptachlor, heptachlor epoxide, methoxychlor, mirex, and perthane.

^g Includes congeners: PCB-3, 5, 8, 15, 18, 27-29, 31, 33, 37, 44, 49, 52, 56, 60, 66, 70, 74, 77, 81, 87, 95, 97, 99, 101, 105, 110, 114, 118-119, 123, 126, 128, 137-138, 141, 149, 151, 153, 156-158, 167-170, 174, 177, 180, 183, 187, 189, 194-195, 200-201, 203, 206, and 209.

^h Includes BDE-17, 28, 47, 49, 66, 85, 99, 100, 138, 153, 154, 183, and 209.

ⁱ Collected only at stations B13-B163, B13-8040, B13-8077; transferred to SCCWRP for analysis.

^j Includes nonylphenol, nonylphenol diethoxylate, nonylphenol monoethoxylate, 4-tert-octylphenol, and bisphenol A.

^k Includes perfluorooctanoic acid and perfluorooctane sulfonate.

µg/kg - micrograms per kilogram (parts per billion) SM - Standard Methods

mg/kg - milligrams per kilogram (parts per million) SOP - standard operating procedure

PHYSIS

LEVEL 3

DELIVERABLES

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Conventionals

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Summary of Initial Calibration Data and

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

ICV/CCV

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1307002-010 AMEC RHMP General Chemistry Calibration Data							
Analysis	Method	Batch ID	Co-efficient	Equation	Slope	ICV/True Value	CCV/True Value
Acid Volatile Sulfides	Plumb, 1981	C-14062	0.9998	$0.196x - 0.001702$	NA	NA	NA
Percent Solids	SM2540 B	C-14061	NA	NA	NA	NA	NA
Ammonia	SM 4500-NH3 D	C-14064	NA	NA	-55.75	.247/.25	.252/.25

PHYSIS

Instrument Blank

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

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ICPMS 7700x DATA REPORT

File Name 0MIX_2131021.D
File Path D:\data\2131022.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/21/2013 11:04
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.000	ug/g	---	10.00	2.171E-05	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	---	12.22	2.630E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	460,663.99	1.60	100.0	Analog	0.30	3

PHYSIS

Initial Calibration Data

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Batch Folder: D:\DATA\2131022.B\

 Analysis File: 2131022.batch.xml

 DA Date-Time: 10/22/2013 9:51:01 PM

 Calibration Title:

 Calibration Method: External Calibration

 VIS Interpolation Fit:

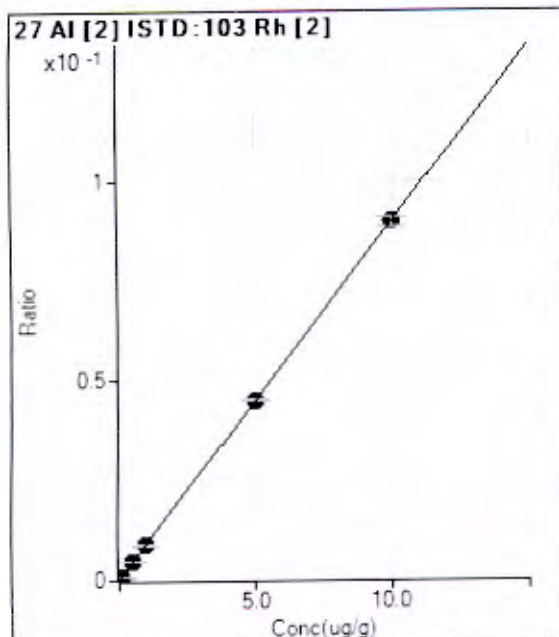
 Tune Step: #1 h2.u

 #2 he.u

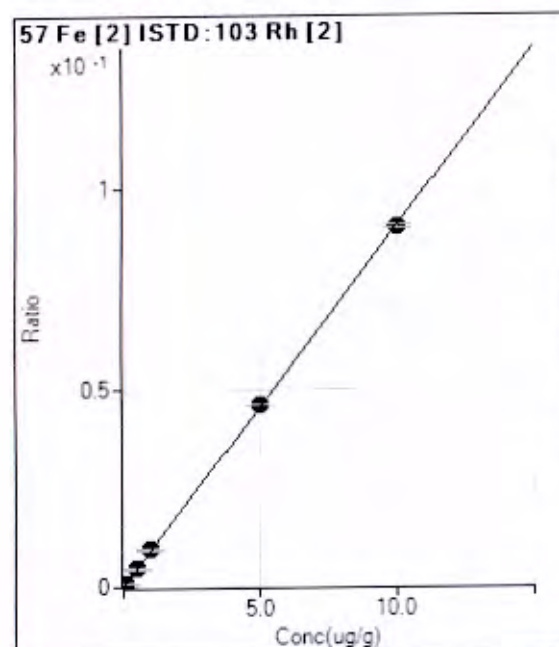
 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX_2131021.D	0 ppb mix	10/21/2013 11:04:00 AM
2	1MIX_2131021.D	1 ppb mix	10/21/2013 11:08:45 AM
3	5MIX_2131021.D	5 ppb mix	10/21/2013 11:13:28 AM
4	10MIX_2131021.D	10 ppb mix	10/21/2013 11:18:12 AM
5	50MIX_2131021.D	50 ppb mix	10/21/2013 11:22:57 AM
6	100MIX_2131021.D	100 ppb mix	10/21/2013 11:27:42 AM
7	500MIX_2131021.D	500 ppb mix	10/21/2013 11:32:25 AM
8	1000MIX_2131021.D	1000 ppb mix	10/21/2013 11:36:58 AM
9	1P_2131021.D	1 ppm P	10/21/2013 11:51:09 AM
10	2P_2131021.D	2 ppm P	10/21/2013 11:55:56 AM
11	5P_2131021.D	5 ppm P	10/21/2013 12:00:43 PM
12	10P_2131021.D	10 ppm P	10/21/2013 12:05:32 PM
13			
14			
15			
16			
17			
18			

Calibration for RINSE23.D

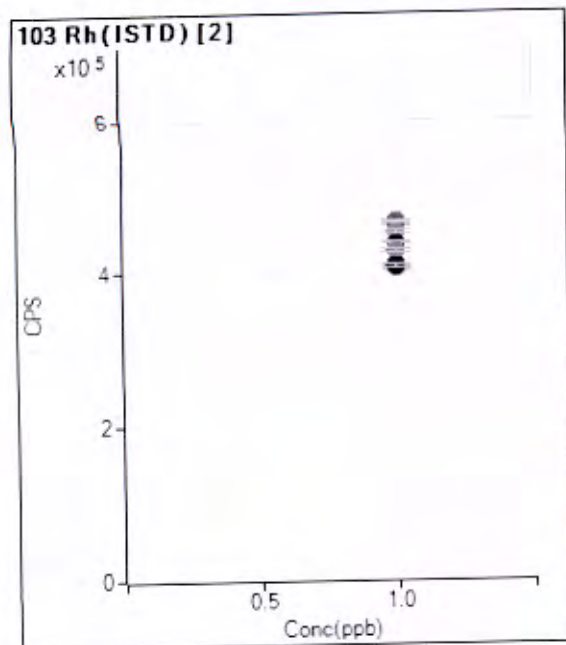


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	10.00	0.0000	P	57.8
2	<input type="checkbox"/>	0.010	0.015	72.23	0.0002	P	5.6
3	<input type="checkbox"/>	0.050	0.063	273.35	0.0006	P	13.3
4	<input type="checkbox"/>	0.100	0.104	443.36	0.0010	P	5.4
5	<input type="checkbox"/>	0.500	0.507	2067.99	0.0046	P	1.8
6	<input type="checkbox"/>	1.000	0.987	3885.03	0.0089	P	5.0
7	<input type="checkbox"/>	5.000	4.997	18347.62	0.0449	P	1.1
8	<input type="checkbox"/>	10.00	10.002	38353.25	0.0899	P	2.7
9	<input type="checkbox"/>			23.33	0.0001	P	100.
10	<input type="checkbox"/>			26.67	0.0001	P	69.1
11	<input type="checkbox"/>			18.89	0.0000	P	36.8
12	<input type="checkbox"/>			22.22	0.0001	P	48.1
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	12.22	0.0000	P	82.3
2	<input type="checkbox"/>	0.010	0.005	35.56	0.0001	P	77.3
3	<input type="checkbox"/>	0.050	0.053	236.68	0.0005	P	12.9
4	<input type="checkbox"/>	0.100	0.098	425.58	0.0009	P	2.5
5	<input type="checkbox"/>	0.500	0.500	2062.43	0.0046	P	7.4
6	<input type="checkbox"/>	1.000	1.042	4141.77	0.0095	P	3.9
7	<input type="checkbox"/>	5.000	5.074	18815.00	0.0461	P	0.3
8	<input type="checkbox"/>	10.00	9.959	38566.95	0.0904	P	1.2
9	<input type="checkbox"/>			8.89	0.0000	P	57.2
10	<input type="checkbox"/>			6.67	0.0000	P	50.5
11	<input type="checkbox"/>			16.67	0.0000	P	35.0
12	<input type="checkbox"/>			10.00	0.0000	P	58.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for RINSE23.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	1.000		460663.99		A	1.6
2	☐	1.000		464124.60		A	1.6
3	☐	1.000		464686.11		A	0.4
4	☐	1.000		464132.26		A	0.7
5	☐	1.000		451285.23		M	1.2
6	☐	1.000		436689.54		P	0.5
7	☐	1.000		408265.57		P	0.4
8	☐	1.000		426483.79		M	1.0
9	☐	1.000		403562.38		P	0.5
10	☐	1.000		404920.21		P	0.6
11	☐	1.000		404872.53		P	0.5
12	☐	1.000		406024.27		P	0.9
13	☐	1.000					
14	☐	1.000					
15	☐	1.000					
16	☐	1.000					
17	☐	1.000					
18	☐	1.000					

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Continuing Calibration Data

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ICPMS 7700x DATA REPORT

File Name ICV1.D
File Path D:\data\2131022.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/22/2013 15:02
Sample Name 1.0 PPM
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.992	ug/g	0.28	40,454.42	8.578E-02	Pulse	0.30	3
Fe	57	103	2	1.004	ug/g	0.05	41,346.49	8.767E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	471,603.31	1.22	102.4	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV.D
File Path D:\data\2131022.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/22/2013 21:53
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.965	ug/g	0.51	32,314.99	8.345E-02	Pulse	0.30	3
Fe	57	103	2	0.997	ug/g	1.06	33,706.03	8.704E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	387,244.01	0.74	84.1	Pulse	0.30	3

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Instrument Run Log

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HIGH

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse200			1.000							
2	C:\CPMH1\METHOD S\Physis.m	Sample	1108	10V1	1.0 PPM		1.000E-01							
3	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse4			1.000							
4	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse9			1.000							
5	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse10			1.000							
6	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse11			1.000							
7	C:\CPMH1\METHOD S\Physis.m	Sample	2101	22481	QAQC Procedural Blank B1	22481,NA,B1,10/12/2013,E-6005	10.00							
8	C:\CPMH1\METHOD S\Physis.m	Sample	2102	22482	B13-8013	22482,NA,R1,10/12/2013,E-6005	655.0							
9	C:\CPMH1\METHOD S\Physis.m	Sample	2103	22482/2	B13-8013 Dup	22482,NA,R2,10/12/2013,E-6005	675.0							
10	C:\CPMH1\METHOD S\Physis.m	Sample	2104	22483	B13-8014	22483,NA,R1,10/12/2013,E-6005	441.0							
11	C:\CPMH1\METHOD S\Physis.m	Sample	2105	22484	B13-8028	22484,NA,R1,10/12/2013,E-6005	615.0							
12	C:\CPMH1\METHOD S\Physis.m	Sample	2106	22485	B13-8030	22485,NA,R1,10/12/2013,E-6005	361.0							
13	C:\CPMH1\METHOD S\Physis.m	Sample	2107	22486	B13-8038	22486,NA,R1,10/12/2013,E-6005	563.0							
14	C:\CPMH1\METHOD S\Physis.m	Sample	2108	22487	B13-8038	22487,NA,R1,10/12/2013,E-6005	588.0							
15	C:\CPMH1\METHOD S\Physis.m	Sample	2109	22488	B13-8040	22488,NA,R1,10/12/2013,E-6005	758.0							
16	C:\CPMH1\METHOD S\Physis.m	Sample	2110	22489	B13-8052	22489,NA,R1,10/12/2013,E-6005	577.0							
17	C:\CPMH1\METHOD S\Physis.m	Sample	2111	22490	B13-8060	22490,NA,R1,10/12/2013,E-6005	549.0							
18	C:\CPMH1\METHOD S\Physis.m	Sample	2112	22491	B13-8078	22491,NA,R1,10/12/2013,E-6005	549.0							
19	C:\CPMH1\METHOD S\Physis.m	Sample	2201	22493cm	QAQC CRM - RTC 015-0501	22493,NA,CRM1,10/12/2013,E-6005	1.059E+03							
20	C:\CPMH1\METHOD S\Physis.m	Sample	2202	22494cm	QAQC CRM - ERA 5401	22494,NA,CRM1,10/12/2013,E-6005	1.042E+03							
21	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse103			1.000							
22	C:\CPMH1\METHOD S\Physis.m	Sample	2203	22481bs1	QAQC Procedural Blank BS1	22481,NA,BS1,10/12/2013,E-6005	1.000							
23	C:\CPMH1\METHOD S\Physis.m	Sample	2204	22481bs2	QAQC Procedural Blank BS2	22481,NA,BS2,10/12/2013,E-6005	1.000							
24	C:\CPMH1\METHOD S\Physis.m	Sample	2205	22482ms	B13-8013 MS	22482,NA,MS1,10/12/2013,E-6005	1.000							
25	C:\CPMH1\METHOD S\Physis.m	Sample	2206	22482msd	B13-8013 MSD	22482,NA,MS2,10/12/2013,E-6005	1.000							
26	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse12			1.000							
27	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse13			1.000							
28	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse14			1.000							
29	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse15			1.000							
30	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse16			1.000							
31	C:\CPMH1\METHOD S\Physis.m	Sample	2209	22544	QAQC Procedural Blank B1	22544,NA,B1,10/12/2013,E-6005	10.00							
32	C:\CPMH1\METHOD S\Physis.m	Sample	2210	22546	B13-8109 Grab	22546,NA,R1,10/12/2013,E-6005	517.0							
33	C:\CPMH1\METHOD S\Physis.m	Sample	2211	22546/2	B13-8109 Grab Dup	22546,NA,R2,10/12/2013,E-6005	475.0							
34	C:\CPMH1\METHOD S\Physis.m	Sample	2212	22547	B13-8118 Grab	22547,NA,R1,10/12/2013,E-6005	610.0							
35	C:\CPMH1\METHOD S\Physis.m	Sample	2301	22548	B13-8122 Grab	22548,NA,R1,10/12/2013,E-6005	288.0							
36	C:\CPMH1\METHOD S\Physis.m	Sample	2302	22549	B13-8033 Grab	22549,NA,R1,10/12/2013,E-6005	673.0							
37	C:\CPMH1\METHOD S\Physis.m	Sample	2303	22550	B13-8093 Grab	22550,NA,R1,10/12/2013,E-6005	430.0							
38	C:\CPMH1\METHOD S\Physis.m	Sample	2304	22551	B13-8190 Grab	22551,NA,R1,10/12/2013,E-6005	498.0							
39	C:\CPMH1\METHOD S\Physis.m	Sample	2305	22552	B13-8099 Grab	22552,NA,R1,10/12/2013,E-6005	667.0							

	Method	Type	Vial	Data File	Sample	Comment	DivLvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
40	C:\CPM\H1\METHOD S\Physic.m	Sample	2309	22553	B13-8028 Grab	22553.NA.R1.10/12/2013.E-6006	477.0							
41	C:\CPM\H1\METHOD S\Physic.m	Sample	2307	22554	B13-8090 Grab	22554.NA.R1.10/12/2013.E-6005	460.0							
42	C:\CPM\H1\METHOD S\Physic.m	Sample	2308	22555	B13-8095 Grab	22555.NA.R1.10/12/2013.E-6006	503.0							
43	C:\CPM\H1\METHOD S\Physic.m	Sample	2309	22549cm	QAQC CRM - RTC 016-0501	22559.NA.CRM1.10/12/2013.E-6006	1.04E+03							
44	C:\CPM\H1\METHOD S\Physic.m	Sample	2310	22551cm	QAQC CRM - ERA 5401	22501.NA.CRM1.10/12/2013.E-6006	1.104E+03							
45	C:\CPM\H1\METHOD S\Physic.m	Sample	1	Rinse100			1.000							
46	C:\CPM\H1\METHOD S\Physic.m	Sample	2203	22544bs1	QAQC Procedural Blank BS1	22544.NA.BS1.10/12/2013.E-6006	1.000							
47	C:\CPM\H1\METHOD S\Physic.m	Sample	2204	22544bs2	QAQC Procedural Blank BS2	22544.NA.BS2.10/12/2013.E-6006	1.000							
48	C:\CPM\H1\METHOD S\Physic.m	Sample	2311	22548ms	B13-8104 Grab MS	22548.NA.MS1.10/12/2013.E-6006	1.000							
49	C:\CPM\H1\METHOD S\Physic.m	Sample	2312	22548msd	B13-8109 Grab MSD	22548.NA.MS2.10/12/2013.E-6006	1.000							
50	C:\CPM\H1\METHOD S\Physic.m	Sample	1	Rinse17			1.000							
51	C:\CPM\H1\METHOD S\Physic.m	Sample	1	Rinse18			1.000							
52	C:\CPM\H1\METHOD S\Physic.m	Sample	1	Rinse19			1.000							
53	C:\CPM\H1\METHOD S\Physic.m	Sample	1	Rinse20			1.000							
54	C:\CPM\H1\METHOD S\Physic.m	Sample	1	Rinse21			1.000							
55	C:\CPM\H1\METHOD S\Physic.m	Sample	2403	22545	QAQC Procedural Blank B1	22545.NA.B1.10/12/2013.E-6007	16.00							
56	C:\CPM\H1\METHOD S\Physic.m	Sample	2403	22570	QAQC Procedural Blank B1	22570.NA.B1.10/12/2013.E-6007	10.00							
57	C:\CPM\H1\METHOD S\Physic.m	Sample	2404	22536	B13-8087 Grab	22556.NA.R1.10/12/2013.E-6007	375.0							
58	C:\CPM\H1\METHOD S\Physic.m	Sample	2405	22556r2	B13-8087 Grab Dup	22556.NA.R2.10/12/2013.E-6007	348.0							
59	C:\CPM\H1\METHOD S\Physic.m	Sample	2406	22557	B13-8073 Grab	22557.NA.R1.10/12/2013.E-6007	453.0							
60	C:\CPM\H1\METHOD S\Physic.m	Sample	2407	22571	B13-8058 Grab	22571.NA.R1.10/12/2013.E-6007	357.0							
61	C:\CPM\H1\METHOD S\Physic.m	Sample	2408	22571r2	B13-8058 Grab Dup	22571.NA.R2.10/12/2013.E-6007	399.0							
62	C:\CPM\H1\METHOD S\Physic.m	Sample	2409	22572	B13-8058 Grab	22572.NA.R1.10/12/2013.E-6007	481.0							
63	C:\CPM\H1\METHOD S\Physic.m	Sample	2410	22573	B13-8090 Grab	22573.NA.R1.10/12/2013.E-6007	761.0							
64	C:\CPM\H1\METHOD S\Physic.m	Sample	2411	22574	B13-8045 Grab	22574.NA.R1.10/12/2013.E-6007	457.0							
65	C:\CPM\H1\METHOD S\Physic.m	Sample	2412	22575	B13-8031 Grab	22575.NA.R1.10/12/2013.E-6007	460.0							
66	C:\CPM\H1\METHOD S\Physic.m	Sample	2501	22560cm	QAQC CRM - RTC 016-0501	22560.NA.CRM1.10/12/2013.E-6007	821.0							
67	C:\CPM\H1\METHOD S\Physic.m	Sample	2502	22562cm	QAQC CRM - FRA 5401	22562.NA.CRM1.10/12/2013.E-6007	926.0							
68	C:\CPM\H1\METHOD S\Physic.m	Sample	2501	22577cm	QAQC CRM - RTC 016-0501	22577.NA.CRM1.10/12/2013.E-6007	621.0							
69	C:\CPM\H1\METHOD S\Physic.m	Sample	2502	22579cm	QAQC CRM - ERA 5401	22573.NA.CRM1.10/12/2013.E-6007	998.0							
70	C:\CPM\H1\METHOD S\Physic.m	Sample	1	Rinse101			1.000							
71	C:\CPM\H1\METHOD S\Physic.m	Sample	2203	22545bs1	QAQC Procedural Blank BS1	22545.NA.BS1.10/12/2013.E-6007	1.000							
72	C:\CPM\H1\METHOD S\Physic.m	Sample	2204	22545bs2	QAQC Procedural Blank BS2	22545.NA.BS2.10/12/2013.E-6007	1.000							
73	C:\CPM\H1\METHOD S\Physic.m	Sample	2203	22570bs1	QAQC Procedural Blank BS1	22570.NA.BS1.10/12/2013.E-6007	1.000							
74	C:\CPM\H1\METHOD S\Physic.m	Sample	2204	22570bs2	QAQC Procedural Blank BS2	22570.NA.BS2.10/12/2013.E-6007	1.000							
75	C:\CPM\H1\METHOD S\Physic.m	Sample	2303	22556ms	B13-8087 Grab MS	22556.NA.MS1.10/12/2013.E-6007	1.000							
76	C:\CPM\H1\METHOD S\Physic.m	Sample	2304	22556msd	B13-8087 Grab MSD	22556.NA.MS2.10/12/2013.E-6007	1.000							
77	C:\CPM\H1\METHOD S\Physic.m	Sample	2505	22571ms	B13-8058 Grab MS	22571.NA.MS1.10/12/2013.E-6007	1.000							
78	C:\CPM\H1\METHOD S\Physic.m	Sample	2506	22571msd	B13-8058 Grab MSD	22571.NA.MS2.10/12/2013.E-6007	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
79	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse22			1.000							
80	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse23			1.000							
81	C:\CPMH1\METHOD S\Physis.m	Sample	1108	CCV	1.0 PPM		1.000E-01							
82	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse24			1.000							
83	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse25			1.000							
84	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse26			1.000							
85	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse27			1.000							
86		Keyword		StandBy										

Elements –

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Phosphorous)**

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PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name 0MIX.D
File Path D:\DATA\2131021.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/21/2013 11:04
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.000	ug/g	---	10.00	2.171E-05	Pulse	0.30	3
P	31	103	2		ug/g	---	63.34	1.374E-04	Pulse	0.30	3
Cr	52	103	2	0.000	ug/g	---	121.12	2.637E-04	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	---	12.22	2.630E-05	Pulse	0.30	3
Ni	60	103	2	0.000	ug/g	---	10.00	2.145E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	---	4,191.78	9.103E-03	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	---	24.44	5.287E-05	Pulse	0.30	3
As	75	103	2	0.000	ug/g	---	0.00		Pulse	0.30	3
Se	78	103	1	0.000	ug/g	---	4.45	6.472E-05	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	---	46.67	1.012E-04	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	---	8.89	1.926E-05	Pulse	0.30	3
Sb	121	169	2	0.000	ug/g	---	15.56	2.780E-05	Pulse	0.30	3
Ba	137	169	2	0.000	ug/g	---	0.00		Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	---	116.67	2.086E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	68,597.14	0.28	100.0	Pulse	0.30	3
2	Rh	103	460,663.99	1.60	100.0	Analog	0.30	3
3	Rh	103	1,054,252.75	1.43	100.0	Analog	0.30	3
2	Tm	169	559,172.77	1.72	100.0	Analog	0.30	3

PHYSIS

Initial Calibration Data

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Calibration for 10P.D

Batch Folder: D:\DATA\2131021.B\

 Analysis File: 2131021.batch.xml

 DA Date-Time: 4/8/2014 3:53:25 PM

 Calibration Title:

 Calibration Method: External Calibration

 VIS Interpolation Fit:

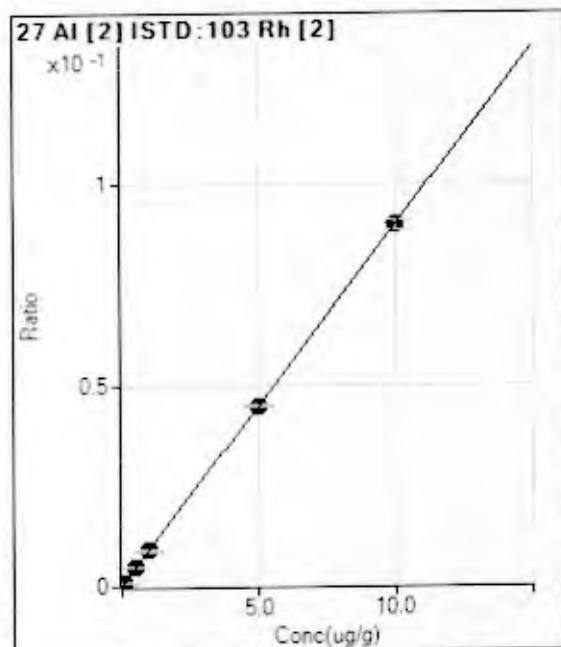
 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX.D	0 ppb mix	10/21/2013 11:04:00 AM
2	1MIX.D	1 ppb mix	10/21/2013 11:08:45 AM
3	5MIX.D	5 ppb mix	10/21/2013 11:13:28 AM
4	10MIX.D	10 ppb mix	10/21/2013 11:18:12 AM
5	50MIX.D	50 ppb mix	10/21/2013 11:22:57 AM
6	100MIX.D	100 ppb mix	10/21/2013 11:27:42 AM
7	500MIX.D	500 ppb mix	10/21/2013 11:32:25 AM
8	1000MIX.D	1000 ppb mix	10/21/2013 11:36:58 AM
9	1P.D	1 ppm P	10/21/2013 11:51:09 AM
10	2P.D	2 ppm P	10/21/2013 11:55:56 AM
11	5P.D	5 ppm P	10/21/2013 12:00:43 PM
12	10P.D	10 ppm P	10/21/2013 12:05:32 PM
13			
14			
15			
16			
17			
18			

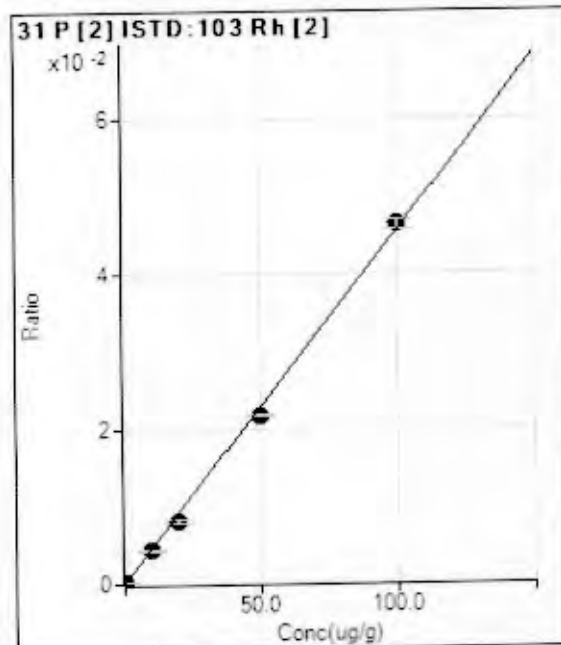
Calibration for 10P.D



Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	10.00	0.0000	P	57.8
2	<input type="checkbox"/>	0.010	0.015	72.23	0.0002	P	5.6
3	<input type="checkbox"/>	0.050	0.063	273.35	0.0006	P	13.3
4	<input type="checkbox"/>	0.100	0.104	443.36	0.0010	P	5.4
5	<input type="checkbox"/>	0.500	0.507	2067.99	0.0046	P	1.8
6	<input type="checkbox"/>	1.000	0.987	3885.03	0.0089	P	5.0
7	<input type="checkbox"/>	5.000	4.997	18347.62	0.0449	P	1.1
8	<input type="checkbox"/>	10.00	10.002	38353.25	0.0899	P	2.7
9	<input type="checkbox"/>			23.33	0.0001	P	100.
10	<input type="checkbox"/>			26.67	0.0001	P	69.1
11	<input type="checkbox"/>			18.89	0.0000	P	36.8
12	<input type="checkbox"/>			22.22	0.0001	P	48.1
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



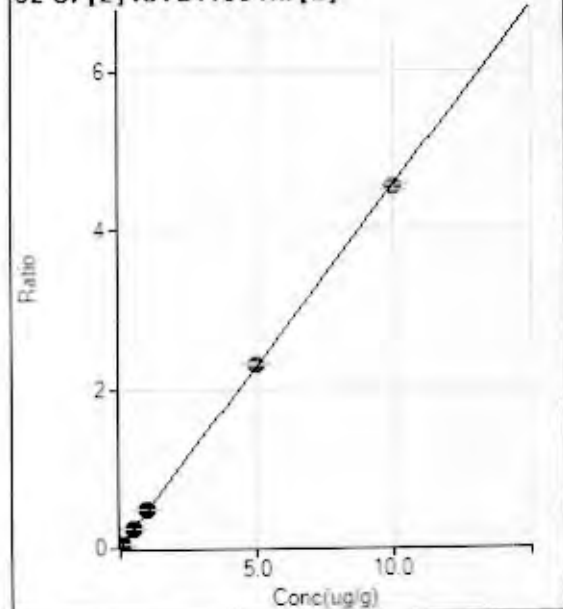
Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	63.34	0.0001	P	9.9
2	<input type="checkbox"/>			61.11	0.0001	P	28.7
3	<input type="checkbox"/>			42.22	0.0001	P	46.1
4	<input type="checkbox"/>			58.89	0.0001	P	28.7
5	<input type="checkbox"/>			56.67	0.0001	P	11.0
6	<input type="checkbox"/>			48.89	0.0001	P	21.5
7	<input type="checkbox"/>			65.56	0.0002	P	24.9
8	<input type="checkbox"/>			46.67	0.0001	P	26.2
9	<input type="checkbox"/>	10.00	9.402	1781.	0.0044	P	5.4
10	<input type="checkbox"/>	20.00	17.585	3293.	0.0081	P	4.1
11	<input type="checkbox"/>	50.00	47.491	8801.	0.0217	P	0.8
12	<input type="checkbox"/>	100.0	101.797	1885	0.0464	P	2.7
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D

52 Cr [2] ISTD: 103 Rh [2]



$$y = 0.4547 * x + 2.6366E-004$$

$$R = 0.9999$$

$$DL = 0.0004623$$

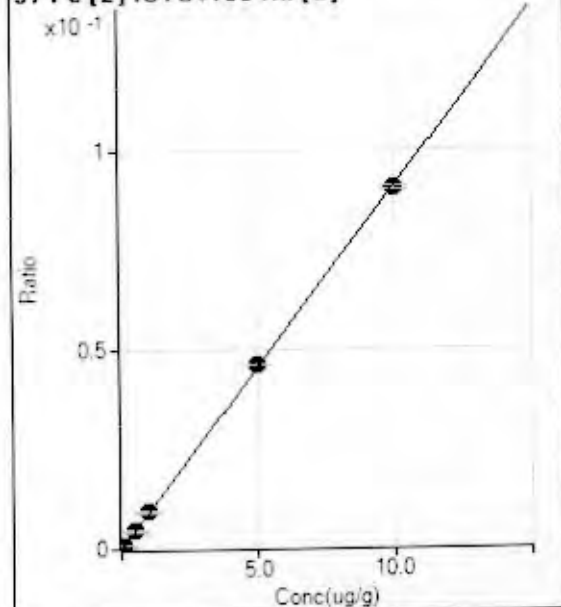
$$BEC = 0.0005798$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	121.12	0.0003	P	26.6
2	<input type="checkbox"/>	0.010	0.010	2302.47	0.0050	P	1.9
3	<input type="checkbox"/>	0.050	0.054	11476.31	0.0247	P	1.4
4	<input type="checkbox"/>	0.100	0.106	22518.13	0.0485	P	0.9
5	<input type="checkbox"/>	0.500	0.525	107887.95	0.2391	P	1.1
6	<input type="checkbox"/>	1.000	1.034	205537.53	0.4707	P	0.5
7	<input type="checkbox"/>	5.000	5.086	944317.35	2.3130	A	0.5
8	<input type="checkbox"/>	10.00	9.952	1930100.3	4.5260	A	1.6
9	<input type="checkbox"/>			184.45	0.0005	P	22.2
10	<input type="checkbox"/>			175.56	0.0004	P	7.9
11	<input type="checkbox"/>			210.01	0.0005	P	15.1
12	<input type="checkbox"/>			193.34	0.0005	P	52.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

57 Fe [2] ISTD: 103 Rh [2]



$$y = 0.0091 * x + 2.6304E-005$$

$$R = 1.0000$$

$$DL = 0.007151$$

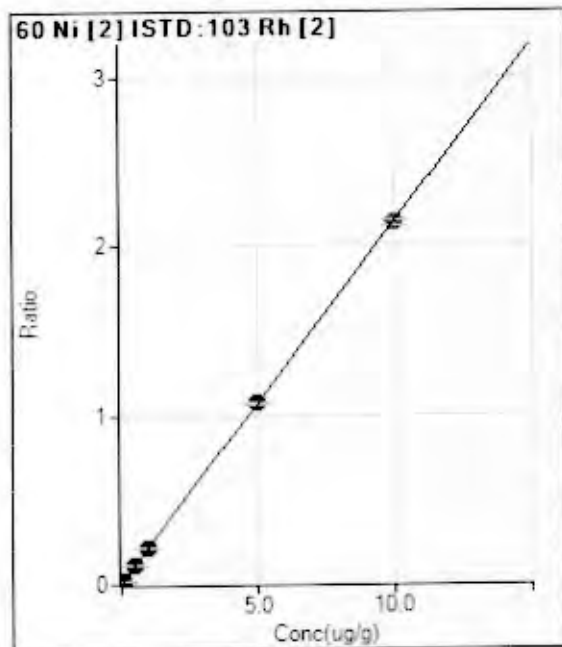
$$BEC = 0.002897$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	12.22	0.0000	P	82.3
2	<input type="checkbox"/>	0.010	0.005	35.56	0.0001	P	77.3
3	<input type="checkbox"/>	0.050	0.053	236.68	0.0005	P	12.9
4	<input type="checkbox"/>	0.100	0.098	425.58	0.0009	P	2.5
5	<input type="checkbox"/>	0.500	0.500	2062.43	0.0046	P	7.4
6	<input type="checkbox"/>	1.000	1.042	4141.77	0.0095	P	3.9
7	<input type="checkbox"/>	5.000	5.074	18815.00	0.0461	P	0.3
8	<input type="checkbox"/>	10.00	9.959	38566.95	0.0904	P	1.2
9	<input type="checkbox"/>			8.89	0.0000	P	57.2
10	<input type="checkbox"/>			6.67	0.0000	P	50.5
11	<input type="checkbox"/>			16.67	0.0000	P	35.0
12	<input type="checkbox"/>			10.00	0.0000	P	58.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.2137 * x + 2.1447E-005$$

$$R = 1.0000$$

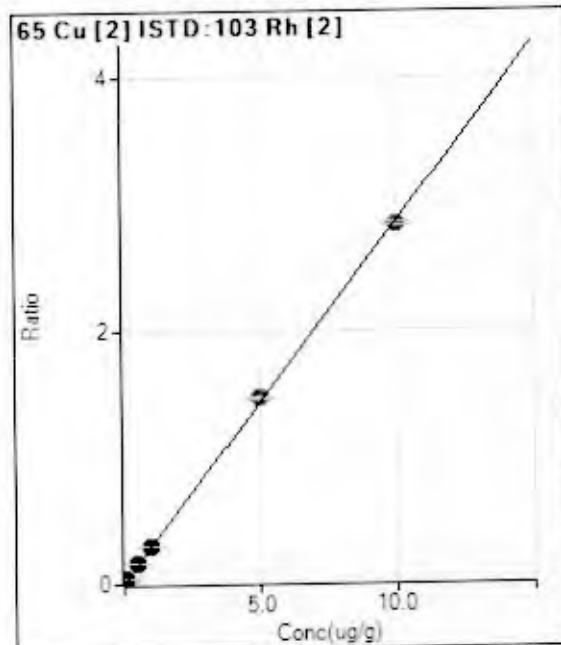
$$DL = 0.0003603$$

$$BEC = 0.0001004$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	10.00	0.0000	P	119.7
2	<input type="checkbox"/>	0.010	0.011	1061.19	0.0023	P	6.2
3	<input type="checkbox"/>	0.050	0.051	5107.62	0.0110	P	0.7
4	<input type="checkbox"/>	0.100	0.105	10406.74	0.0224	P	3.2
5	<input type="checkbox"/>	0.500	0.525	50638.22	0.1122	P	0.5
6	<input type="checkbox"/>	1.000	1.009	94177.98	0.2157	P	0.2
7	<input type="checkbox"/>	5.000	5.016	437630.06	1.0719	P	1.2
8	<input type="checkbox"/>	10.00	9.990	910439.58	2.1350	A	1.9
9	<input type="checkbox"/>			6.67	0.0000	P	86.6
10	<input type="checkbox"/>			13.33	0.0000	P	43.9
11	<input type="checkbox"/>			5.56	0.0000	P	91.9
12	<input type="checkbox"/>			15.56	0.0000	P	53.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2849 * x + 0.0091$$

$$R = 0.9999$$

$$DL = 0.003932$$

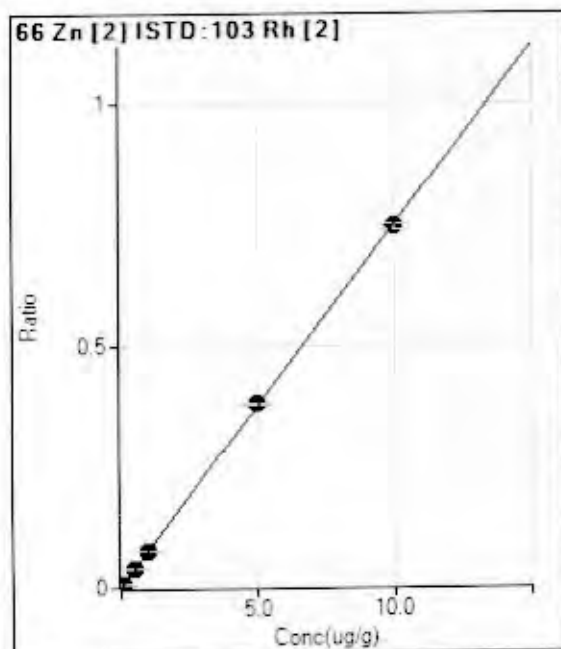
$$BEC = 0.03196$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	4191.78	0.0091	P	4.1
2	<input type="checkbox"/>	0.010	0.010	5486.62	0.0118	P	7.9
3	<input type="checkbox"/>	0.050	0.052	11128.35	0.0240	P	4.7
4	<input type="checkbox"/>	0.100	0.104	17978.63	0.0387	P	2.1
5	<input type="checkbox"/>	0.500	0.526	71703.88	0.1589	P	0.4
6	<input type="checkbox"/>	1.000	1.022	131144.15	0.3003	P	0.6
7	<input type="checkbox"/>	5.000	5.134	600761.62	1.4715	A	0.7
8	<input type="checkbox"/>	10.00	9.930	1210197.9	2.8378	A	0.9
9	<input type="checkbox"/>			2721.43	0.0067	P	12.
10	<input type="checkbox"/>			2304.68	0.0057	P	7.6
11	<input type="checkbox"/>			1435.67	0.0035	P	11.
12	<input type="checkbox"/>			307.79	0.0008	P	4.6
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.0748 * x + 5.2869E-005$$

$$R = 1.0000$$

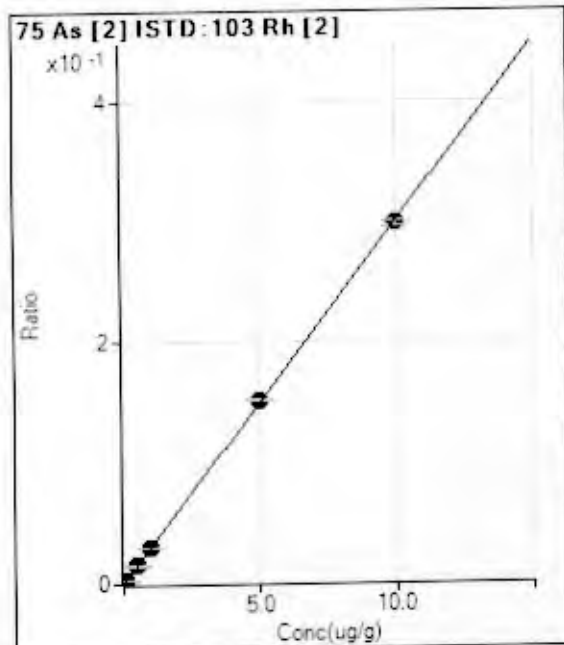
$$DL = 0.000814$$

$$BEC = 0.0007064$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	24.44	0.0001	P	38.4
2	<input type="checkbox"/>	0.010	0.011	412.24	0.0009	P	3.8
3	<input type="checkbox"/>	0.050	0.054	1902.40	0.0041	P	5.0
4	<input type="checkbox"/>	0.100	0.106	3701.65	0.0080	P	5.1
5	<input type="checkbox"/>	0.500	0.518	17509.16	0.0388	P	1.4
6	<input type="checkbox"/>	1.000	1.009	32999.27	0.0756	P	1.1
7	<input type="checkbox"/>	5.000	5.050	154336.32	0.3780	P	0.7
8	<input type="checkbox"/>	10.00	9.973	318315.29	0.7464	P	1.5
9	<input type="checkbox"/>			20.00	0.0000	P	0.5
10	<input type="checkbox"/>			25.55	0.0001	P	27.1
11	<input type="checkbox"/>			125.56	0.0003	P	23.5
12	<input type="checkbox"/>			111.12	0.0003	P	17.3
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0299 * x + 0.0000E+000$$

$$R = 1.0000$$

$$DL = 0$$

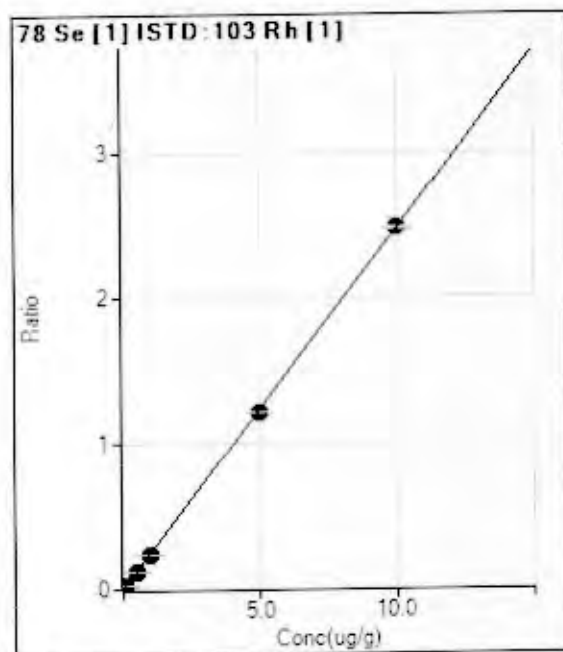
$$BEC = 0$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	0.00	0.0000	P	
2	<input type="checkbox"/>	0.010	0.010	136.67	0.0003	P	16.1
3	<input type="checkbox"/>	0.050	0.049	683.38	0.0015	P	8.1
4	<input type="checkbox"/>	0.100	0.097	1352.33	0.0029	P	3.9
5	<input type="checkbox"/>	0.500	0.508	6856.06	0.0152	P	3.4
6	<input type="checkbox"/>	1.000	0.996	13010.83	0.0298	P	1.5
7	<input type="checkbox"/>	5.000	5.081	62054.59	0.1520	P	0.5
8	<input type="checkbox"/>	10.00	9.960	127063.6	0.2980	P	1.7
9	<input type="checkbox"/>			10.00	0.0000	P	66.5
10	<input type="checkbox"/>			5.56	0.0000	P	173.
11	<input type="checkbox"/>			14.44	0.0000	P	66.5
12	<input type="checkbox"/>			5.55	0.0000	P	124.
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.2473 * x + 6.4720E-005$$

$$R = 0.9999$$

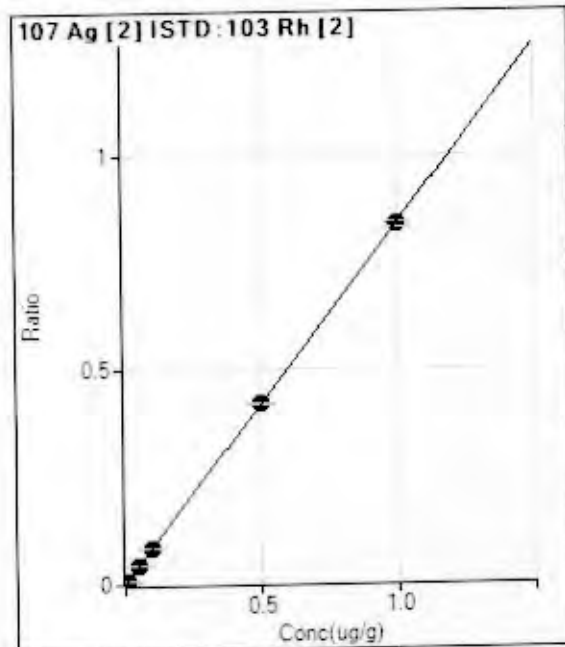
$$DL = 0.00068$$

$$BEC = 0.0002617$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	4.45	0.0001	P	86.6
2	<input type="checkbox"/>	0.010	0.009	147.79	0.0022	P	15.1
3	<input type="checkbox"/>	0.050	0.046	783.38	0.0114	P	9.2
4	<input type="checkbox"/>	0.100	0.097	1627.92	0.0242	P	8.4
5	<input type="checkbox"/>	0.500	0.483	8129.96	0.1195	P	3.1
6	<input type="checkbox"/>	1.000	0.963	15468.53	0.2382	P	2.4
7	<input type="checkbox"/>	5.000	4.897	75697.68	1.2110	P	0.8
8	<input type="checkbox"/>	10.00	10.056	157641.5	2.4866	P	0.2
9	<input type="checkbox"/>			12.22	0.0002	P	78.5
10	<input type="checkbox"/>			12.22	0.0002	P	63.0
11	<input type="checkbox"/>			4.45	0.0001	P	86.6
12	<input type="checkbox"/>			0.00	0.0000	P	
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.8384 * x + 1.0118E-004$$

$$R = 1.0000$$

$$DL = 6.395E-05$$

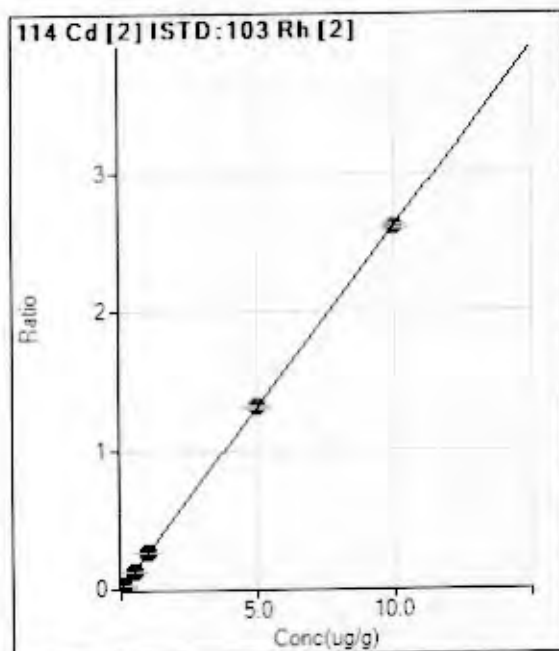
$$BEC = 0.0001207$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	46.67	0.0001	P	17.7
2	<input type="checkbox"/>	0.001	0.001	386.69	0.0008	P	13.9
3	<input type="checkbox"/>	0.005	0.005	1980.20	0.0043	P	4.6
4	<input type="checkbox"/>	0.010	0.010	4039.52	0.0087	P	1.4
5	<input type="checkbox"/>	0.050	0.051	19190.31	0.0425	P	1.3
6	<input type="checkbox"/>	0.100	0.100	36614.36	0.0838	P	0.4
7	<input type="checkbox"/>	0.500	0.501	171512.81	0.4201	P	0.1
8	<input type="checkbox"/>	1.000	1.000	357418.54	0.8381	P	1.5
9	<input type="checkbox"/>			36.67	0.0001	P	65.8
10	<input type="checkbox"/>			24.44	0.0001	P	8.5
11	<input type="checkbox"/>			27.78	0.0001	P	100.
12	<input type="checkbox"/>			6.67	0.0000	P	100.
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.2610 * x + 1.9261E-005$$

$$R = 1.0000$$

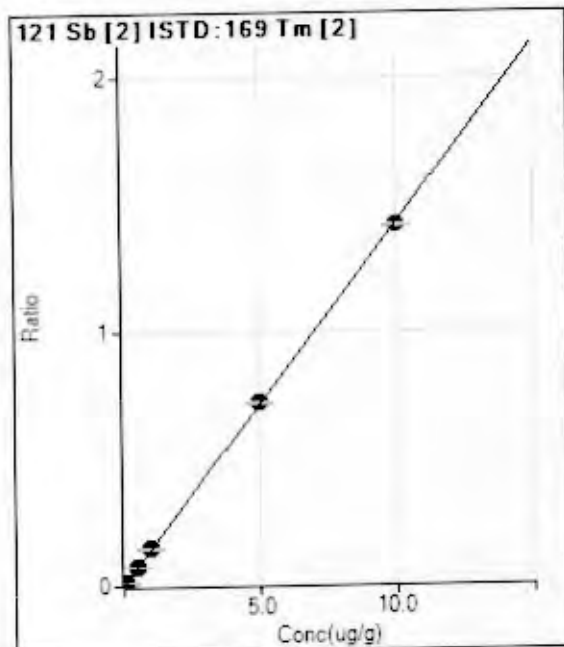
$$DL = 4.52E-05$$

$$BEC = 7.38E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	8.89	0.0000	P	20.4
2	<input type="checkbox"/>	0.010	0.010	1196.76	0.0026	P	7.1
3	<input type="checkbox"/>	0.050	0.050	6116.90	0.0132	P	2.1
4	<input type="checkbox"/>	0.100	0.099	11952.38	0.0258	P	4.3
5	<input type="checkbox"/>	0.500	0.499	58775.34	0.1303	P	1.6
6	<input type="checkbox"/>	1.000	0.991	112940.15	0.2586	P	0.5
7	<input type="checkbox"/>	5.000	5.008	533625.13	1.3070	A	1.0
8	<input type="checkbox"/>	10.00	9.997	1112776.5	2.6093	A	1.0
9	<input type="checkbox"/>			13.34	0.0000	P	43.4
10	<input type="checkbox"/>			28.89	0.0001	P	29.4
11	<input type="checkbox"/>			18.89	0.0000	P	26.5
12	<input type="checkbox"/>			16.67	0.0000	P	19.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.1424 * x + 2.7801E-005$$

$$R = 1.0000$$

$$DL = 6.723E-05$$

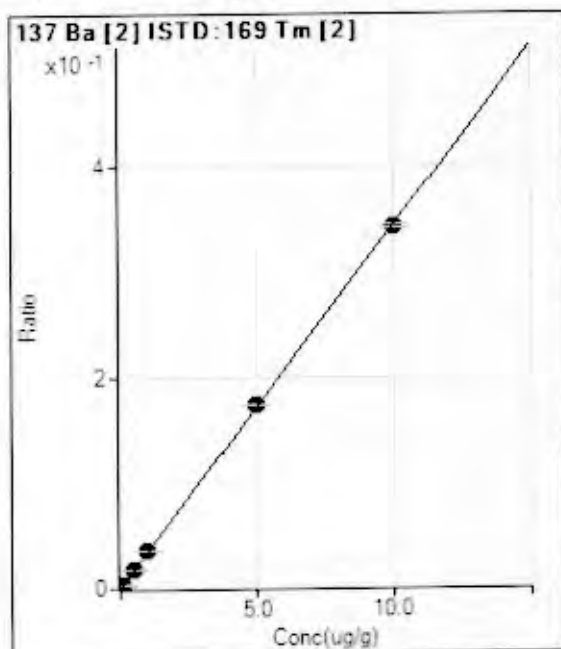
$$BEC = 0.0001952$$

Weight: None

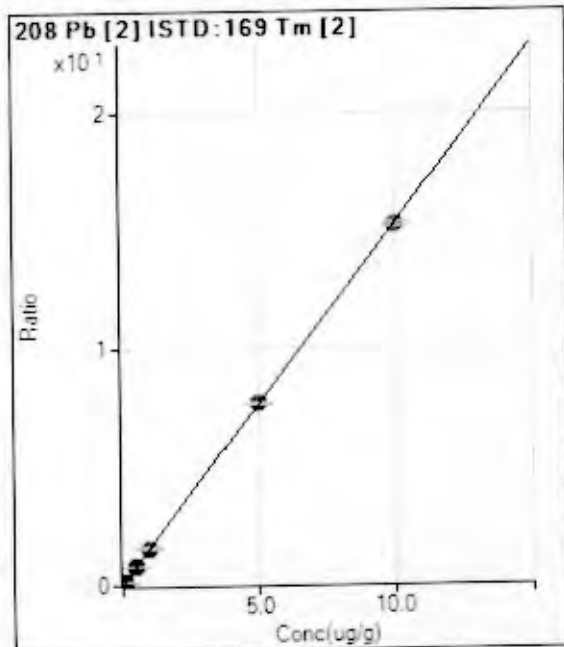
Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	15.56	0.0000	P	11.5
2	<input type="checkbox"/>	0.010	0.011	881.17	0.0016	P	3.7
3	<input type="checkbox"/>	0.050	0.054	4287.37	0.0077	P	3.0
4	<input type="checkbox"/>	0.100	0.106	8444.65	0.0152	P	0.5
5	<input type="checkbox"/>	0.500	0.536	42568.59	0.0764	P	0.4
6	<input type="checkbox"/>	1.000	1.035	80290.92	0.1474	P	2.3
7	<input type="checkbox"/>	5.000	5.051	376909.56	0.7194	P	0.8
8	<input type="checkbox"/>	10.00	9.969	789546.77	1.4198	A	0.8
9	<input type="checkbox"/>			96.67	0.0002	P	21.4
10	<input type="checkbox"/>			95.56	0.0002	P	16.3
11	<input type="checkbox"/>			83.34	0.0002	P	15.0
12	<input type="checkbox"/>			83.34	0.0002	P	17.7
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D

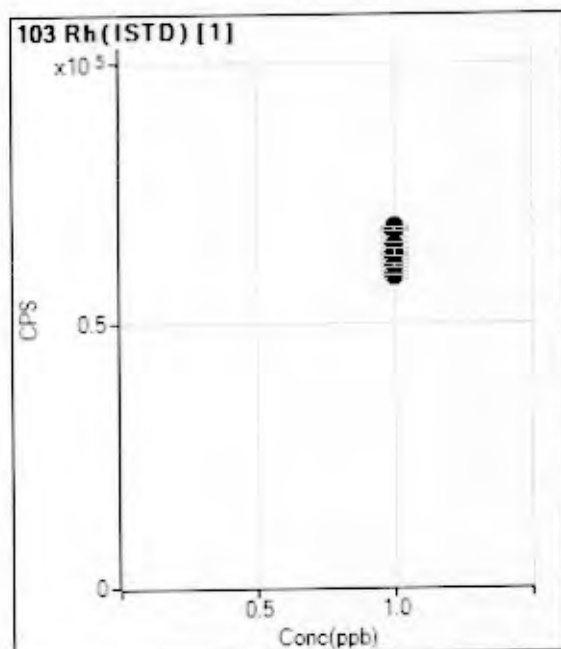


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	0.00	0.0000	P	
2	<input type="checkbox"/>	0.010	0.009	174.45	0.0003	P	24.1
3	<input type="checkbox"/>	0.050	0.056	1080.08	0.0019	P	3.9
4	<input type="checkbox"/>	0.100	0.112	2140.23	0.0038	P	0.7
5	<input type="checkbox"/>	0.500	0.536	10239.09	0.0184	P	3.8
6	<input type="checkbox"/>	1.000	1.038	19401.87	0.0356	P	1.3
7	<input type="checkbox"/>	5.000	5.064	91030.92	0.1737	P	0.2
8	<input type="checkbox"/>	10.00	9.962	190079.1	0.3418	P	1.0
9	<input type="checkbox"/>			7.78	0.0000	P	65.0
10	<input type="checkbox"/>			0.00	0.0000	P	
11	<input type="checkbox"/>			4.44	0.0000	P	43.0
12	<input type="checkbox"/>			0.00	0.0000	P	
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

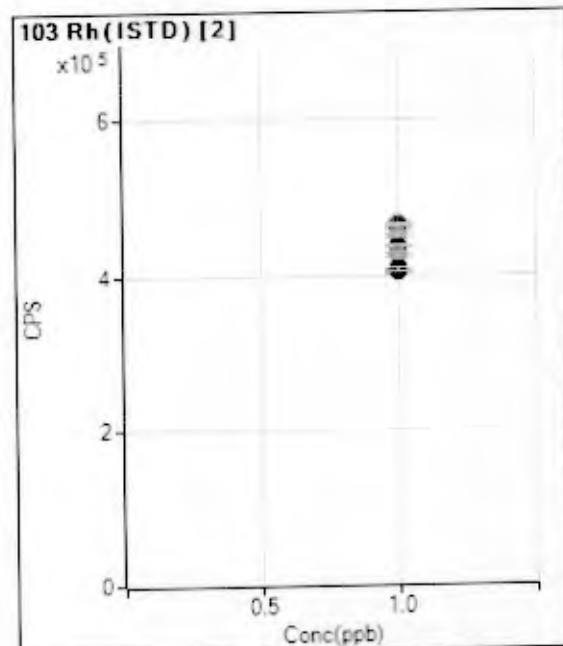


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	116.67	0.0002	P	1.4
2	<input type="checkbox"/>	0.010	0.010	9065.85	0.0162	P	2.8
3	<input type="checkbox"/>	0.050	0.054	46507.38	0.0830	P	0.9
4	<input type="checkbox"/>	0.100	0.108	92001.20	0.1651	P	1.3
5	<input type="checkbox"/>	0.500	0.532	452305.17	0.8121	P	0.2
6	<input type="checkbox"/>	1.000	1.028	855280.66	1.5701	A	0.8
7	<input type="checkbox"/>	5.000	5.019	4014696.44	7.6630	A	0.8
8	<input type="checkbox"/>	10.00	9.986	8477970.62	15.246	A	0.9
9	<input type="checkbox"/>			232.23	0.0005	P	10.
10	<input type="checkbox"/>			177.79	0.0003	P	6.0
11	<input type="checkbox"/>			193.34	0.0004	P	8.2
12	<input type="checkbox"/>			346.68	0.0010	P	23.
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D

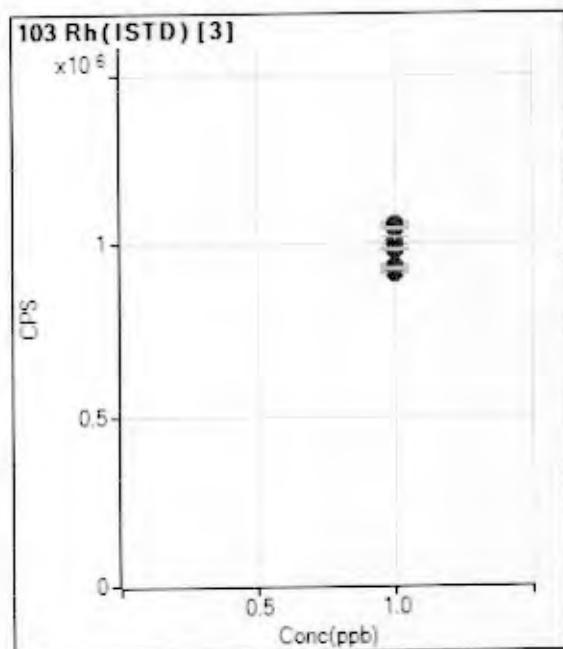


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		68597.14		P	0.3
2	<input type="checkbox"/>	1.000		68240.23		P	1.9
3	<input type="checkbox"/>	1.000		68487.91		P	1.0
4	<input type="checkbox"/>	1.000		67327.97		P	1.8
5	<input type="checkbox"/>	1.000		68067.38		P	1.2
6	<input type="checkbox"/>	1.000		64959.88		P	1.4
7	<input type="checkbox"/>	1.000		62514.20		P	1.3
8	<input type="checkbox"/>	1.000		63397.55		P	0.7
9	<input type="checkbox"/>	1.000		58911.63		P	0.9
10	<input type="checkbox"/>	1.000		59722.20		P	1.2
11	<input type="checkbox"/>	1.000		61017.91		P	1.4
12	<input type="checkbox"/>	1.000		63613.50		P	1.8
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

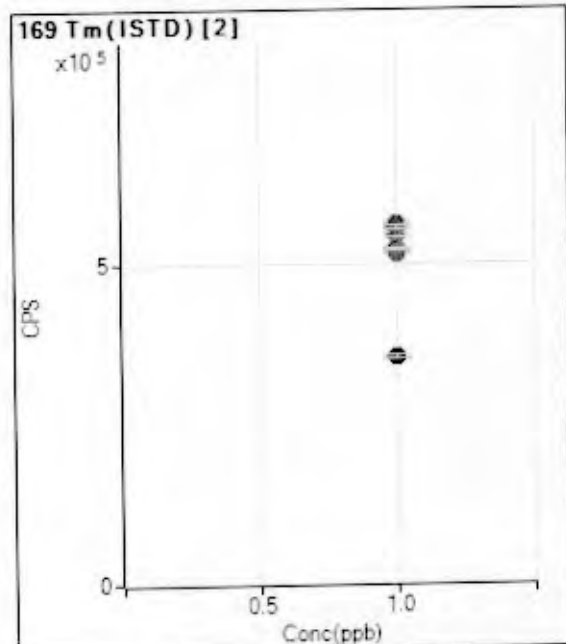


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		460663.99		A	1.6
2	<input type="checkbox"/>	1.000		464124.60		A	1.6
3	<input type="checkbox"/>	1.000		464686.11		A	0.4
4	<input type="checkbox"/>	1.000		464132.26		A	0.7
5	<input type="checkbox"/>	1.000		451285.23		M	1.2
6	<input type="checkbox"/>	1.000		436689.54		P	0.5
7	<input type="checkbox"/>	1.000		408265.57		P	0.4
8	<input type="checkbox"/>	1.000		426483.79		M	1.0
9	<input type="checkbox"/>	1.000		403562.38		P	0.5
10	<input type="checkbox"/>	1.000		404920.21		P	0.6
11	<input type="checkbox"/>	1.000		404872.53		P	0.5
12	<input type="checkbox"/>	1.000		406024.27		P	0.9
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for 10P.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	1.000		1054252.75		A	1.4
2	<input type="checkbox"/>	1.000		1050001.08		A	0.6
3	<input type="checkbox"/>	1.000		1044215.41		A	1.0
4	<input type="checkbox"/>	1.000		1041623.52		A	0.9
5	<input type="checkbox"/>	1.000		1007572.75		A	2.1
6	<input type="checkbox"/>	1.000		980063.25		A	0.9
7	<input type="checkbox"/>	1.000		934288.26		A	0.4
8	<input type="checkbox"/>	1.000		981717.54		A	0.4
9	<input type="checkbox"/>	1.000		912892.37		A	0.9
10	<input type="checkbox"/>	1.000		915892.68		A	0.2
11	<input type="checkbox"/>	1.000		915349.13		A	0.6
12	<input type="checkbox"/>	1.000		926535.60		A	0.6
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	1.000		559172.77		A	1.7
2	<input type="checkbox"/>	1.000		561310.76		A	0.8
3	<input type="checkbox"/>	1.000		560366.27		A	0.7
4	<input type="checkbox"/>	1.000		557131.52		A	0.9
5	<input type="checkbox"/>	1.000		556945.90		A	0.5
6	<input type="checkbox"/>	1.000		544753.78		A	1.0
7	<input type="checkbox"/>	1.000		523923.25		A	0.5
8	<input type="checkbox"/>	1.000		556093.35		A	0.8
9	<input type="checkbox"/>	1.000		515785.89		A	0.8
10	<input type="checkbox"/>	1.000		519724.54		A	0.3
11	<input type="checkbox"/>	1.000		520923.40		A	0.5
12	<input type="checkbox"/>	1.000		351271.23		P	1.1
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

PHYSIS

Continuing Calibration Data

TERRA

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name ICV.D
File Path D:\DATA\2131021.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/21/2013 12:17
Sample Name 100 ppb (10 ppb Ag)
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.103	ug/g	0.56	3,973.93	9.281E-03	Pulse	0.30	3
P	31	103	2		ug/g	---	71.11	1.661E-04	Pulse	0.30	3
Cr	52	103	2	0.103	ug/g	0.49	201,293.91	4.701E-01	Pulse	0.30	3
Fe	57	103	2	0.102	ug/g	4.26	3,981.72	9.299E-03	Pulse	0.30	3
Ni	60	103	2	0.102	ug/g	0.83	93,093.29	2.174E-01	Pulse	0.30	3
Cu	65	103	2	0.102	ug/g	0.56	128,586.88	3.003E-01	Pulse	0.30	3
Zn	66	103	2	0.103	ug/g	0.63	32,968.20	7.699E-02	Pulse	0.30	3
As	75	103	2	0.102	ug/g	1.70	13,004.15	3.037E-02	Pulse	0.30	3
Se	78	103	1	0.099	ug/g	0.66	15,615.30	2.444E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.54	36,008.62	8.409E-02	Pulse	0.30	3
Cd	114	103	2	0.101	ug/g	0.73	112,574.37	2.629E-01	Pulse	0.30	3
Sb	121	169	2	0.102	ug/g	1.27	78,575.93	1.451E-01	Pulse	0.30	3
Ba	137	169	2	0.105	ug/g	1.47	19,474.19	3.595E-02	Pulse	0.30	3
Pb	208	169	2	0.103	ug/g	0.66	855,706.64	1.580E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	63,886.87	0.70	93.1	Pulse	0.30	3
2	Rh	103	428,196.45	0.25	93.0	Pulse	0.30	3
3	Rh	103	970,647.03	0.23	92.1	Analog	0.30	3
2	Tm	169	541,740.08	0.60	96.9	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCVP.D
File Path D:\DATA\2131021.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/21/2013 12:22
Sample Name 5 PPM Phosphorus
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.000	ug/g	31.58	21.11	5.021E-05	Pulse	0.30	3
P	31	103	2	4.913	ug/g	0.83	9,449.49	2.248E-02	Pulse	0.30	3
Cr	52	103	2	0.000	ug/g	44.54	156.67	3.729E-04	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	291.98	13.33	3.173E-05	Pulse	0.30	3
Ni	60	103	2	0.000	ug/g	174.44	16.67	3.960E-05	Pulse	0.30	3
Cu	65	103	2	-0.002	ug/g	-5.09	1,244.54	2.962E-03	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	12.26	143.34	3.410E-04	Pulse	0.30	3
As	75	103	2	0.000	ug/g	20.34	16.67	3.967E-05	Pulse	0.30	3
Se	78	103	1	0.000	ug/g	138.78	11.11	1.721E-04	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	-111.82	26.67	6.353E-05	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	37.71	23.33	5.551E-05	Pulse	0.30	3
Sb	121	169	2	0.000	ug/g	35.00	158.89	2.958E-04	Pulse	0.30	3
Ba	137	169	2	0.000	ug/g	125.59	5.55	1.042E-05	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	16.30	215.56	4.001E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	64,268.22	0.91	93.7	Pulse	0.30	3
2	Rh	103	420,280.04	0.34	91.2	Pulse	0.30	3
3	Rh	103	959,271.40	0.46	91.0	Analog	0.30	3
2	Tm	169	538,410.67	1.19	96.3	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV.D
File Path D:\DATA\2131021.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/21/2013 19:17
Sample Name 0.10 PPM
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.095	ug/g	3.64	4,325.12	8.549E-03	Pulse	0.30	3
P	31	103	2		ug/g	---	30.00	5.926E-05	Pulse	0.30	3
Cr	52	103	2	0.097	ug/g	1.25	223,800.40	4.423E-01	Pulse	0.30	3
Fe	57	103	2	0.098	ug/g	0.50	4,491.86	8.878E-03	Pulse	0.30	3
Ni	60	103	2	0.095	ug/g	0.27	102,262.53	2.021E-01	Pulse	0.30	3
Cu	65	103	2	0.093	ug/g	0.67	138,846.04	2.744E-01	Pulse	0.30	3
Zn	66	103	2	0.095	ug/g	1.04	36,106.45	7.136E-02	Pulse	0.30	3
As	75	103	2	0.101	ug/g	3.28	15,217.16	3.008E-02	Pulse	0.30	3
Se	78	103	1	0.092	ug/g	1.45	19,405.82	2.272E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.86	41,909.83	8.283E-02	Pulse	0.30	3
Cd	114	103	2	0.099	ug/g	0.30	130,866.25	2.586E-01	Pulse	0.30	3
Sb	121	169	2	0.104	ug/g	1.02	95,098.63	1.482E-01	Pulse	0.30	3
Ba	137	169	2	0.114	ug/g	0.85	25,091.73	3.909E-02	Pulse	0.30	3
Pb	208	169	2	0.105	ug/g	0.83	1,032,964.64	1.609E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	85,430.85	0.21	124.5	Pulse	0.30	3
2	Rh	103	505,970.52	0.42	109.8	Analog	0.30	3
3	Rh	103	1,202,500.29	0.42	114.1	Analog	0.30	3
2	Tm	169	641,894.25	0.74	114.8	Analog	0.30	3

PHYSIS

Instrument Run Log

TERRA

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AURA

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Low

	Method	Type	Vial	Data File	Sample	Comment	Dim/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1		Keyword		CALBEG	Start of CALIB									
2	C:\ICPMH1\METHODS\IPhysis.m	Sample	1	Rinse1			1.000							
3	C:\ICPMH1\METHODS\IPhysis.m	Sample	1	Rinse2			1.000							
4	C:\ICPMH1\METHODS\IPhysis.m	Sample	1101	Rinse			1.000							
5	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1101	0MIX	0 ppb mix	0 ng 0 ng Ag	Level 1							
6	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1102	1MIX	1 ppb mix	10 ng 1 ng Ag	Level 2							
7	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1103	5MIX	5 ppb mix	50 ng 5 ng Ag	Level 3							
8	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1104	10MIX	10 ppb mix	100 ng 10 ng Ag	Level 4							
9	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1105	50MIX	50 ppb mix	500 ng 50 ng Ag	Level 5							
10	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1106	100MIX	100 ppb mix	1000 ng 100 ng Ag	Level 6							
11	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1107	500MIX	500 ppb mix	5000 ng 500 ng Ag	Level 7							
12	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1108	1000MIX	1000 ppb mix	10000 ng 1000 ng Ag	Level 8							
13	C:\ICPMH1\METHODS\IPhysis.m	Sample	1	Rinse3			1.000							
14	C:\ICPMH1\METHODS\IPhysis.m	Sample	1	Rinse4			1.000							
15	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1109	1P	1 ppm P	10 ug P	Level 9							
16	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1110	2P	2 ppm P	20 ug P	Level 10							
17	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1111	5P	5 ppm P	50 ug P	Level 11							
18	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1112	10P	10 ppm P	100 ug P	Level 12							
19	C:\ICPMH1\METHODS\IPhysis.m	Sample	1	Rinse5			1.000							
20	C:\ICPMH1\METHODS\IPhysis.m	Sample	1201	ICV	100 ppb (10 ppb Ag)		1.000E-01							
21	C:\ICPMH1\METHODS\IPhysis.m	Sample	1111	CCVP	5 PPM Phosphorus		1.000E-01							
22	C:\ICPMH1\METHODS\IPhysis.m	Sample	1202	2ndP	CRA Phosphorus @74 PPM 9.32		1.000E-01							
23	C:\ICPMH1\METHODS\IPhysis.m	Sample	1	Rinse6			1.000							
24	C:\ICPMH1\METHODS\IPhysis.m	Sample	1	Rinse7			1.000							
25		Keyword		CALEND	End of CALIB									
26		Keyword		SAMPLEBEG	Start of SMPLE									
27	C:\ICPMH1\METHODS\IPhysis.m	Sample	1	Rinse8			1.000							
28	C:\ICPMH1\METHODS\IPhysis.m	Sample	1	Rinse9			1.000							
29	C:\ICPMH1\METHODS\IPhysis.m	Sample	1	Rinse10			1.000							
30	C:\ICPMH1\METHODS\IPhysis.m	Sample	1	Rinse11			1.000							
31	C:\ICPMH1\METHODS\IPhysis.m	Sample	2101	22481	QAQC Procedural Blank B1	22481.NA.B1.10/12/2013.E-6005	10.00							
32	C:\ICPMH1\METHODS\IPhysis.m	Sample	2102	22482	B13-8013	22482.NA.R1.10/12/2013.E-6005	32.77							
33	C:\ICPMH1\METHODS\IPhysis.m	Sample	2103	22482+2	B13-8013 Dup	22482.NA.R2.10/12/2013.E-6005	33.75							
34	C:\ICPMH1\METHODS\IPhysis.m	Sample	2104	22483	B13-8014	22483.NA.R1.10/12/2013.E-6005	22.05							
35	C:\ICPMH1\METHODS\IPhysis.m	Sample	2105	22484	B13-8028	22484.NA.R1.10/12/2013.E-6005	30.78							
36	C:\ICPMH1\METHODS\IPhysis.m	Sample	2106	22485	B13-8030	22485.NA.R1.10/12/2013.E-6005	19.53							
37	C:\ICPMH1\METHODS\IPhysis.m	Sample	2107	22486	B13-8038	22486.NA.R1.10/12/2013.E-6005	26.17							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
38	C:\VCPMH\1\METHODS (Physis.m)	Sample	2108	22487	B13-8038	22487,NA,R1,10/12/2013,E-6005,	20.38							
39	C:\VCPMH\1\METHODS (Physis.m)	Sample	2109	22489	B13-8040	22489,NA,R1,10/12/2013,E-6005,	39.89							
40	C:\VCPMH\1\METHODS (Physis.m)	Sample	2110	22499	B13-8052	22499,NA,R1,10/12/2013,E-6005,	28.63							
41	C:\VCPMH\1\METHODS (Physis.m)	Sample	2111	22480	B13-8060	22490,NA,R1,10/12/2013,E-6005,	27.47							
42	C:\VCPMH\1\METHODS (Physis.m)	Sample	2112	22491	B13-8078	22491,NA,R1,10/12/2013,E-6005,	27.45							
43	C:\VCPMH\1\METHODS (Physis.m)	Sample	2201	22493cm	QAQC CRM - RTC 018-0501	22493,NA,CRM1,10/12/2013,E-6005,	52.97							
44	C:\VCPMH\1\METHODS (Physis.m)	Sample	2202	22494cm	QAQC CRM - ERA 5401	22494,NA,CRM1,10/12/2013,E-6005,	52.08							
45	C:\VCPMH\1\METHODS (Physis.m)	Sample	2203	22481bs1	QAQC Procedural Blank BS1	22481,NA,BS1,10/12/2013,E-6005,	1.000							
46	C:\VCPMH\1\METHODS (Physis.m)	Sample	2204	22481bs2	QAQC Procedural Blank BS2	22481,NA,BS2,10/12/2013,E-6005,	1.000							
47	C:\VCPMH\1\METHODS (Physis.m)	Sample	2205	22482ms	B13-8013 MS	22482,NA,MS1,10/12/2013,E-6005,	1.000							
48	C:\VCPMH\1\METHODS (Physis.m)	Sample	2206	22482msd	B13-8013 MSD	22482,NA,MS2,10/12/2013,E-6005,	1.000							
49	C:\VCPMH\1\METHODS (Physis.m)	Sample	2207	22482s1P	B13-8013 MS P	22482,NA,MS1,10/12/2013,E-6005,	1.000							
50	C:\VCPMH\1\METHODS (Physis.m)	Sample	2208	22482s2P	B13-8013 MSD P	22482,NA,MS2,10/12/2013,E-6005,	1.000							
51	C:\VCPMH\1\METHODS (Physis.m)	Sample	1	Rinse12			1.000							
52	C:\VCPMH\1\METHODS (Physis.m)	Sample	1	Rinse13			1.000							
53	C:\VCPMH\1\METHODS (Physis.m)	Sample	1	Rinse14			1.000							
54	C:\VCPMH\1\METHODS (Physis.m)	Sample	1	Rinse15			1.000							
55	C:\VCPMH\1\METHODS (Physis.m)	Sample	1	Rinse16			1.000							
56	C:\VCPMH\1\METHODS (Physis.m)	Sample	2209	22544	QAQC Procedural Blank B1	22544,NA,B1,10/12/2013,E-6006,	10.00							
57	C:\VCPMH\1\METHODS (Physis.m)	Sample	2210	22546	B13-8109 Grab	22546,NA,R1,10/12/2013,E-6006,	25.86							
58	C:\VCPMH\1\METHODS (Physis.m)	Sample	2211	22546r2	B13-8109 Grab Dup	22546,NA,R2,10/12/2013,E-6006,	23.74							
59	C:\VCPMH\1\METHODS (Physis.m)	Sample	2212	22547	B13-8118 Grab	22547,NA,R1,10/12/2013,E-6006,	30.52							
60	C:\VCPMH\1\METHODS (Physis.m)	Sample	2301	22548	B13-8122 Grab	22548,NA,R1,10/12/2013,E-6006,	14.42							
61	C:\VCPMH\1\METHODS (Physis.m)	Sample	2302	22549	B13-8033 Grab	22549,NA,R1,10/12/2013,E-6006,	33.67							
62	C:\VCPMH\1\METHODS (Physis.m)	Sample	2303	22550	B13-8093 Grab	22550,NA,R1,10/12/2013,E-6006,	21.52							
63	C:\VCPMH\1\METHODS (Physis.m)	Sample	2304	22551	B13-8100 Grab	22551,NA,R1,10/12/2013,E-6006,	24.81							
64	C:\VCPMH\1\METHODS (Physis.m)	Sample	2305	22552	B13-8096 Grab	22552,NA,R1,10/12/2013,E-6006,	33.33							
65	C:\VCPMH\1\METHODS (Physis.m)	Sample	2306	22553	B13-8098 Grab	22553,NA,R1,10/12/2013,E-6006,	23.88							
66	C:\VCPMH\1\METHODS (Physis.m)	Sample	2307	22554	B13-8098 Grab	22554,NA,R1,10/12/2013,E-6006,	23.01							
67	C:\VCPMH\1\METHODS (Physis.m)	Sample	2308	22555	B13-8095 Grab	22555,NA,R1,10/12/2013,E-6006,	40.13							
68	C:\VCPMH\1\METHODS (Physis.m)	Sample	2308	22559cm	QAQC CRM - RTC 018-0501	22559,NA,CRM1,10/12/2013,E-6006,	54.71							
69	C:\VCPMH\1\METHODS (Physis.m)	Sample	2310	22561cm	QAQC CRM - ERA 5401	22561,NA,CRM1,10/12/2013,E-6006,	65.19							
70	C:\VCPMH\1\METHODS (Physis.m)	Sample	2203	22544bs1	QAQC Procedural Blank BS1	22544,NA,BS1,10/12/2013,E-6006,	1.000							
71	C:\VCPMH\1\METHODS (Physis.m)	Sample	2204	22544bs2	QAQC Procedural Blank BS2	22544,NA,BS2,10/12/2013,E-6006,	1.000							
72	C:\VCPMH\1\METHODS (Physis.m)	Sample	2311	22546ms	B13-8109 Grab MS	22546,NA,MS1,10/12/2013,E-6006,	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
73	C:\ICPMH\1\METHODS (Physis.m)	Sample	2312	22548msd	B13-8109 Grab MSD	22548.NA.MS2.10/12/2013.E-6006	1.000							
74	C:\ICPMH\1\METHODS (Physis.m)	Sample	2401	22548s1P	B13-8109 Grab MS_P	22548.NA.MS1.10/12/2013.E-6006	1.000							
75	C:\ICPMH\1\METHODS (Physis.m)	Sample	2402	22548s2P	B13-8109 Grab MSD_P	22548.NA.MS2.10/12/2013.E-6006	1.000							
76	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse17			1.000							
77	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse18			1.000							
78	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse19			1.000							
79	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse20			1.000							
80	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse21			1.000							
81	C:\ICPMH\1\METHODS (Physis.m)	Sample	2403	22570	QAQC Procedural Blank B1	22570.NA.B1.10/12/2013.E-6007	10.00							
82	C:\ICPMH\1\METHODS (Physis.m)	Sample	2403	22570	QAQC Procedural Blank B1	22570.NA.B1.10/12/2013.E-6007	10.00							
83	C:\ICPMH\1\METHODS (Physis.m)	Sample	2404	22556	B13-8087 Grab	22556.NA.R1.10/12/2013.E-6007	18.89							
84	C:\ICPMH\1\METHODS (Physis.m)	Sample	2405	22558r2	B13-8087 Grab Dup	22556.NA.R2.10/12/2013.E-6007	17.44							
85	C:\ICPMH\1\METHODS (Physis.m)	Sample	2406	22557	B13-8073 Grab	22557.NA.R1.10/12/2013.E-6007	22.67							
86	C:\ICPMH\1\METHODS (Physis.m)	Sample	2407	22571	B13-8058 Grab	22571.NA.R1.10/12/2013.E-6007	19.36							
87	C:\ICPMH\1\METHODS (Physis.m)	Sample	2408	22571r2	B13-8058 Grab Dup	22571.NA.R2.10/12/2013.E-6007	19.83							
88	C:\ICPMH\1\METHODS (Physis.m)	Sample	2409	22572	B13-8068 Grab	22572.NA.R1.10/12/2013.E-6007	24.03							
89	C:\ICPMH\1\METHODS (Physis.m)	Sample	2410	22573	B13-8080 Grab	22573.NA.R1.10/12/2013.E-6007	26.05							
90	C:\ICPMH\1\METHODS (Physis.m)	Sample	2411	22574	B13-8045 Grab	22574.NA.R1.10/12/2013.E-6007	23.54							
91	C:\ICPMH\1\METHODS (Physis.m)	Sample	2412	22575	B13-8031 Grab	22575.NA.R1.10/12/2013.E-6007	23.02							
92	C:\ICPMH\1\METHODS (Physis.m)	Sample	2501	22560cm	QAQC CRM - RTC 016-0501	22560.NA.CRM1.10/12/2013.E-6007	41.05							
93	C:\ICPMH\1\METHODS (Physis.m)	Sample	2502	22562cm	QAQC CRM - ERA 5401	22562.NA.CRM1.10/12/2013.E-6007	49.80							
94	C:\ICPMH\1\METHODS (Physis.m)	Sample	2503	22577cm	QAQC CRM - RTC 016-0501	22577.NA.CRM1.10/12/2013.E-6007	41.05							
95	C:\ICPMH\1\METHODS (Physis.m)	Sample	2502	22578cm	QAQC CRM - ERA 5401	22576.NA.CRM1.10/12/2013.E-6007	49.80							
96	C:\ICPMH\1\METHODS (Physis.m)	Sample	2203	22545bs1	QAQC Procedural Blank BS1	22545.NA.BS1.10/12/2013.E-6007	1.000							
97	C:\ICPMH\1\METHODS (Physis.m)	Sample	2204	22545bs2	QAQC Procedural Blank BS2	22545.NA.BS2.10/12/2013.E-6007	1.000							
98	C:\ICPMH\1\METHODS (Physis.m)	Sample	2203	22570bs1	QAQC Procedural Blank BS1	22570.NA.BS1.10/12/2013.E-6007	1.000							
99	C:\ICPMH\1\METHODS (Physis.m)	Sample	2204	22570bs2	QAQC Procedural Blank BS2	22570.NA.BS2.10/12/2013.E-6007	1.000							
100	C:\ICPMH\1\METHODS (Physis.m)	Sample	2503	22558ms	B13-8087 Grab MS	22556.NA.MS1.10/12/2013.E-6007	1.000							
101	C:\ICPMH\1\METHODS (Physis.m)	Sample	2504	22558msd	B13-8087 Grab MSD	22556.NA.MS2.10/12/2013.E-6007	1.000							
102	C:\ICPMH\1\METHODS (Physis.m)	Sample	2505	22571ms	B13-8058 Grab MS	22571.NA.MS1.10/12/2013.E-6007	1.000							
103	C:\ICPMH\1\METHODS (Physis.m)	Sample	2506	22571msd	B13-8058 Grab MSD	22571.NA.MS2.10/12/2013.E-6007	1.000							
104	C:\ICPMH\1\METHODS (Physis.m)	Sample	2507	22558s1P	B13-8087 Grab MS_P	22556.NA.MS1.10/12/2013.E-6007	1.000							
105	C:\ICPMH\1\METHODS (Physis.m)	Sample	2508	22558s2P	B13-8087 Grab MSD_P	22556.NA.MS2.10/12/2013.E-6007	1.000							
106	C:\ICPMH\1\METHODS (Physis.m)	Sample	2509	22571s1P	B13-8058 Grab MS_P	22571.NA.MS1.10/12/2013.E-6007	1.000							
107	C:\ICPMH\1\METHODS (Physis.m)	Sample	2510	22571s2P	B13-8058 Grab MSD_P	22571.NA.MS2.10/12/2013.E-6007	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
108	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse22			1.000							
109	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse23			1.000							
110	C:\CPMH\1\METHODS (Physis.m)	Sample	1108	CCV	0.10 PPM		1.000E-01							
111	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse24			1.000							
112	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse25			1.000							
113	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse26			1.000							
114	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse27			1.000							
115		Keyword		SMPLEND	End of SMPL									
116		Keyword		End	End of Sequence									
117		Keyword		BLKBEG	Start of BLANK									
118		Keyword		BLKEND	End of BLANK									
119		Keyword		ERRBEG	Start of ERRTERM									
120		Keyword		ERREND	End of ERRTERM									

Elements -

ICP-MS

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(EPA 200.8 - SEM)

PHYSIS

Instrument Blank

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ICPMS 7700x DATA REPORT

File Name OMIX.D
File Path D:\data\2131018.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/18/2013 14:53
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.000	ug/g	---	15.55	3.124E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	---	1,350.11	2.704E-03	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	---	25.56	5.108E-05	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	---	3.33	6.734E-06	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	---	1.11	2.219E-06	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	---	88.90	1.469E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	71,290.21	2.19	100.0	Pulse	0.30	3
2	Rh	103	499,723.08	0.90	100.0	Analog	0.30	3
3	Rh	103	1,196,280.56	0.83	100.0	Analog	0.30	3
2	Tm	169	604,953.55	0.43	100.0	Analog	0.30	3

PHYSIS

Initial Calibration Data

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Calibration for 1000MIX.D

Batch Folder: D:\DATA\2131018.B\

 Analysis File: 2131018.batch.xml

 DA Date-Time: 4/8/2014 4:09:51 PM

 Calibration Title:

 Calibration Method: External Calibration

 VIS Interpolation Fit:

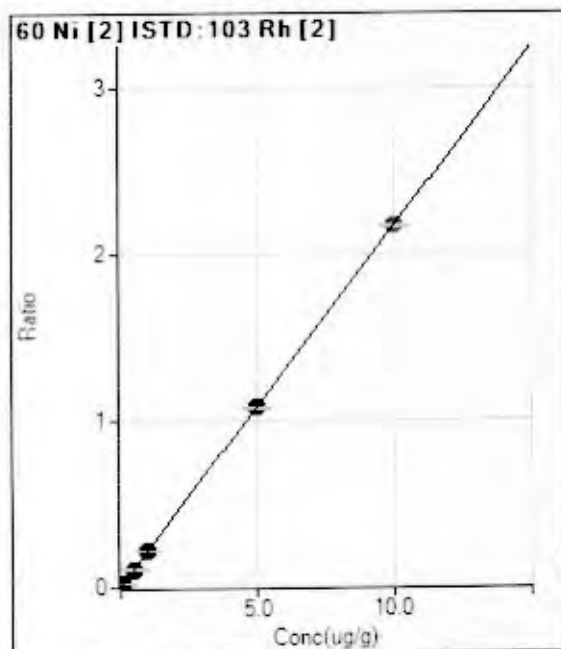
 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX.D	0 ppb mix	10/18/2013 2:53:55 PM
2	1MIX.D	1 ppb mix	10/18/2013 2:58:39 PM
3	5MIX.D	5 ppb mix	10/18/2013 3:03:21 PM
4	10MIX.D	10 ppb mix	10/18/2013 3:08:04 PM
5	50MIX.D	50 ppb mix	10/18/2013 3:12:50 PM
6	100MIX.D	100 ppb mix	10/18/2013 3:17:34 PM
7	500MIX.D	500 ppb mix	10/18/2013 3:22:17 PM
8	1000MIX.D	1000 ppb mix	10/18/2013 3:26:50 PM
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

Calibration for 1000MIX.D



$$y = 0.2165 * x + 3.1240E-005$$

$$R = 1.0000$$

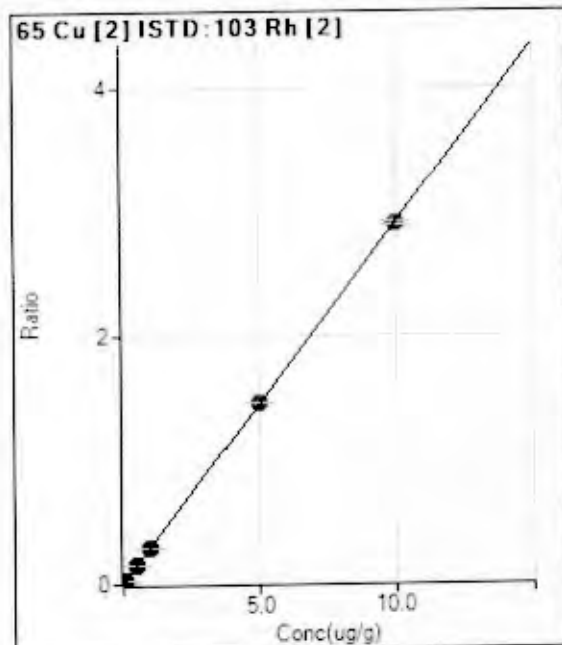
$$DL = 0.0002997$$

$$BEC = 0.0001443$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	15.55	0.0000	P	69.2
2	<input type="checkbox"/>	0.010	0.010	1137.86	0.0023	P	8.1
3	<input type="checkbox"/>	0.050	0.050	5471.07	0.0109	P	0.3
4	<input type="checkbox"/>	0.100	0.102	10813.71	0.0220	P	1.8
5	<input type="checkbox"/>	0.500	0.503	51924.34	0.1090	P	1.5
6	<input type="checkbox"/>	1.000	1.015	100631.98	0.2197	P	1.2
7	<input type="checkbox"/>	5.000	4.970	464698.70	1.0762	P	0.4
8	<input type="checkbox"/>	10.00	10.013	919218.78	2.1681	A	0.7
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2908 * x + 0.0027$$

$$R = 1.0000$$

$$DL = 0.003732$$

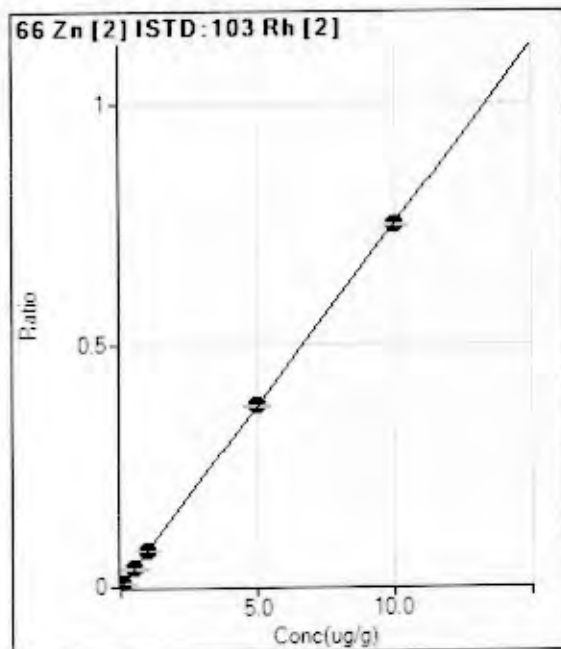
$$BEC = 0.009297$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	1350.11	0.0027	P	13.4
2	<input type="checkbox"/>	0.010	0.010	2882.58	0.0058	P	6.4
3	<input type="checkbox"/>	0.050	0.053	9023.72	0.0180	P	2.8
4	<input type="checkbox"/>	0.100	0.104	16213.50	0.0330	P	1.7
5	<input type="checkbox"/>	0.500	0.504	71020.23	0.1491	P	1.4
6	<input type="checkbox"/>	1.000	1.011	135888.25	0.2967	P	0.3
7	<input type="checkbox"/>	5.000	5.025	632149.98	1.4640	A	0.7
8	<input type="checkbox"/>	10.00	9.986	1232456.2	2.9070	A	1.1
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D



$$y = 0.0750 * x + 5.1084E-005$$

$$R = 1.0000$$

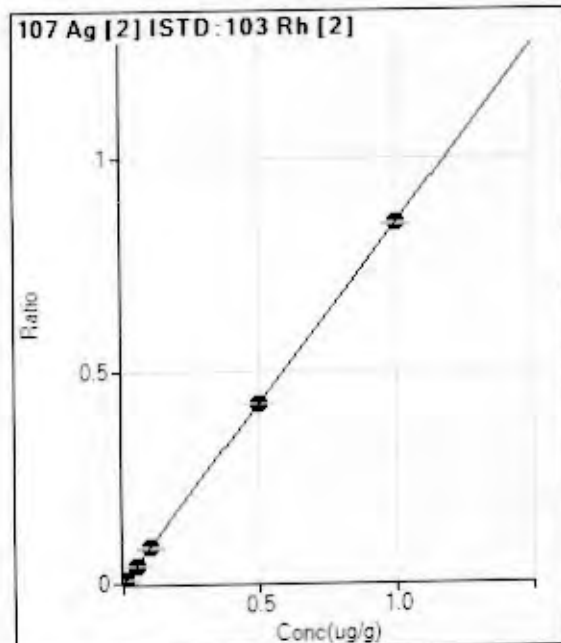
$$DL = 0.0003904$$

$$BEC = 0.0006814$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	25.56	0.0001	P	19.1
2	<input type="checkbox"/>	0.010	0.012	494.47	0.0010	P	15.0
3	<input type="checkbox"/>	0.050	0.051	1945.75	0.0039	P	4.1
4	<input type="checkbox"/>	0.100	0.098	3631.63	0.0074	P	1.9
5	<input type="checkbox"/>	0.500	0.504	18033.07	0.0379	P	1.0
6	<input type="checkbox"/>	1.000	1.023	35140.12	0.0767	P	1.3
7	<input type="checkbox"/>	5.000	5.015	162368.75	0.3760	P	1.0
8	<input type="checkbox"/>	10.00	9.990	317558.68	0.7490	P	0.7
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.8462 * x + 6.7340E-006$$

$$R = 1.0000$$

$$DL = 4.135E-05$$

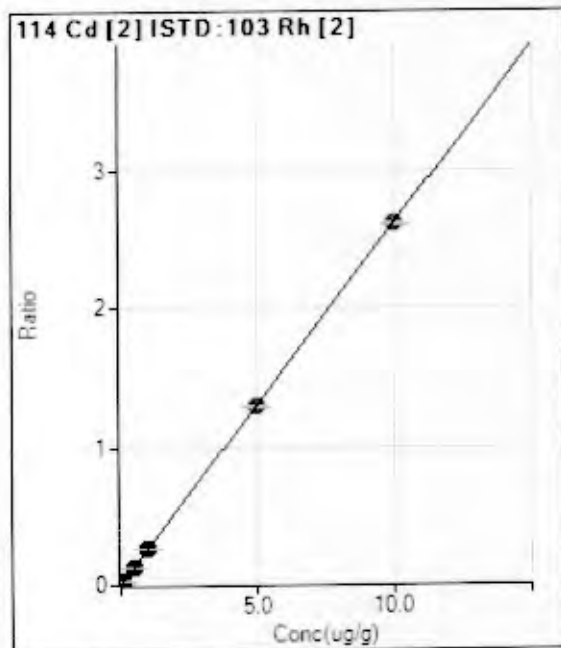
$$BEC = 7.958E-06$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	3.33	0.0000	P	173.2
2	<input type="checkbox"/>	0.001	0.001	426.69	0.0009	P	10.0
3	<input type="checkbox"/>	0.005	0.005	2110.22	0.0042	P	4.6
4	<input type="checkbox"/>	0.010	0.010	4165.13	0.0085	P	1.1
5	<input type="checkbox"/>	0.050	0.049	19838.79	0.0417	P	3.0
6	<input type="checkbox"/>	0.100	0.099	38276.08	0.0836	P	2.3
7	<input type="checkbox"/>	0.500	0.499	182284.08	0.4221	P	0.5
8	<input type="checkbox"/>	1.000	1.001	359024.89	0.8468	P	0.6
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D



$$y = 0.2603 * x + 2.2190E-006$$

$$R = 1.0000$$

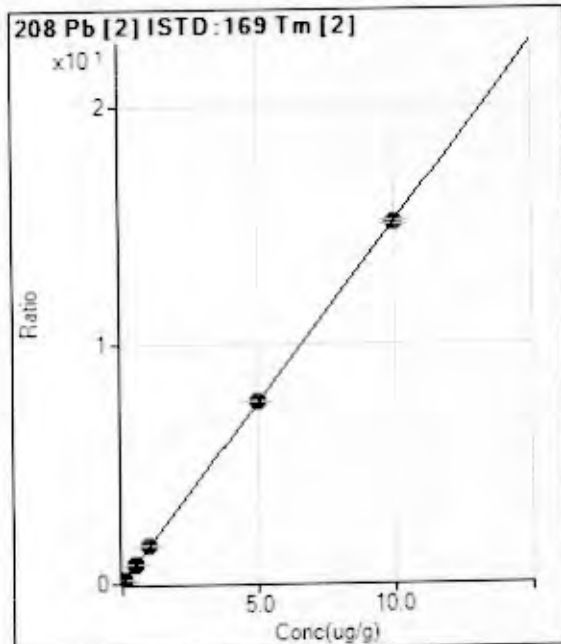
$$DL = 4.43E-05$$

$$BEC = 8.526E-06$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	1.11	0.0000	P	173.2
2	<input type="checkbox"/>	0.010	0.010	1286.77	0.0026	P	9.8
3	<input type="checkbox"/>	0.050	0.048	6284.75	0.0126	P	2.3
4	<input type="checkbox"/>	0.100	0.100	12728.52	0.0259	P	1.3
5	<input type="checkbox"/>	0.500	0.489	60569.44	0.1272	P	1.5
6	<input type="checkbox"/>	1.000	0.987	117665.22	0.2569	P	1.0
7	<input type="checkbox"/>	5.000	4.975	559056.26	1.2947	A	0.7
8	<input type="checkbox"/>	10.00	10.014	1105004.2	2.6063	A	0.5
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 1.5130 * x + 1.4688E-004$$

$$R = 1.0000$$

$$DL = 5.289E-05$$

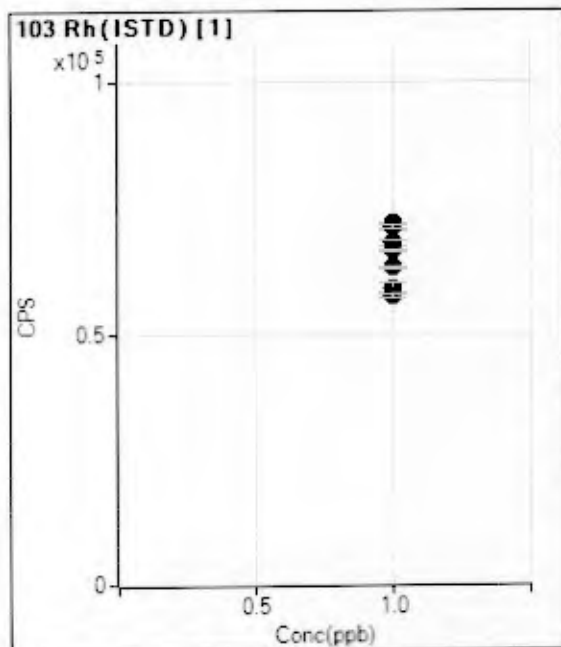
$$BEC = 9.708E-05$$

Weight: None

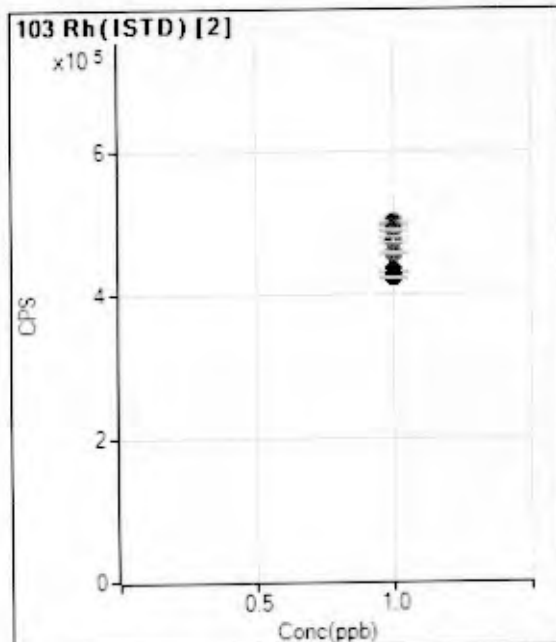
Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	88.90	0.0001	P	18.2
2	<input type="checkbox"/>	0.010	0.011	10045.02	0.0165	P	1.1
3	<input type="checkbox"/>	0.050	0.055	50305.42	0.0831	P	1.3
4	<input type="checkbox"/>	0.100	0.107	97374.72	0.1622	P	0.4
5	<input type="checkbox"/>	0.500	0.536	468928.14	0.8105	P	0.7
6	<input type="checkbox"/>	1.000	1.037	890097.53	1.5698	A	0.3
7	<input type="checkbox"/>	5.000	5.028	4223603.47	7.6074	A	0.4
8	<input type="checkbox"/>	10.00	9.980	8409949.19	15.100	A	1.1
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D

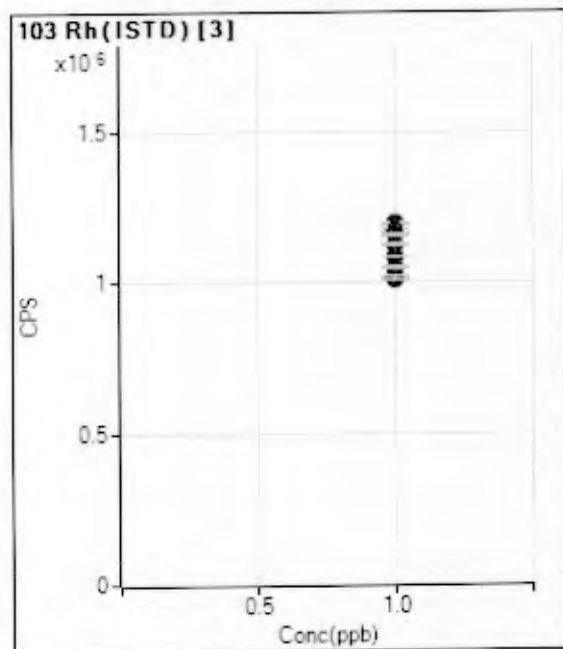


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		71290.21		P	2.2
2	<input type="checkbox"/>	1.000		71870.49		P	0.7
3	<input type="checkbox"/>	1.000		71183.10		P	0.9
4	<input type="checkbox"/>	1.000		68055.09		P	1.5
5	<input type="checkbox"/>	1.000		66484.69		P	0.9
6	<input type="checkbox"/>	1.000		63126.13		P	0.5
7	<input type="checkbox"/>	1.000		59181.44		P	2.8
8	<input type="checkbox"/>	1.000		57484.58		P	0.9
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

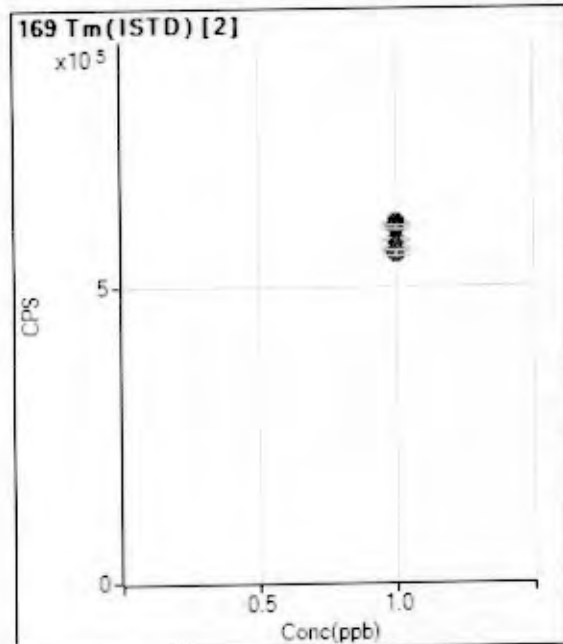


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		499723.08		A	0.9
2	<input type="checkbox"/>	1.000		501199.34		A	0.5
3	<input type="checkbox"/>	1.000		500619.82		A	0.8
4	<input type="checkbox"/>	1.000		491042.90		A	0.5
5	<input type="checkbox"/>	1.000		476251.22		A	1.5
6	<input type="checkbox"/>	1.000		457970.85		A	0.7
7	<input type="checkbox"/>	1.000		431811.10		P	0.7
8	<input type="checkbox"/>	1.000		423982.98		P	0.8
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for 1000MIX.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		1196280.56		A	0.8
2	<input type="checkbox"/>	1.000		1171207.12		A	1.0
3	<input type="checkbox"/>	1.000		1157454.03		A	0.8
4	<input type="checkbox"/>	1.000		1124168.73		A	0.7
5	<input type="checkbox"/>	1.000		1083541.83		A	0.1
6	<input type="checkbox"/>	1.000		1047535.32		A	0.8
7	<input type="checkbox"/>	1.000		1009586.48		A	0.9
8	<input type="checkbox"/>	1.000		1014556.43		A	1.0
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		604953.55		A	0.4
2	<input type="checkbox"/>	1.000		608917.33		A	0.5
3	<input type="checkbox"/>	1.000		605151.66		A	0.5
4	<input type="checkbox"/>	1.000		600172.10		A	0.8
5	<input type="checkbox"/>	1.000		578588.38		A	0.3
6	<input type="checkbox"/>	1.000		567010.03		A	0.5
7	<input type="checkbox"/>	1.000		555195.47		A	0.6
8	<input type="checkbox"/>	1.000		556979.76		A	1.4
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

PHYSIS

Continuing Calibration Data

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PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name ICV.D
File Path D:\data\2131018.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/18/2013 15:45
Sample Name 100 ppb (10 ppb Ag)
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.100	ug/g	1.31	96,525.02	2.168E-01	Pulse	0.30	3
Cu	65	103	2	0.101	ug/g	0.59	131,393.73	2.951E-01	Pulse	0.30	3
Zn	66	103	2	0.100	ug/g	0.48	33,431.22	7.509E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.62	37,428.36	8.407E-02	Pulse	0.30	3
Cd	114	103	2	0.100	ug/g	0.09	115,602.07	2.597E-01	Pulse	0.30	3
Pb	208	169	2	0.104	ug/g	0.57	882,072.24	1.574E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	60,747.96	0.75	85.2	Pulse	0.30	3
2	Rh	103	445,200.11	0.44	89.1	Pulse	0.30	3
3	Rh	103	1,028,046.68	1.97	85.9	Analog	0.30	3
2	Tm	169	560,528.25	0.63	92.7	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV.D
File Path D:\data\2131018.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/18/2013 21:33
Sample Name 1000 PPB
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.100	ug/g	1.91	90,332.96	2.156E-01	Pulse	0.30	3
Cu	65	103	2	0.102	ug/g	1.06	125,119.35	2.987E-01	Pulse	0.30	3
Zn	66	103	2	0.100	ug/g	2.42	31,494.36	7.518E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.83	35,824.98	8.552E-02	Pulse	0.30	3
Cd	114	103	2	0.098	ug/g	0.79	107,172.22	2.558E-01	Pulse	0.30	3
Pb	208	169	2	0.104	ug/g	0.18	826,868.71	1.570E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	52,547.71	1.36	73.7	Pulse	0.30	3
2	Rh	103	418,935.13	0.26	83.8	Pulse	0.30	3
3	Rh	103	942,802.20	0.13	78.8	Analog	0.30	3
2	Tm	169	526,822.10	0.37	87.1	Analog	0.30	3

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Instrument Run Log

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	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1		Keyword		CALBEG	Start of CALIB									
2	C:\CPMH\1\METHODS\Physis.m	Sample	1101	Rinse			1.000							
3	C:\CPMH\1\METHODS\Physis.m	CalBk	1101	5MIX	0 ppb mix	0 ng	0 ng Ag							
4	C:\CPMH\1\METHODS\Physis.m	CalStd	1102	1MIX	1 ppb mix	10 ng	1 ng Ag							
5	C:\CPMH\1\METHODS\Physis.m	CalStd	1103	5MIX	5 ppb mix	50 ng	5 ng Ag							
6	C:\CPMH\1\METHODS\Physis.m	CalStd	1104	10MIX	10 ppb mix	100 ng	10 ng Ag							
7	C:\CPMH\1\METHODS\Physis.m	CalStd	1105	50MIX	50 ppb mix	500 ng	50 ng Ag							
8	C:\CPMH\1\METHODS\Physis.m	CalStd	1106	100MIX	100 ppb mix	1000 ng	100 ng Ag							
9	C:\CPMH\1\METHODS\Physis.m	CalStd	1107	500MIX	500 ppb mix	5000 ng	500 ng Ag							
10	C:\CPMH\1\METHODS\Physis.m	CalStd	1108	1000MIX	1000 ppb mix	10000 ng	1000 ng Ag							
11	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse1			1.000							
12	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse2			1.000							
13	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse3			1.000							
14	C:\CPMH\1\METHODS\Physis.m	Sample	1201	ICV	100 ppb (10 ppb Ag)		1.000E-01							
15	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse4			1.000							
16	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse5			1.000							
17	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse6			1.000							
18		Keyword		CALEND	End of CALIB									
19		Keyword		SMPLEBEG	Start of SMPL									
20	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse7			1.000							
21	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse8			1.000							
22	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse9			1.000							
23	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse10			1.000							
24	C:\CPMH\1\METHODS\Physis.m	Sample	2101	22481	QAQC Procedural Blank B1	22481.NA.B1.10/18/2013.E-6009		10.00						
25	C:\CPMH\1\METHODS\Physis.m	Sample	2102	22482	B13-8013	22482.NA.R1.10/18/2013.E-6009		26.75						
26	C:\CPMH\1\METHODS\Physis.m	Sample	2103	22482r2	B13-6013 Dup	22482.NA.R2.10/18/2013.E-6009		23.98						
27	C:\CPMH\1\METHODS\Physis.m	Sample	2104	22483	B13-8014	22483.NA.R1.10/18/2013.E-6009		22.38						
28	C:\CPMH\1\METHODS\Physis.m	Sample	2105	22484	B13-8028	22484.NA.R1.10/18/2013.E-6009		21.62						
29	C:\CPMH\1\METHODS\Physis.m	Sample	2106	22485	B13-8030	22485.NA.R1.10/18/2013.E-6009		15.70						
30	C:\CPMH\1\METHODS\Physis.m	Sample	2107	22486	B13-8036	22486.NA.R1.10/18/2013.E-6009		16.58						
31	C:\CPMH\1\METHODS\Physis.m	Sample	2108	22487	B13-8038	22487.NA.R1.10/18/2013.E-6009		19.39						
32	C:\CPMH\1\METHODS\Physis.m	Sample	2109	22488	B13-8040	22488.NA.R1.10/18/2013.E-6009		26.91						
33	C:\CPMH\1\METHODS\Physis.m	Sample	2110	22489	B13-8052	22489.NA.R1.10/18/2013.E-6009		21.47						
34	C:\CPMH\1\METHODS\Physis.m	Sample	2111	22490	B13-8050	22490.NA.R1.10/18/2013.E-6009		20.21						
35	C:\CPMH\1\METHODS\Physis.m	Sample	2112	22491	B13-8078	22491.NA.R1.10/18/2013.E-6009		13.32						
36	C:\CPMH\1\METHODS\Physis.m	Sample	2201	22481bx1	QAQC Procedural Blank BS1	22481.NA.BS1.10/18/2013.E-6009		1.000						
37	C:\CPMH\1\METHODS\Physis.m	Sample	2202	22481bx2	QAQC Procedural Blank BS2	22481.NA.BS2.10/18/2013.E-6009		1.000						

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
38	C:\CPMH\1\METHODS\IPhysis.m	Sample	2203	22482.ms	B13-8013 MS	22482.NA.MS1,10/18/2013,E-8008	1.000							
39	C:\CPMH\1\METHODS\IPhysis.m	Sample	2204	22482.ms1	B13-8013 MSD	22482.NA.MS2,10/18/2013,E-8008	1.000							
40	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse11			1.000							
41	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse12			1.000							
42	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse13			1.000							
43	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse14			1.000							
44	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse15			1.000							
45	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse16			1.000							
46	C:\CPMH\1\METHODS\IPhysis.m	Sample	2101	22544	QAQC Procedural Blank B1	22544.NA.B1,10/18/2013,E-6010	10.00							
47	C:\CPMH\1\METHODS\IPhysis.m	Sample	2205	22546	B13-8109 Grab	22546.NA.R1,10/18/2013,E-6010	18.78							
48	C:\CPMH\1\METHODS\IPhysis.m	Sample	2208	22546r2	B13-8109 Grab Dup	22546.NA.R2,10/18/2013,E-6010	19.19							
49	C:\CPMH\1\METHODS\IPhysis.m	Sample	2207	22547	B13-6116 Grab	22547.NA.R1,10/18/2013,E-6010	24.19							
50	C:\CPMH\1\METHODS\IPhysis.m	Sample	2206	22548	B13-8122 Grab	22548.NA.R1,10/18/2013,E-6010	17.80							
51	C:\CPMH\1\METHODS\IPhysis.m	Sample	2209	22549	B13-8033 Grab	22549.NA.R1,10/18/2013,E-6010	25.85							
52	C:\CPMH\1\METHODS\IPhysis.m	Sample	2210	22550	B13-8093 Grab	22550.NA.R1,10/18/2013,E-6010	15.76							
53	C:\CPMH\1\METHODS\IPhysis.m	Sample	2211	22551	B13-6100 Grab	22551.NA.R1,10/18/2013,E-6010	49.55							
54	C:\CPMH\1\METHODS\IPhysis.m	Sample	2212	22552	B13-8099 Grab	22552.NA.R1,10/18/2013,E-6010	23.48							
55	C:\CPMH\1\METHODS\IPhysis.m	Sample	2301	22553	B13-8098 Grab	22553.NA.R1,10/18/2013,E-6010	18.03							
56	C:\CPMH\1\METHODS\IPhysis.m	Sample	2302	22554	B13-8096 Grab	22554.NA.R1,10/18/2013,E-6010	18.48							
57	C:\CPMH\1\METHODS\IPhysis.m	Sample	2303	22555	B13-8095 Grab	22555.NA.R1,10/18/2013,E-6010	34.33							
58	C:\CPMH\1\METHODS\IPhysis.m	Sample	2201	22544bs1	QAQC Procedural Blank BS1	22544.NA.BS1,10/18/2013,E-6010	1.000							
59	C:\CPMH\1\METHODS\IPhysis.m	Sample	2202	22544bs2	QAQC Procedural Blank BS2	22544.NA.BS2,10/18/2013,E-6010	1.000							
60	C:\CPMH\1\METHODS\IPhysis.m	Sample	2304	22546.ms	B13-8109 Grab MS	22546.NA.MS1,10/18/2013,E-6010	1.000							
61	C:\CPMH\1\METHODS\IPhysis.m	Sample	2305	22546.ms1	B13-8109 Grab MSD	22546.NA.MS2,10/18/2013,E-6010	1.000							
62	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse17			1.000							
63	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse18			1.000							
64	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse19			1.000							
65	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse20			1.000							
66	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse21			1.000							
67	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse22			1.000							
68	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse23			1.000							
69	C:\CPMH\1\METHODS\IPhysis.m	Sample	2101	22545	QAQC Procedural Blank B1	22545.NA.B1,10/18/2013,E-6011	10.00							
70	C:\CPMH\1\METHODS\IPhysis.m	Sample	2101	22570	QAQC Procedural Blank B1	22570.NA.B1,10/18/2013,E-6011	10.00							
71	C:\CPMH\1\METHODS\IPhysis.m	Sample	2306	22556	B13-8067 Grab	22556.NA.R1,10/18/2013,E-6011	9.067							
72	C:\CPMH\1\METHODS\IPhysis.m	Sample	2307	22557	B13-8073 Grab	22557.NA.R1,10/18/2013,E-6011	18.14							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
73	C:\CPMH\1\METHODS (Physis.m)	Sample	2308	22571	B13-8058 Grab	22571,NA,R1,10/18/2013,E-6011,	17.33							
74	C:\CPMH\1\METHODS (Physis.m)	Sample	2309	22571/2	B13-8058 Grab Dup	22571,NA,R2,10/18/2013,E-6011,	21.69							
75	C:\CPMH\1\METHODS (Physis.m)	Sample	2310	22572	B13-8086 Grab	22572,NA,R1,10/18/2013,E-6011,	18.98							
76	C:\CPMH\1\METHODS (Physis.m)	Sample	2311	22573	B13-8060 Grab	22573,NA,R1,10/18/2013,E-6011,	29.35							
77	C:\CPMH\1\METHODS (Physis.m)	Sample	2312	22574	B13-8045 Grab	22574,NA,R1,10/18/2013,E-6011,	28.71							
78	C:\CPMH\1\METHODS (Physis.m)	Sample	2401	22575	B13-8031 Grab	22575,NA,R1,10/18/2013,E-6011,	19.34							
79	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	22545bs1	QAQC Procedural Blank BS1	22545,NA,BS1,10/18/2013,E-6011,	1.000							
80	C:\CPMH\1\METHODS (Physis.m)	Sample	2202	22545bs2	QAQC Procedural Blank BS2	22545,NA,BS2,10/18/2013,E-6011,	1.000							
81	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	22570bs1	QAQC Procedural Blank BS1	22570,NA,BS1,10/18/2013,E-6011,	1.000							
82	C:\CPMH\1\METHODS (Physis.m)	Sample	2202	22570bs2	QAQC Procedural Blank BS2	22570,NA,BS2,10/18/2013,E-6011,	1.000							
83	C:\CPMH\1\METHODS (Physis.m)	Sample	2402	22571ms	B13-8058 Grab MS	22571,NA,MS1,10/18/2013,E-6011,	1.000							
84	C:\CPMH\1\METHODS (Physis.m)	Sample	2403	22571msd	B13-8058 Grab MSD	22571,NA,MS2,10/18/2013,E-6011,	1.000							
85	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse24			1.000							
86	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse25			1.000							
87	C:\CPMH\1\METHODS (Physis.m)	Sample	1106	CCV	1000 PPB		1.000E-21							
88	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse26			1.000							
89	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse27			1.000							
90	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse28			1.000							
91		Keyword		SMPLEND	End of SMPL									
92		Keyword		END	End of Sequence									
93		Keyword		BLKBEG	Start of BLANK									
94		Keyword		BLKEND	End of BLANK									
95		Keyword		ERRBEG	Start of ERRTERM									
96		Keyword		ERREND	End of ERRTERM									

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Elements -

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Initial Calibration Data

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Method: EPA 245.7 Mercury
Calibration data 100413

Calib Level Standard Raw Counts

Std01Rep1	0	-98
Std01Rep2	0	-98
Std01Rep3	0	-101
Std02Rep1	1	-72
Std02Rep2	1	-60
Std02Rep3	1	-56
Std03Rep1	10	127
Std03Rep2	10	142
Std03Rep3	10	128
Std04Rep1	100	2213
Std04Rep2	100	2230
Std04Rep3	100	2210
Std05Rep1	1000	23365
Std05Rep2	1000	23386
Std05Rep3	1000	23711
Std06Rep1	10000	239584
Std06Rep2	10000	240381
Std06Rep3	10000	239474

Note: Above calibration data used for the following project:

1307002-002
1307002-004
1307002-006
1307002-008
1307002-010
1307002-012
1307002-014
1307002-016
1307002-018

Continuing Calibration Data / Instrument Run Log

ENVIRONMENTAL LABORATORIES, INC.

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Sequence# 102213 for PID: 1307002-010, 012, 014

Sample ID	Date	Method
ICV	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22481BLK	22-Oct-13	2457TST
BS1	22-Oct-13	2457TST
BS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22482r1	22-Oct-13	2457TST
22482r2	22-Oct-13	2457TST
22482MS1	22-Oct-13	2457TST
22482MS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22483	22-Oct-13	2457TST
22484	22-Oct-13	2457TST
22485	22-Oct-13	2457TST
22486	22-Oct-13	2457TST
22487	22-Oct-13	2457TST
22488	22-Oct-13	2457TST
22489	22-Oct-13	2457TST
22490	22-Oct-13	2457TST
22491	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22493CRM1	22-Oct-13	2457TST
22494CRM2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22544BLK	22-Oct-13	2457TST
BS1	22-Oct-13	2457TST
BS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22546r1	22-Oct-13	2457TST
22546r2	22-Oct-13	2457TST
22546MS1	22-Oct-13	2457TST
22546MS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22547	22-Oct-13	2457TST
22548	22-Oct-13	2457TST
22549	22-Oct-13	2457TST
CCV2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22550	22-Oct-13	2457TST
22551	22-Oct-13	2457TST
22552	22-Oct-13	2457TST

22553	22-Oct-13	2457TST
22554	22-Oct-13	2457TST
22555	22-Oct-13	2457TST
22559CRM1	22-Oct-13	2457TST
22561CRM2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
Blank	22-Oct-13	2457TST
BS1	22-Oct-13	2457TST
BS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22556r1	22-Oct-13	2457TST
22556r1	22-Oct-13	2457TST
22556MS1	22-Oct-13	2457TST
CCV3	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22556MS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22557	22-Oct-13	2457TST
CRM1	22-Oct-13	2457TST
CRM2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22571r1	22-Oct-13	2457TST
22571r2	22-Oct-13	2457TST
22571MS1	22-Oct-13	2457TST
22571MS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22572	22-Oct-13	2457TST
22573	22-Oct-13	2457TST
22574	22-Oct-13	2457TST
22575	22-Oct-13	2457TST
CCV4	22-Oct-13	2457TST

QAQC	Date	Method	True Value (ppt)	Result (ppt)
ICV	22-Oct-13	2457TST	1000	1020
CCV2	22-Oct-13	2457TST	1000	938
CCV3	22-Oct-13	2457TST	1000	873
CCV4	22-Oct-13	2457TST	1000	870

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Organics –

(EPA 8270C)

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Extraction/Preparation Log

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i307002-010/012

November 6, 2013

A. Hoang

EXTRACTION OF AMEC RHMP - SEDIMENTS FOR FIPRONILS, OCPS, PCBs, ARYLHAPS, PBDES, PAHs, PYRETHROIDS, TOXAPHENES. SAMPLES WERE RUN FOR P12/PBDE/FLP AND THEN COLUMN CLEARED WITH SILICA/ALUMINA ADSORBENTS.

Method: 5270 C

PSID	SAMPLE DESCRIPTION	SAMPLE WT(g)	COMMENTS	P/W	MULTIPLIER
B1 (22461)	BLANK	—	A, C	—	1.0
BS1	BLANK SPIKE	—	A, B, C	—	1.0
BS2	BLANK SPIKE OUT	—	A, B, C	—	1.0
22462 MS1	8013	15.1190	A, B, C	0.4624	0.1430
22462 MS2	8013	15.3804	A, B, C	0.4624	0.1406
22492	8011 1944	1.1469	A, C	—	0.8719
22462 R1	8013	15.1598	A, C	0.4624	0.1427
22462 R2	↓	15.3738	↓	0.4624	0.1407
22463	8014	15.2878	↓	0.6374	0.1026
22464	8020	15.0050	↓	0.5714	0.1166
22465	8030	15.9451	↓	0.6609	0.0949
22466	8036	15.1038	↓	0.6037	0.1097
22467	8038	15.1247	↓	0.5928	0.1115
22468	8040	16.6186	↓	0.4329	0.1390
22469	8052	15.3355	↓	0.6081	0.1072
22490	8060	15.2388	↓	0.5905	0.1112
22491	8078	15.3328	↓ ↓	0.6134	0.1063
22546	8109	15.1070	A, C	0.6480	0.1022
22547	8118	15.4921	↓	0.5400	0.1195
22548	8122	15.790017	↓	0.6493	0.0907
22549	8033	15.4112	↓	0.4778	0.1358
22550	8093	15.5787.9640	↓	0.6653	0.0942
22551	8100		↓		
22552	8099		↓		
22553	8098		↓		
22554	8096		↓		
22555	8095		↓		

- A) 100 μ L CHC RS (400 ng/mL, p 274)
 100 μ L PAH RS (1000 ng/mL, p 244)
 100 μ L PBDE RS (50 ng/mL, p 261)
 100 μ L CHC IS (~~2000~~ 1000 ng, p 270) PAH
 100 μ L PAH IS (2000 ng, p 230) PAH

- B) 1.0 mL Furanic Mix (1000 ng/mL, p 270)
 1.0 mL OCP Mix (1000 ng/mL, p 276)
 100 μ L DDMU (10000 ng/mL, p 272)
 200 μ L PCB Mix (200 ng/mL, p 255)
 200 μ L PCB+6 Mix (200 ng/mL, p 259)
 100 μ L PBDE Mix (100 ng/mL, p 262)
 100 μ L PBDE 049 Mix (100 ng/mL, p 263)
 1.0 mL Custom PAH Mix (1000 ng/mL, p 256)
 1.0 mL Pyrethroids (1000 ng/mL, p 260)
 1.0 mL Tralomethrin (1000 ng/mL, p 275)
 1.0 mL Toxaphene (10000 ng/mL, p 242)

- C) 100 μ L CHC IS (1000 ng, p 281)

April 22, 2014

Re-~~Ext~~raction OF AMEC RHMP sediments for

method EPA 8270 C

PSID	sample wt(g)	sed. wt(g)	+Na ₂ SO ₄ (g)	Leftover(g)	comments	D/W	Multiplier
B1(2248)					A, I	-	1.0
BS1					B	-	1.0
BS2					B	-	1.0
22483MS1		20.995	44.716	0.738	B	0.6374	0.0771
22483MS2		20.339	44.672	0.783	B, C	0.6374	0.0797
CRM 1944							
22492	0.9987					-	1.0013
22482		20.203	56.195	1.148		0.4624	0.1105
22483R1		20.711	42.361	0.415		0.6374	0.0772
22483R2		20.246	50.180	0.853		0.6374	0.0797
22484		19.957	51.184	1.136		0.5714	0.0910
22485		20.833	45.194	0.9787		0.6609	0.0756
22486		20.638 20.438	44.325 46.643	0.990		0.6037	0.0837
22487		20.053	46.2913	1.004		0.5778	0.0824
22488		20.717	47.006	1.1245		0.4329	0.1170
22489		20.778	49.229	1.122		0.6081	0.0823
22490		20.619	48.630	0.981		0.5703	0.0854
22491		20.194	47.980	0.927		0.6134	0.0835
22546		20.670	39.926	1.010		0.6480	0.0805
22547		20.089	44.175	1.001		0.540	0.0964
22548		20.067	29.206	0.682		0.6981	0.0771
22549		20.173	43.3328	0.924		0.4778	0.1080
22550		20.408	32.625	0.659	✓	0.6663	0.0778
22551							

AM

A) 200ml CHC RS (800ng, p328) B) 2.0mL OCP (2000ng, p318)
 200ml PAH RS (2000ng, p320) 2.0mL PAH (2000ng, p315)
 100ml CHC IS 2.0mL pyrethroid (2000ng, p327)
 PAH IS 2.0mL tralomethrin (2000ng, p329)

c) 1.0 mL ~~(100)~~ PAH (1000 ng, p315) - not enough std.

Organics - GC-MS

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Analytical Solutions
(EPA 8270C)

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Instrument Run Log

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

2014 May 06 1323 Sequence Log .LOG
 Starting sequence Tue May 06 13: 23: 38 2014

Instrument Name: GCMS3

Sequence File: D:\MassHunter\GCMS\1\sequence\Q3_140506 EI 0-5134. sequence. x
 ml

Comment:

Operator:

Data Path: D:\MassHunter\GCMS\1\data\Q3_140506 EI 0-5134\

Method Path: D:\MassHunter\GCMS\1\methods\checkout\

Line	Type	Vials	DataFile	Sample Name
Acquisition Method: EI_HEX. M				
1)	Sample	141	HEX	HEX
Acquisition Method: EI Scan. M				
2)	Sample	131	OCP500_PCB100I CV	OCP500_PCB100I CV
3)	Sample	131	OPP500I CV	OPP500I CV
4)	Sample	97	OCP500_PCB100_I CV	OCP500_PCB100_I CV
5)	Sample	142	TUNE	TUNE
Acquisition Method: EI_HEX. M				
6)	Sample	141	HEX2	HEX2
Acquisition Method: EI Scan. M				
7)	Sample	1	B_5134	B_5134
Comment: 25773, Total , B1, 3/02/2014, 0-5134				
8)	Sample	2	BS1_5139	BS1_5134
Comment: 25773, Total , BS1, 3/02/2014, 0-5134				
9)	Sample	3	BS2_5139	BS2_5134
Comment: 25773, Total , BS2, 3/02/2014, 0-5134				
10)	Sample	141	HEX3	HEX3
11)	Sample	4	25778	25778
Comment: 25779, Total , R1, 3/02/2014, 0-5134				
12)	Sample	5	25782	25782
Comment: 25782, Total , R1, 3/02/2014, 0-5134				
13)	Sample	6	25786	25786
Comment: 25786, Total , R1, 3/02/2014, 0-5134				
14)	Sample	7	25790	25790
Comment: 25790, Total , R1, 3/02/2014, 0-5134				
15)	Sample	8	25794	25794
Comment: 25794, Total , R1, 3/02/2014, 0-5134				
Sequence Table edit performed Wed May 07 11: 32: 39 2014				
16)	Sample	9	25799	25799
Comment: 25799, Total , R1, 3/02/2014, 0-5134				
17)	Sample	10	25802	25802
Comment: 25802, Total , R1, 3/02/2014, 0-5134				
18)	Sample	11	25806	25806
Comment: 25806, Total , R1, 3/02/2014, 0-5134				
19)	Sample	12	25810	25810
Comment: 25810, Total , R1, 3/02/2014, 0-5134				
20)	Sample	13	25814	25814
Comment: 25814, Total , R1, 3/02/2014, 0-5134				
21)	Sample	50	CHCTEST	CHC TEST
22)	Sample	132	OPP500CCV	OPP500CCV
23)	Sample	95	OCP500_PCB100CCV	OCP500_PCB100CCV
Acquisition Method: EI_HEX. M				
24)	Sample	141	HEX4	HEX4
Acquisition Method: EI Scan. M				
25)	Sample	14	25818	25818
Comment: 25818, Total , R1, 3/02/2014, 0-5134				

2014 May 06 1323 Sequence Log .LOG

26)	Sampl e	15	25823	25823
	Comment:	25823, Total , R1, 3/02/2014, 0-5134		
27)	Sampl e	16	25826	25826
	Comment:	25826, Total , R1, 3/02/2014, 0-5134		
28)	Sampl e	17	25830	25830
	Comment:	25830, Total , R1, 3/02/2014, 0-5134		
29)	Sampl e	18	25834	25834
	Comment:	25834, Total , R1, 3/02/2014, 0-5134		
30)	Sampl e	19	25838	25838
	Comment:	25838, Total , R1, 3/02/2014, 0-5134		
31)	Sampl e	20	25842	25842
	Comment:	25842, Total , R1, 3/02/2014, 0-5134		
32)	Sampl e	21	25846	25846
	Comment:	25846, Total , R1, 3/02/2014, 0-5134		
33)	Sampl e	22	25850	25850
	Comment:	25850, Total , R1, 3/02/2014, 0-5134		
34)	Sampl e	23	25854	25854
	Comment:	25854, Total , R1, 3/02/2014, 0-5134		
35)	Sampl e	24	25858	25858
	Comment:	25858, Total , R1, 3/02/2014, 0-5134		
36)	Sampl e	25	25862	25862
	Comment:	25862, Total , R1, 3/02/2014, 0-5134		
37)	Sampl e	26	26134	26134
	Comment:	26134, Total , R1, 3/02/2014, 0-5134		
38)	Sampl e	132	OPP500FCV	OPP500FCV
39)	Sampl e	95	OCP500_PCB100FCV	OCP500_PCB100FCV
40)	Sampl e	41	BS1_5102	BS1_5102
	Comment:	22626, NA, BS1, 2/20/2014, 0-5102		
41)	Sampl e	42	BS2_5102	BS2_5102
	Comment:	22626, NA, BS2, 2/20/2014, 0-5102		
42)	Sampl e	43	22628_MS1	22628_MS1
	Comment:	22628, NA, MS1, 2/20/2014, 0-5102		
43)	Sampl e	44	2268_MS2	22628_MS2
	Comment:	22628, NA, MS2, 2/20/2014, 0-5102		
44)	Sampl e	45	CRM_5102	CRM_5102
	Comment:	22644, NA, R1, 2/20/2014, 0-5102		
45)	Sampl e	121	PAH500I CV	PAH500I CV
46)	Sampl e	122	PAH500CCV	PAH500CCV
Acqui si ti on Method: EI_HEX. M				
47)	Sampl e	141	HEX5	HEX5
Acqui si ti on Method: EI Scan. M				
48)	Sampl e	1	B_5136	B_5136
	Comment:	22481, NA, B1, 4/22/2014, 0-5136,		
49)	Sampl e	2	BS1_5136	BS1_5136
	Comment:	22481, NA, BS1, 4/22/2014, 0-5136,		
50)	Sampl e	3	BS2_5136	BS2_5136
	Comment:	22481, NA, BS2, 4/22/2014, 0-5136,		
51)	Sampl e	4	22483MS1	22483MS1
	Comment:	22483, NA, MS1, 4/22/2014, 0-5136,		
52)	Sampl e	5	22483MS2	22483MS2
	Comment:	22483, NA, MS2, 4/22/2014, 0-5136,		
Acqui si ti on Method: EI_HEX. M				
53)	Sampl e	141	HEX6	HEX6
Acqui si ti on Method: EI Scan. M				
54)	Sampl e	6	22492	22492
	Comment:	22492, NA, CRM1, 4/22/2014, 0-5136,		
55)	Sampl e	7	22482	22482
	Comment:	22482, NA, R1, 4/22/2014, 0-5136,		
56)	Sampl e	8	22483	22483

2014 May 06 1323 Sequence Log . LOG

Comment: 22483, NA, R1, 4/22/2014, 0-5136,
 57) Sample 9 22483R2 22483R2
 Comment: 22483, NA, R2, 4/22/2014, 0-5136,
 58) Sample 10 22484 22484
 Comment: 22484, NA, R1, 4/22/2014, 0-5136,
 59) Sample 11 22485 22485
 Comment: 22485, NA, R1, 4/22/2014, 0-5136,
 60) Sample 122 PAH500CCV2 PAH500CCV2
 61) Sample 95 OCP+3_500CCV2 OCP+3_500CCV2
 62) Sample 105 PCB+6_100CCV2 PCB+6_100CCV2

 Acquisition Method: EI_HEX.M
 63) Sample 141 HEX7 HEX7

 Acquisition Method: EI Scan.M
 64) Sample 12 22486 22486
 Comment: 22486, NA, R1, 4/22/2014, 0-5136,
 65) Sample 13 22487 22487
 Comment: 22487, NA, R1, 4/22/2014, 0-5136,
 Sequence Table edit performed Sun May 11 13: 27: 59 2014
 66) Sample 14 22488 22488
 Comment: 22488, NA, R1, 4/22/2014, 0-5136,
 67) Sample 15 22489 22489
 Comment: 22489, NA, R1, 4/22/2014, 0-5136,
 68) Sample 16 22490 22490
 Comment: 22490, NA, R1, 4/22/2014, 0-5136,
 69) Sample 17 22491 22491
 Comment: 22491, NA, R1, 4/22/2014, 0-5136,
 70) Sample 18 22546 22546
 Comment: 22546, NA, R1, 4/22/2014, 0-5136,
 71) Sample 19 22547 22547
 Comment: 22547, NA, R1, 4/22/2014, 0-5136,
 72) Sample 20 22548 22548
 Comment: 22548, NA, R1, 4/22/2014, 0-5136,
 73) Sample 21 22549 22549
 Comment: 22549, NA, R1, 4/22/2014, 0-5136,
 74) Sample 22 22550 22550
 Comment: 22550, NA, R1, 4/22/2014, 0-5136,
 75) Sample 122 PAH500FCV PAH500FCV
 76) Sample 95 OCP+3_500FCV OCP+3_500FCV
 77) Sample 105 PCB+6_100FCV PCB+6_100FCV

Sequence completed Mon May 12 09: 10: 01 2014

D: \MassHunter\GCMS\1\data\Q3_140506 EI 0-5134\2014 May 06 1323 Quality Log.
 D: \MassHunter\GCMS\1\data\Q3_140506 EI 0-5134\2014 May 06 1323 Sequence Log

PHYSIS

Instrument Tune Report

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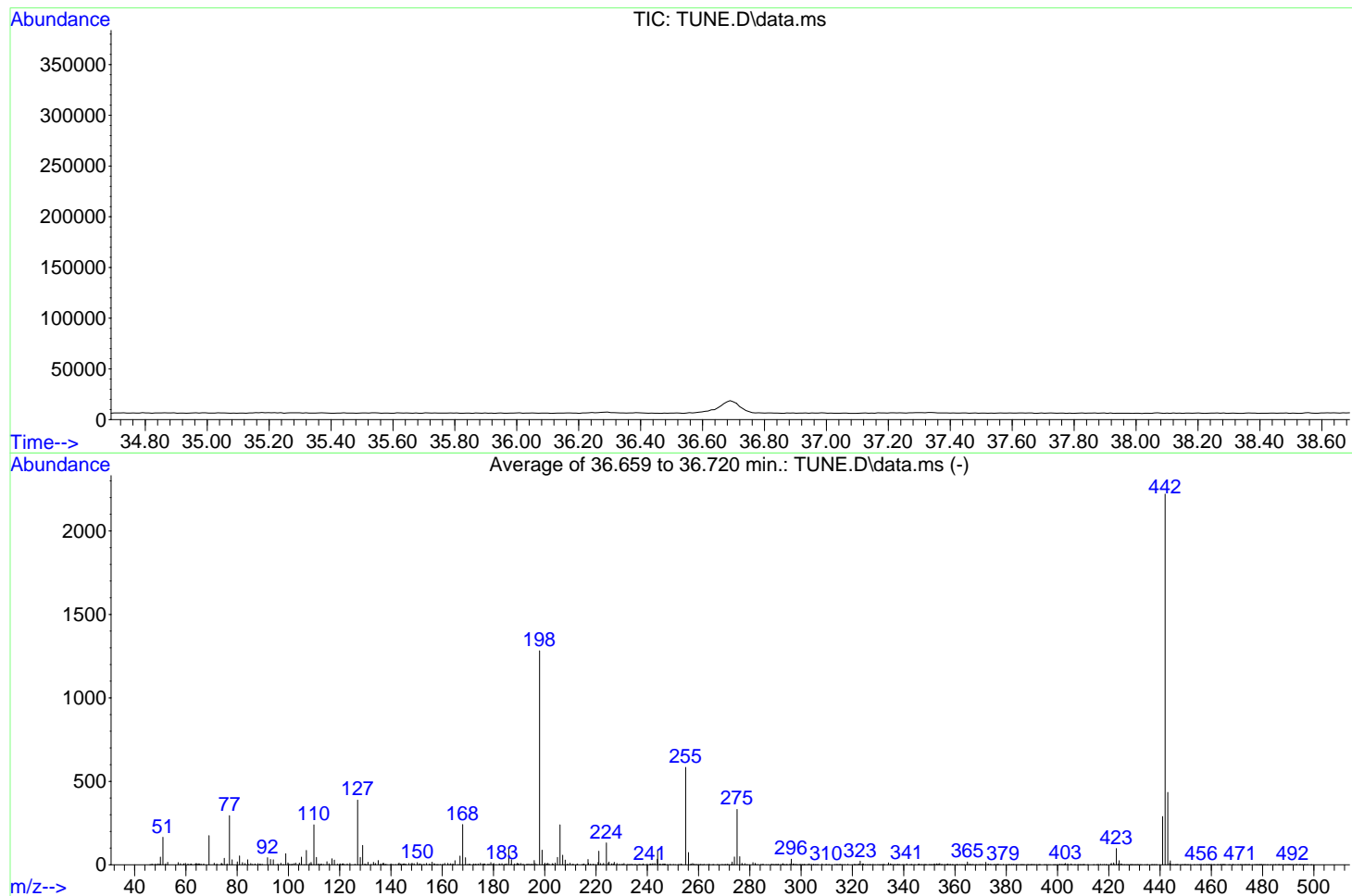
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Data File : TUNE.D
 Acq On : 06 May 2014 06:45 pm
 Operator :
 Sample : TUNE
 Misc :
 ALS Vial : 142 Sample Multiplier: 1

Integration File: events.e

Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_OCP+3_140502.M
 Title : CHCs
 Last Update : Tue May 13 10:54:40 2014



Spectrum Information: Average of 36.659 to 36.720 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	30.8	456	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	13.7	203	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	41.2	609	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	1479	PASS
199	198	5	9	6.9	102	PASS
275	198	10	30	25.9	383	PASS
365	198	1	100	1.3	19	PASS
441	443	0.01	100	66.6	333	PASS
442	198	40	300	173.2	2562	PASS
443	442	17	23	19.5	500	PASS

Chlorinated Pesticides

TERRA ENVIRONMENTAL SERVICES, INC.
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Summary of Internal Standards

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	4,4'-Dibromobiphenyl		2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time	Response	Retention Time
Spex_500ICV	2497180	40.317	498342	51.414
B_5136	7185400	40.328	1554581	51.41
BS1_5136	8259019	40.326	1711061	51.408
BS2_5136	8883446	40.332	1882176	51.41
22483MS1	8123856	40.325	1647790	51.405
22483MS2	6546069	40.139	1347577	51.405
22492	7745314	40.364	1504654	51.463
22482	7067094	40.36	1488936	51.412
22483	8042264	40.326	1671379	51.408
22483R2	6546290	40.321	1328033	51.404
22484	6509191	40.339	1409296	51.406
22485	8129760	40.407	1682327	51.407
OCP500CCV	2737103	40.308	566332	51.391
22486	6872692	40.326	1499183	51.407
22487	7601623	40.328	1562132	51.4
22488	8706998	40.319	1789794	51.402
22489	7863644	40.322	1604308	51.402
22490	7753389	40.321	1584139	51.404
22491	9077428	40.326	1860743	51.406
22546	7298672	40.323	1448066	51.403
22547	7130533	40.321	1462996	51.406
22548	7342104	40.32	1480323	51.402
22549	4820057	40.317	1077146	51.397
22550	7573550	40.332	1661846	51.404
OCP500FCV	3029977	40.306	610692	51.389

PHYSIS

Initial Calibration Data

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Method Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Method File : Q_OCP+3_140502.M
 Title : CHCs
 Last Update : Tue May 13 10:54:40 2014
 Response Via : Initial Calibration

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Calibration Files

1000=BS1_5136.D 500 =OCP500_PCB100CCV.D 250 =OCP250.D 100 =OCP100.D 50 =OCP50.D 25 =OCP25.D

Compound		1000	500	250	100	50	25	Avg	%RSD

1) I	4,4'-Dibromobiphenyl	-----ISTD-----							
2) S	(TCMX)	0.391	0.417	0.444	0.425	0.439	0.389	0.417	5.60
3) S	(PCB030)	1.047	1.100	1.125	1.108	1.140	1.028	1.091	4.06
4)	BHC-alpha	0.307	0.296	0.298	0.268	0.272	0.246	0.281	8.16
5)	Hexachlorobenzene	0.861	0.888	0.915	0.892	0.875	0.845	0.879	2.79
6)	BHC-beta	0.075	0.066	0.075	0.082	0.108	0.136	0.090	29.26
7)	BHC-gamma	0.188	0.175	0.173	0.151	0.143	0.131	0.160	13.60
8)	BHC-delta	0.206	0.188	0.173	0.159	0.153	0.154	0.172	12.43
9)	Heptachlor	0.207	0.171	0.152	0.120	0.108	0.094	0.142	30.01
10)	Aldrin	0.215	0.205	0.201	0.198	0.191	0.169	0.196	7.87
11)	DCPA (Dacthal)	0.803	0.770	0.731	0.728	0.681	0.697	0.735	6.18
12)	Heptachlor epo...	0.314	0.292	0.273	0.267	0.255	0.245	0.274	9.28
13)	Oxychlordane	0.152	0.154	0.143	0.158	0.133	0.154	0.149	6.16
14) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
15) S	(PCB112)	4.607	4.679	4.627	4.539	4.519	4.478	4.575	1.65
16) S	(PCB198)	1.327	1.350	1.382	1.374	1.347	1.297	1.346	2.30
17)	Chlordane-gamma	2.205	2.056	1.946	1.784	1.660	1.655	1.884	11.85
18)	4,4'-DDMU	6.781	6.515	6.177	5.575	5.137	5.179	5.894	11.85
19)	2,4'-DDE	5.495	5.396	5.226	4.964	4.646	4.711	5.073	7.00
20)	Endosulfan-I	0.349	0.327	0.323	0.302	0.314	0.396	0.335	9.99
21)	Chlordane-alpha	2.123	2.015	1.876	1.718	1.579	1.642	1.825	11.83
22)	trans-Nonachlor	2.396	2.227	2.068	1.844	1.624	1.643	1.967	16.07
23)	4,4'-DDE	3.951	3.819	3.677	3.497	3.225	3.230	3.567	8.49
24)	Dieldrin	0.511	0.489	0.476	0.448	0.448	0.389	0.460	9.22
25)	2,4'-DDD	6.376	5.873	5.359	5.025	4.669	5.360	5.444	11.15
26)	Perthane	1.068	0.908	0.768	0.638	0.539	0.629	0.758	E1 26.22
27)	Endrin	0.455	0.404	0.380	0.322	0.305	0.340	0.368	15.35
28)	Endosulfan-II	0.292	0.279	0.261	0.258	0.254	0.274	0.270	5.46
29)	4,4'-DDD	6.104	5.404	4.756	4.427	3.568	4.537	4.799	18.15
30)	2,4'-DDT	4.008	3.239	2.634	1.806	1.245	0.678	2.268	55.40
31)	cis-Nonachlor	2.340	2.190	2.025	1.777	1.521	1.626	1.913	16.96
32)	Endrin aldehyde	0.590	0.453	0.411	0.423	0.387	0.238	0.417	27.23
33)	Endosulfan sul...	0.950	0.841	0.768	0.684	0.585	0.700	0.755	17.06
34)	4,4'-DDT	3.280	2.278	1.614	0.863	0.466	0.124	1.438	83.09
35)	Endrin ketone	0.908	0.767	0.663	0.532	0.449	0.465	0.631	28.97
36)	Methoxychlor	5.539	3.636	2.536	1.381	0.752	0.247	2.349	84.67
37)	Dicofol	0.686	0.416	0.226	0.066			0.348	76.52
38)	Mirex	2.720	2.489	2.370	2.095	1.841	1.912	2.238	15.44

(#) = Out of Range

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Continuing Calibration Data

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Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Data File : OCP500_PCB100_ICV.D
 Acq On : 06 May 2014 05:07 pm
 Operator :
 Sample : OCP500_PCB100_ICV
 Misc :
 ALS Vial : 97 Sample Multiplier: 1

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Quant Time: May 13 11:00:30 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_OCP+3_140502.M
 Quant Title : CHCs
 QLast Update : Tue May 13 10:54:40 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	40.317	312	2497180	1000.00		0.00
14) 2,2',5,5'-Tetrabromobi...	51.414	391	498342	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)	26.002	244	415808	399.06		0.01
Spiked Amount 400.000			Recovery	=	99.77%	
3) (PCB030)	31.080	256	1114463	408.89		0.00
Spiked Amount 400.000			Recovery	=	102.22%	
15) (PCB112)	45.601	326	915275	401.47		0.00
Spiked Amount 400.000			Recovery	=	100.37%	
16) (PCB198)	59.770	358	260812	388.79		0.02
Spiked Amount 400.000			Recovery	=	97.20%	
Target Compounds						Qvalue
4) BHC-alpha	28.935	219	412259	542.71		96
5) Hexachlorobenzene	29.520	284	1219478	561.99		99
6) BHC-beta	31.101	219	297563	1619.36	#	100
7) BHC-gamma	31.356	219	316149	686.64	#	100
8) BHC-delta	33.281	219	267012	533.30	#	98
9) Heptachlor	36.660	272	301132	664.14	#	100
10) Aldrin	39.180	263	267599	505.36	#	82
11) DCPA (Dacthal)	40.275	301	1062114	536.59		98
12) Heptachlor epoxide	42.162	353	407872	530.83	#	99
13) Oxychlordane	42.248	115	224361	592.26	#	100
17) Chlordane-gamma	43.921	373	559388	519.58	#	99
18) 4,4'-DDMU	0.000		0	N.D. d		
19) 2,4'-DDE	44.402	246	1323387	486.60	#	72
20) Endosulfan-I	44.758	241	81562	477.20	#	100
21) Chlordane-alpha	45.028	373	539562	518.89	#	95
22) trans-Nonachlor	45.417	409	589234	504.63	#	98
23) 4,4'-DDE	46.733	246	943562	484.46		99
24) Dieldrin	46.655	263	114090	453.84	#	100
25) 2,4'-DDD	47.309	235	1537083	495.94		99
26) Perthane	48.604	223	2450293	482.47	#	100
27) Endrin	48.179	263	139343	635.08	#	100
28) Endosulfan-II	48.884	241	63628	443.26	#	100
29) 4,4'-DDD	49.733	235	1389668	473.41		98
30) 2,4'-DDT	49.916	235	1081466	574.87	#	1
31) cis-Nonachlor	49.911	409	591203	517.82	#	99
32) Endrin aldehyde	50.249	345	136833	495.67	#	100
33) Endosulfan sulfate	51.952	272	215759	471.50	#	99
34) 4,4'-DDT	52.371	235	788855m	634.20		
35) Endrin ketone	55.142	317	223182	517.21	#	100
36) Methoxychlor	56.517	227	1661351	739.22	#	100
37) Dicofol	56.469	139	258084	856.57	#	100
38) Mirex	58.997	272	675957	511.31		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Data File : OCP+3_500CCV2.D
 Acq On : 10 May 2014 09:52 am
 Operator :
 Sample : OCP+3_500CCV2
 Misc :
 ALS Vial : 95 Sample Multiplier: 1

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Quant Time: May 13 11:01:32 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_OCP+3_140502.M
 Quant Title : CHCs
 QLast Update : Tue May 13 10:54:40 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	40.308	312	2737103	1000.00		-0.02
14) 2,2',5,5'-Tetrabromobi...	51.391	391	566332	1000.00		-0.02
System Monitoring Compounds						
2) (TCMX)	25.993	244	460075	402.84		0.00
Spiked Amount	400.000		Recovery	=	100.71%	
3) (PCB030)	31.065	256	1205486	403.51		0.00
Spiked Amount	400.000		Recovery	=	100.88%	
15) (PCB112)	45.580	326	1040686	401.68		-0.03
Spiked Amount	400.000		Recovery	=	100.42%	
16) (PCB198)	59.748	358	297866	390.72		0.00
Spiked Amount	400.000		Recovery	=	97.68%	
Target Compounds						Qvalue
4) BHC-alpha	28.921	219	444079	533.35		93
5) Hexachlorobenzene	29.510	284	1197984	503.69		99
6) BHC-beta	31.079	219	108514	538.78	#	100
7) BHC-gamma	31.340	219	280119	555.06	#	100
8) BHC-delta	33.258	219	273252	497.92	#	99
9) Heptachlor	36.640	272	295790	609.14	#	100
10) Aldrin	39.161	263	309521	533.30	#	82
11) DCPA (Dacthal)	40.257	301	1131892	521.72		98
12) Heptachlor epoxide	42.143	353	452625	537.44	#	100
13) Oxychlordan	42.227	115	251545	605.81	#	100
17) Chlordane-gamma	43.902	373	613612	501.53	#	99
18) 4,4'-DDMU	44.087	212	1815285	479.19		99
19) 2,4'-DDE	44.383	246	1495340	483.82	#	71
20) Endosulfan-I	44.737	241	93267	480.16	#	100
21) Chlordane-alpha	45.005	373	593259	502.03	#	96
22) trans-Nonachlor	45.398	409	650389	490.14	#	99
23) 4,4'-DDE	46.710	246	1071959	484.31		97
24) Dieldrin	46.637	263	138128	483.50	#	100
25) 2,4'-DDD	47.289	235	1741501	494.44		98
26) Perthane	48.578	223	2849329	493.68	#	100
27) Endrin	48.161	263	100446	402.84	#	100
28) Endosulfan-II	48.863	241	81219	497.88	#	100
29) 4,4'-DDD	49.713	235	1620059	485.64		98
30) 2,4'-DDT	49.895	235	1176583	550.35	#	1
31) cis-Nonachlor	49.885	409	641938	494.76	#	99
32) Endrin aldehyde	50.225	345	210039	669.52	#	100
33) Endosulfan sulfate	51.934	272	265745	511.02	#	99
34) 4,4'-DDT	52.349	235	951434	658.94	#	100
35) Endrin ketone	55.116	317	269637	549.85	#	100
36) Methoxychlor	56.492	227	1509995	644.89	#	100
37) Dicofol	56.447	139	172847	638.08	#	100
38) Mirex	58.970	272	752199	500.68		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Data File : OCP+3_500FCV.D
 Acq On : 12 May 2014 05:58 am
 Operator :
 Sample : OCP+3_500FCV
 Misc :
 ALS Vial : 95 Sample Multiplier: 1

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Quant Time: May 13 15:25:04 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_OCP+3_140502.M
 Quant Title : CHCs
 QLast Update : Tue May 13 10:54:40 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	40.306	312	3029977	1000.00		-0.02
14) 2,2',5,5'-Tetrabromobi...	51.389	391	610692	1000.00		-0.02
System Monitoring Compounds						
2) (TCMX)	25.990	244	483851	382.71		0.00
Spiked Amount	400.000		Recovery	=	95.68%	
3) (PCB030)	31.060	256	1278915	386.71		-0.01
Spiked Amount	400.000		Recovery	=	96.68%	
15) (PCB112)	45.579	326	1109345	397.07		-0.03
Spiked Amount	400.000		Recovery	=	99.27%	
16) (PCB198)	59.740	358	319725	388.93		0.00
Spiked Amount	400.000		Recovery	=	97.23%	
Target Compounds						Qvalue
4) BHC-alpha	28.916	219	479779	520.53		93
5) Hexachlorobenzene	29.507	284	1272045	483.14		98
6) BHC-beta	31.076	219	109372	490.54	#	100
7) BHC-gamma	31.335	219	297955	533.33	#	100
8) BHC-delta	33.252	219	300439	494.55	#	99
9) Heptachlor	36.638	272	335948	621.65	#	100
10) Aldrin	39.156	263	330364	514.19	#	79
11) DCPA (Dacthal)	40.253	301	1199978	499.64		98
12) Heptachlor epoxide	42.138	353	488323	523.78	#	99
13) Oxychlordan	42.221	115	254799m	554.33		
17) Chlordane-gamma	43.896	373	656809	497.84	#	99
18) 4,4'-DDMU	44.081	212	1968317	481.85		98
19) 2,4'-DDE	44.381	246	1601748	480.60	#	71
20) Endosulfan-I	44.739	241	101611	485.12	#	100
21) Chlordane-alpha	45.000	373	629357	493.90	#	95
22) trans-Nonachlor	45.395	409	699858	489.11	#	97
23) 4,4'-DDE	46.710	246	1144635	479.58		98
24) Dieldrin	46.629	263	149457	485.15	#	100
25) 2,4'-DDD	47.285	235	1826670	480.95		99
26) Perthane	48.578	223	3135771	503.85	#	100
27) Endrin	48.153	263	120057	446.51	#	100
28) Endosulfan-II	48.860	241	84355	479.54	#	100
29) 4,4'-DDD	49.710	235	1706627	474.42		98
30) 2,4'-DDT	49.892	235	1326561	575.43	#	1
31) cis-Nonachlor	49.881	409	672247	480.48	#	98
32) Endrin aldehyde	50.219	345	211251m	624.46		
33) Endosulfan sulfate	51.930	272	289255	515.83	#	98
34) 4,4'-DDT	52.340	235	1096014m	687.36		
35) Endrin ketone	55.112	317	294165	556.29	#	100
36) Methoxychlor	56.481	227	1766821m	678.09		
37) Dicofol	56.441	139	216080m	693.39		
38) Mirex	58.966	272	811329	500.81		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	OCP500 ICV			OCP500 CCV			OCP500 FCV		
	5/6/14 5:07 PM			5/10/14 9:52 AM			5/12/14 5:58 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
TCMX	400	399	0	400	403	1	400	383	4
PCB030	400	409	2	400	404	1	400	387	3
PCB112	400	401	0	400	402	0	400	397	1
PCV198	400	389	3	400	391	2	400	389	3
BHC-alpha	500	543	9	500	533	7	500	521	4
Hexachlorobenzene	500	562	12	500	504	1	500	483	3
BHC-beta	500	1619	224	500	539	8	500	491	2
BHC-gamma	500	687	37	500	555	11	500	533	7
BHC-delta	500	533	7	500	498	0	500	495	1
Heptachlor	500	664	33	500	609	22	500	622	24
Aldrin	500	505	1	500	533	7	500	514	3
DCPA (Dacthal)	500	537	7	500	522	4	500	500	0
Heptachlor epoxide	500	531	6	500	537	7	500	524	5
Oxychlordane	500	592	18	500	606	21	500	554	11
Chlordane-gamma	500	520	4	500	502	0	500	498	0
4,4'-DDMU	0	0	NA	500	479	4	500	482	4
2,4'-DDE	500	487	3	500	484	3	500	481	4
Endosulfan-I	500	477	5	500	480	4	500	485	3
Chlordane-alpha	500	519	4	500	502	0	500	494	1
trans-Nonachlor	500	505	1	500	490	2	500	489	2
4,4'-DDE	500	484	3	500	484	3	500	480	4
Dieldrin	500	454	9	500	484	3	500	485	3
2,4'-DDD	500	496	1	500	494	1	500	481	4
Perthane	500	482	4	500	494	1	500	504	1
Endrin	500	635	27	500	403	19	500	467	7
Endosulfan-II	500	443	11	500	498	0	500	480	4
4,4'-DDD	500	473	5	500	486	3	500	474	5
2,4'-DDT	500	575	15	500	550	10	500	575	15
cis-Nonachlor	500	518	4	500	495	1	500	480	4
Endrin aldehyde	500	496	1	500	670	34	500	624	25
Endosulfan sulfate	500	472	6	500	511	2	500	516	3
4,4'-DDT	500	634	27	500	659	32	500	687	37
Endrin ketone	500	517	3	500	550	10	500	556	11
Methoxychlor	500	739	48	500	645	29	500	678	36
Dicofol	500	857	71	500	638	28	500	693	39
Mirex	500	511	2	500	501	0	500	501	0
Average	-	-	11	-	-	9	-	-	9

PHYSIS

PCB Congeners

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Initial Calibration Data

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AQUA

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Innovative Solutions for Nature

Method Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Method File : Q_PCB+6_140310.M
 Title : PCBs (Richs Version)
 Last Update : Wed May 14 10:02:07 2014
 Response Via : Initial Calibration

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Calibration Files

10 =PCB10.D 25 =PCB25.D 50 =PCB50.D 75 =PCB75.D 100 =PCB+6_100CCV2.D 200 =PCB200.D

	Compound	10	25	50	75	100	200	Avg	%RSD
1) I	4,4'-Dibromobiphenyl	-----ISTD-----							
2)	PCB003	1.694	1.800	1.769	2.086	2.048	1.902	1.883	8.38
3)	PCB008	1.208	1.674	1.623	1.586	1.530	1.710	1.555	11.67
4)	PCB005	0.984	1.555	1.183	1.530	1.599	1.542	1.399	18.12
5)	PCB018	0.983	1.066	1.008	1.158	1.072	1.115	1.067	6.08
6)	PCB015	1.192	1.155	1.286	1.355	1.307	1.418	1.286	7.66
7)	PCB027	0.729	0.842	0.793	0.890	0.837	0.851	0.824	6.78
8)	PCB029	0.851	1.120	1.029	1.082	1.060	1.080	1.037	9.26
9) I	PCB031	1.344	1.205	1.091	1.155	1.211	1.273	1.213	7.29
10)	PCB028	1.377	1.369	1.166	1.415	1.406	1.368	1.350	6.84
11)	PCB033	0.979	0.940	0.925	1.120	1.125	1.108	1.033	9.17
12)	PCB052	0.897	1.082	0.915	1.132	1.061	1.074	1.027	9.42
13)	PCB049	0.876	0.956	0.943	1.097	1.081	1.055	1.001	8.90
14)	PCB044	0.878	0.835	0.790	0.959	0.817	0.897	0.863	7.13
15)	PCB037	0.889	1.149	1.061	1.120	1.164	1.220	1.101	10.54
16)	PCB074	0.805	1.114	1.013	1.229	1.215	1.250	1.104	15.54
17)	PCB070	0.920	1.197	1.032	1.251	1.241	1.318	1.160	13.10
18)	PCB066	0.826	1.074	0.981	1.112	1.225	1.270	1.081	15.05
19)	PCB095	0.621	0.726	0.784	0.825	0.852	0.871	0.780	11.99
20)	PCB056(060)	0.565	0.783	0.851	0.811	0.871	0.893	0.796	15.05
21)	PCB101	0.825	0.875	0.792	0.978	0.964	0.995	0.905	9.49
22)	PCB099	0.800	0.867	0.899	0.979	1.017	1.012	0.929	9.48
23)	PCB119	1.022	1.134	1.088	1.151	1.202	1.192	1.131	5.96
24)	PCB097	0.381	0.551	0.599	0.627	0.637	0.635	0.572	17.28
25)	PCB087	0.798	0.782	0.731	0.869	0.865	0.887	0.822	7.45
26)	PCB081	1.016	1.097	1.008	1.137	1.135	1.200	1.099	6.81
27)	PCB110	0.959	1.159	1.022	1.259	1.187	1.199	1.131	10.19
28)	PCB077	0.796	0.872	0.981	1.015	1.072	1.099	0.973	12.10
29)	PCB151	0.593	0.785	0.735	0.854	0.793	0.819	0.763	12.09
30)	PCB149	0.647	0.771	0.795	0.916	0.865	0.938	0.822	13.14
31)	PCB123	0.863	0.885	0.901	0.960	0.965	1.033	0.934	6.77
32)	PCB118	1.002	1.105	0.990	1.006	1.130	1.225	1.076	8.71
33)	PCB114	0.800	0.777	0.877	0.950	0.924	1.014	0.890	10.20

34) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
35)	PCB153	3.168	3.552	4.109	4.132	4.326	4.345	3.939	12.04
36)	PCB168+132	3.049	3.519	3.581	3.834	4.027	4.043	3.676	10.24
37)	PCB105	3.377	4.471	5.572	5.574	5.896	5.926	5.136	19.71
38)	PCB141	3.811	3.237	3.262	3.427	3.487	3.418	3.440	6.00
39)	PCB137	1.803	2.485	2.438	2.505	2.614	2.339	2.364	12.22
40)	PCB138	2.739	3.342	3.547	3.698	4.007	3.942	3.546	13.14
41)	PCB158	4.156	4.596	4.842	4.569	5.099	5.326	4.765	8.75
42)	PCB126	2.082	3.186	4.274	3.714	4.179	4.405	3.640	24.31
43)	PCB187	1.370	3.000	3.379	3.200	3.477	3.620	3.008	27.63
44)	PCB183	1.736	3.505	3.727	3.573	3.661	3.564	3.294	23.29
45)	PCB128	2.404	2.598	4.146	2.938	3.619	3.011	3.119	20.94
46)	PCB167	3.296	4.574	2.970	4.166	4.500	4.709	4.036	18.07
47)	PCB174	1.448	2.452	2.842	2.847	2.727	2.791	2.518	21.61
48)	PCB177	2.084	2.493	2.962	3.023	3.162	3.067	2.798	15.03
49)	PCB156	2.120	3.956	4.153	3.564	3.735	4.057	3.597	20.99
50)	PCB199(200)	3.998	4.775	4.592	4.544	4.553	4.863	4.554	6.62
51)	PCB157	5.811	5.144	5.264	5.272	5.755	5.940	5.531	6.18
52)	PCB180	3.099	2.592	2.793	2.591	2.789	3.224	2.848	9.19
53)	PCB169	1.838	2.538	3.460	2.767	2.955	3.427	2.831	21.45
54)	PCB170	1.781	2.163	2.501	2.322	2.499	2.755	2.337	14.41
55)	PCB201		3.138	2.253	2.450	2.453	2.329	2.525	13.98
56)	PCB203	4.084	2.388	2.561	2.506	2.430	2.454	2.737	24.21
57)	PCB189	1.988	2.602	2.873	2.523	3.032	3.358	2.729	17.31
58)	PCB195	1.827	3.578	3.050	2.552	2.256	2.317	2.597	24.09
59)	PCB194	2.431	3.353	3.487	2.595	2.730	2.645	2.873	15.18
60)	PCB206	1.152	1.785	2.463	2.386	2.489	2.466	2.123	25.74
61)	PCB209	1.127	2.150	2.469	2.328	2.358	2.473	2.151	23.95

Method Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
Method File : Q_PCB+6_140310.M

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(#) = Out of Range

PHYSIS

Continuing Calibration Data

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Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Data File : OCP500_PCB100_ICV.D
 Acq On : 06 May 2014 05:07 pm
 Operator :
 Sample : OCP500_PCB100_ICV
 Misc :
 ALS Vial : 97 Sample Multiplier: 1

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Quant Time: May 14 09:35:49 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_PCB+6_140310.M
 Quant Title : PCBs (Richs Version)
 QLast Update : Wed May 14 09:19:58 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	40.317	312	2496472	1000.00		0.00
34) 2,2',5,5'-Tetrabromobi...	51.414	389	504371	1000.00		0.00
Target Compounds						
					Qvalue	
2) PCB003	24.398	188	463300m	95.79		
3) PCB008	28.945	222	381212m	91.85		
4) PCB005	28.945	222	379666m	99.12		
5) PCB018	32.122	256	186617m	67.57		
6) PCB015	0.000		0	N.D.	d	
7) PCB027	0.000		0	N.D.		
8) PCB029	0.000		0	N.D.	d	
9) PCB031	35.512	256	285827m	92.11		
10) PCB028	35.617	256	284417	83.14		98
11) PCB033	36.316	256	261159	94.88		98
12) PCB052	38.196	292	185437	69.41		98
13) PCB049	38.515	292	194384	73.62		98
14) PCB044	39.696	292	163097	73.89		97
15) PCB037	39.965	256	268413	90.12		99
16) PCB074	42.339	292	265592	86.49		96
17) PCB070	42.606	292	257642m	80.34		
18) PCB066	42.870	292	259208m	84.25		
19) PCB095	42.910	326	165740	77.39		98
20) PCB056(060)	44.067	292	226942	103.53		98
21) PCB101	44.611	326	182823	74.90		99
22) PCB099	44.992	326	197053m	78.67		
23) PCB119	45.448	326	238873m	80.80		
24) PCB097	46.139	326	149948m	95.07		
25) PCB087	46.514	326	167999m	77.02		
26) PCB081	46.534	292	258478m	88.26		
27) PCB110	47.225	326	244257m	81.94		
28) PCB077	47.235	292	253987m	94.32		
29) PCB151	48.118	360	153710m	75.67		
30) PCB149	48.960	360	178108m	77.94		
31) PCB123	48.940	326	242620m	96.51		
32) PCB118	49.112	326	245225m	83.50		
33) PCB114	49.894	326	252947m	102.99		
35) PCB153	50.734	360	174863	80.61	#	51
36) PCB168+132	50.908	360	338390	168.01		96
37) PCB105	50.974	326	252402	85.51		98
38) PCB141	51.613	360	152164	88.14		97
39) PCB137	0.000		0	N.D.	d	
40) PCB138	52.658	360	159160	80.82		83
41) PCB158	52.837	360	208818	79.86		93
42) PCB126	53.298	326	210749	97.68		98
43) PCB187	53.852	394	129686	72.73		100
44) PCB183	54.198	394	137662m	76.14		
45) PCB128	54.544	360	139087	87.55	#	27
46) PCB167	54.664	360	198972m	86.81		
47) PCB174	55.448	394	121105	86.32		95
48) PCB177	55.822	394	119796m	77.46		
49) PCB156	56.229	360	195833	98.18	#	74
50) PCB199(200)	56.611	430	164484	68.43		97
51) PCB157	56.613	360	274351m	93.66		
52) PCB180	57.395	394	128989m	83.45		
53) PCB169	58.846	360	188999m	114.48		
54) PCB170	59.384	394	119465m	89.34		
55) PCB201	59.983	430	107113m	89.71		

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
Data File : OCP500_PCB100_ICV.D
Acq On : 06 May 2014 05:07 pm
Operator :
Sample : OCP500_PCB100_ICV
Misc :
ALS Vial : 97 Sample Multiplier: 1

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Quant Time: May 14 09:35:49 2014
Quant Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_PCB+6_140310.M
Quant Title : PCBs (Richs Version)
QLast Update : Wed May 14 09:19:58 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	0.000		0	N.D.	d	
57) PCB189	61.343	394	166231m	103.24		
58) PCB195	62.338	430	102155m	85.35		
59) PCB194	63.698	430	113200m	83.21		
60) PCB206	66.154	464	93598m	75.67		
61) PCB209	68.133	498	97873m	79.74		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Data File : PCB+6_100CCV2.D
 Acq On : 10 May 2014 11:31 am
 Operator :
 Sample : PCB+6_100CCV2
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: May 14 10:00:28 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_PCB+6_140310.M
 Quant Title : PCBs (Richs Version)
 QLast Update : Mon Mar 10 15:51:02 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	40.305	312	4300519	1000.00		0.00
34) 2,2',5,5'-Tetrabromobi...	51.391	389	831883	1000.00		-0.02
Target Compounds						Qvalue
2) PCB003	24.387	188	781694m	93.83		
3) PCB008	28.945	222	663719m	92.83		
4) PCB005	28.945	222	643931m	97.59		
5) PCB018	32.091	256	301137m	63.29		
6) PCB015	32.284	222	648135m	108.86		
7) PCB027	32.883	256	300713m	82.29		
8) PCB029	34.517	256	435370m	94.20		
9) PCB031	35.502	256	466998m	87.36		
10) PCB028	35.593	256	451709m	76.65		
11) PCB033	36.297	256	449830	94.87		98
12) PCB052	38.175	292	299159	65.00		97
13) PCB049	38.498	292	314837	69.22		96
14) PCB044	39.678	292	258271	67.92		99
15) PCB037	39.952	256	458040	89.27		98
16) PCB074	42.320	292	387654	73.28		98
17) PCB070	42.586	292	421407m	76.29		
18) PCB066	42.850	292	440328m	83.08		
19) PCB095	42.884	326	286817	77.75		95
20) PCB056(060)	44.049	292	371219	98.31		97
21) PCB101	44.590	326	282427	67.17		98
22) PCB099	44.961	326	310364m	71.93		
23) PCB119	45.428	326	372349m	73.12		
24) PCB097	46.118	326	252654m	92.99		
25) PCB087	46.484	326	266089m	70.82		
26) PCB081	46.504	292	433574m	85.94		
27) PCB110	47.204	326	378062m	73.62		
28) PCB077	47.225	292	425746m	91.78		
29) PCB151	48.097	360	242317m	69.25		
30) PCB149	48.940	360	265008m	67.32		
31) PCB123	48.920	326	367858m	84.94		
32) PCB118	49.092	326	393351m	77.75		
33) PCB114	49.874	326	360433m	85.19		
35) PCB153	50.711	360	272128	76.06	#	52
36) PCB168+132	50.881	360	536967	161.64		97
37) PCB105	50.952	326	406340	83.46		98
38) PCB141	51.586	360	250549	87.99		99
39) PCB137	52.071	360	209424	104.61		97
40) PCB138	52.640	360	251068	77.30		83
41) PCB158	52.817	360	331421	76.85		93
42) PCB126	53.280	326	361129	101.48		96
43) PCB187	53.830	394	207079	70.41		99
44) PCB183	54.177	394	220169m	73.83		
45) PCB128	54.521	360	222401	84.88	#	27
46) PCB167	54.634	360	332471m	87.95		
47) PCB174	55.427	394	200221	86.53		92
48) PCB177	55.811	394	187177m	73.38		
49) PCB156	56.208	360	312151	94.88	#	75
50) PCB199(200)	56.589	430	243408	61.40		97
51) PCB157	56.583	360	412958m	85.48		
52) PCB180	57.364	394	205105m	80.46		
53) PCB169	58.816	360	307041m	112.76		
54) PCB170	59.354	394	190414m	86.34		
55) PCB201	59.952	430	162162m	82.34		

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
Data File : PCB+6_100CCV2.D
Acq On : 10 May 2014 11:31 am
Operator :
Sample : PCB+6_100CCV2
Misc :
ALS Vial : 105 Sample Multiplier: 1

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Quant Time: May 14 10:00:28 2014
Quant Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_PCB+6_140310.M
Quant Title : PCBs (Richs Version)
QLast Update : Mon Mar 10 15:51:02 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	60.318	430	179203m	87.51		
57) PCB189	61.323	394	263092m	99.07		
58) PCB195	62.307	430	160286m	81.20		
59) PCB194	63.667	430	172408m	76.84		
60) PCB206	66.124	464	137059m	67.18		
61) PCB209	68.103	498	147155m	72.69		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Data File : PCB+6_100FCV.D
 Acq On : 12 May 2014 07:37 am
 Operator :
 Sample : PCB+6_100FCV
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: May 14 10:03:38 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_PCB+6_140310.M
 Quant Title : PCBs (Richs Version)
 QLast Update : Wed May 14 10:02:07 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	40.303	312	4334537	1000.00		0.00
34) 2,2',5,5'-Tetrabromobi...	51.390	389	860915	1000.00		0.00
Target Compounds						Qvalue
2) PCB003	24.386	188	783877	93.35		96
3) PCB008	28.935	222	578547m	80.28		
4) PCB005	28.945	222	611834m	92.00		
5) PCB018	32.097	256	302154	63.01		94
6) PCB015	32.286	222	653102	108.83		99
7) PCB027	32.885	256	300324	81.54		97
8) PCB029	34.517	256	445188	95.57		93
9) PCB031	35.501	256	479595	89.02		95
10) PCB028	35.597	256	459229	77.32		97
11) PCB033	36.295	256	455090	95.23		97
12) PCB052	38.175	292	299936	64.66		96
13) PCB049	38.493	292	313732	68.43		98
14) PCB044	39.676	292	259943	67.82		97
15) PCB037	39.949	256	461540	89.25		98
16) PCB074	42.318	292	411870	77.25		95
17) PCB070	42.584	292	423900	76.13		96
18) PCB066	42.846	292	419284	78.49		97
19) PCB095	42.885	326	288396	77.56		97
20) PCB056(060)	44.047	292	395304	103.87		98
21) PCB101	44.587	326	292671	69.06		98
22) PCB099	44.965	326	314877	72.40		87
23) PCB119	45.433	326	385782	75.16		96
24) PCB097	46.119	326	261492	95.49	#	68
25) PCB087	46.489	326	276056	72.89		97
26) PCB081	46.515	292	451776	88.84		99
27) PCB110	47.203	326	391796	75.69		95
28) PCB077	47.225	292	433043	92.62		99
29) PCB151	48.098	360	247571	70.20		95
30) PCB149	48.944	360	272323	68.63		96
31) PCB123	48.918	326	383385	87.83		98
32) PCB118	49.095	326	407385	79.89	#	86
33) PCB114	49.871	326	374226	87.76		95
35) PCB153	50.706	360	295041	79.68	#	50
36) PCB168+132	50.879	360	547570	159.27		97
37) PCB105	50.950	326	424696	84.29		98
38) PCB141	51.584	360	263106	89.29		97
39) PCB137	52.069	360	213554	103.07		95
40) PCB138	52.624	360	263149m	78.28		
41) PCB158	52.812	360	328162	73.52		91
42) PCB126	53.276	326	361109	98.05		96
43) PCB187	53.824	394	210796	69.26		99
44) PCB183	54.180	394	220345	71.40		97
45) PCB128	54.523	360	234737	86.56	#	26
46) PCB167	54.639	360	330367	84.45	#	59
47) PCB174	55.428	394	203109	84.82		92
48) PCB177	55.801	394	194669	73.74		99
49) PCB156	56.204	360	326572	95.92	#	74
50) PCB199(200)	56.581	430	248133	60.48		99
51) PCB157	56.584	360	429233	85.85		99
52) PCB180	57.370	394	209599	79.45		97
53) PCB169	58.819	360	319425	113.35		92
54) PCB170	59.357	394	188281	82.49		96
55) PCB201	59.963	430	164244	80.59		95

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Data File : PCB+6_100FCV.D
 Acq On : 12 May 2014 07:37 am
 Operator :
 Sample : PCB+6_100FCV
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: May 14 10:03:38 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_PCB+6_140310.M
 Quant Title : PCBs (Richs Version)
 QLast Update : Wed May 14 10:02:07 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	60.310	430	182587	86.16		96
57) PCB189	61.328	394	259980	94.60		95
58) PCB195	62.317	430	161625	79.11		92
59) PCB194	63.667	430	174763	75.26	#	96
60) PCB206	66.138	464	137831	65.28		98
61) PCB209	68.098	498	150808	71.99	#	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PCB100 ICV			PCB100 CCV			PCB100 CCV2		
	5/6/14 5:07 PM			5/10/13 11:31 AM			5/12/12 7:37 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PCB003	100	96	4	100	94	6	100	93	7
PCB008	100	92	8	100	93	7	100	80	20
PCB005	0	0	NA	100	98	2	100	92	8
PCB018	100	68	32	100	63	37	100	63	37
PCB015	0	0	NA	100	109	9	100	109	9
PCB027	0	0	NA	100	82	18	100	82	18
PCB029	0	0	NA	100	94	6	100	96	4
PCB031	100	92	8	100	87	13	100	89	11
PCB028	100	83	17	100	77	23	100	77	23
PCB033	100	95	5	100	95	5	100	95	5
PCB052	100	69	31	100	65	35	100	65	35
PCB049	100	74	26	100	69	31	100	68	32
PCB044	100	74	26	100	68	32	100	68	32
PCB037	100	90	10	100	89	11	100	89	11
PCB074	100	86	14	100	73	27	100	77	23
PCB070	100	80	20	100	76	24	100	76	24
PCB066	100	84	16	100	83	17	100	78	22
PCB095	100	77	23	100	78	22	100	78	22
PCB056 (060)	100	104	4	100	98	2	100	104	4
PCB101	100	75	25	100	67	33	100	69	31
PCB099	100	79	21	100	72	28	100	72	28
PCB119	100	81	19	100	73	27	100	75	25
PCB097	100	95	5	100	93	7	100	95	5
PCB087	100	77	23	100	71	29	100	73	27
PCB081	100	88	12	100	86	14	100	89	11
PCB110	100	82	18	100	74	26	100	76	24
PCB077	100	94	6	100	92	8	100	93	7
PCB151	100	76	24	100	69	31	100	70	30
PCB149	100	78	22	100	67	33	100	69	31
PCB123	100	97	3	100	85	15	100	88	12
PCB118	100	84	17	100	78	22	100	80	20
PCB114	100	103	3	100	85	15	100	88	12
PCB153	100	81	19	100	76	24	100	80	20
PCB168+132	200	168	16	200	162	19	200	159	20
PCB105	100	86	14	100	83	17	100	84	16
PCB141	100	88	12	100	88	12	100	89	11
PCB137	0	0	NA	100	105	5	100	103	3
PCB138	100	81	19	100	77	23	100	78	22
PCB158	100	80	20	100	77	23	100	74	26
PCB126	100	98	2	100	101	1	100	98	2
PCB187	100	73	27	100	70	30	100	69	31
PCB183	100	76	24	100	74	26	100	71	29
PCB128	100	88	12	100	85	15	100	87	13
PCB167	100	87	13	100	88	12	100	84	16
PCB174	100	86	14	100	87	13	100	85	15
PCB177	100	77	23	100	73	27	100	74	26
PCB156	100	98	2	100	95	5	100	96	4
PCB199 (200)	100	68	32	100	61	39	100	60	40
PCB157	100	94	6	100	85	15	100	86	14
PCB180	100	83	17	100	80	20	100	79	21
PCB169	100	114	14	100	113	13	100	113	13
PCB170	100	89	11	100	86	14	100	82	18
PCB201	100	90	10	100	82	18	100	81	19
PCB203	0	0	NA	100	88	12	100	86	14
PCB189	100	103	3	100	99	1	100	95	5
PCB195	100	85	15	100	81	19	100	79	21
PCB194	100	83	17	100	77	23	100	75	25
PCB206	100	76	24	100	67	33	100	65	35
PCB209	100	80	20	100	73	27	100	72	28
Average	-	-	16	-	-	19	-	-	19

Polynuclear

Aromatic

Hydrocarbons

(PAHs)

PHYSIS

Summary of Internal Standards

TERRA FACTA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

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	D10-Anthracene		D-12 Perylene	
	Response	Retention Time	Response	Retention Time
Spex_500ICV	11039117	32.274	9032556	76.821
B_5136	47106981	32.269	35077910	76.835
BS1_5136	51269212	32.271	34626674	76.844
BS2_5136	52381612	32.277	40524418	76.851
22483MS1	48560826	32.273	21718129	76.829
22483MS2	40969142	32.268	18403787	76.824
22492	48057079	32.298	24550516	76.914
22482	46232531	32.28	32552224	76.856
22483	47341236	32.277	13458527	76.831
22483R2	41063828	32.264	12336719	76.826
22484	39534965	32.273	35235605	76.85
22485	45278710	32.271	23361049	76.833
PAH500CCV	15986506	32.258	13706866	76.819
22486	41318754	32.266	36421156	76.846
22487	46279734	32.265	32512022	76.842
22488	55345454	32.264	35242516	76.849
22489	46215395	32.263	32509955	76.842
22490	49436540	32.268	31539642	76.846
22491	56858687	32.271	36081046	76.858
22546	45091304	32.264	27302323	76.834
22547	45498490	32.265	32419918	76.85
22548	43743344	32.264	28662849	76.834
22549	29107423	32.264	26134977	76.844
22550	45097826	32.271	43707997	76.855
PAH500FCV	15477202	32.256	12477923	76.818

PHYSIS

Initial Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Method File : Q_PAH140411.M
 Title : PAH
 Last Update : Mon May 12 18:27:49 2014
 Response Via : Initial Calibration

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Calibration Files

500 =PAH500ICV.D 250 =PAH250.D 1000=BS1_5129.D 100 =PAH100.D 50 =PAH50.D 25 =PAH25.D

Compound		500	250	1000	100	50	25	Avg	%RSD

1) I	d10-Anthracene	-----ISTD-----							
2) S	(d8-Naphthalene)	1.213	1.007	0.376	0.923	0.870	0.885	0.879	31.49
3) S	(d10-Acenaphth...	0.671	0.606	0.519	0.573	0.548	0.553	0.578	9.29
4) S	(d10-Phenanthr...	1.058	1.054	1.045	1.054	1.034	1.037	1.047	0.93
5) S	(d12-Chrysene)	1.109	1.189	1.230	1.170	1.241	1.224	1.194	4.16
6) S	(d12-Perylene)	1.082	1.162	1.202	1.129	1.244	1.208	1.171	5.04
7)	Naphthalene	1.169	0.977		0.883	0.839	0.851	0.944	14.52
8)	2-Methylnaphth...	0.823	0.707		0.655	0.622	0.625	0.686	12.20
9)	1-Methylnaphth...	0.729	0.631		0.582	0.553	0.558	0.611	11.95
10)	Biphenyl	1.013	0.888		0.831	0.781	0.787	0.860	11.12
11)	2,6-Dimethylna...	0.737	0.656		0.608	0.572	0.577	0.630	10.88
12)	Acenaphthylene	1.089	0.960		0.919	0.872	0.886	0.945	9.21
13)	Acenaphthene	0.704	0.630		0.602	0.570	0.570	0.615	9.09
14)	2,3,5-Trimethy...	0.673	0.625	0.577	0.596	0.564	0.587	0.604	6.60
15)	Fluorene	0.787	0.732	0.694	0.709	0.706	0.726	0.726	4.59
16)	Dibenzothiophene	1.022	1.009	0.985	1.001	0.981	0.990	0.998	1.59
17)	Phenanthrene	1.081	1.065	1.060	1.053	1.026	1.012	1.050	2.46
18)	Anthracene	1.047	1.043	1.059	1.031	1.010	1.018	1.035	1.79
19)	1-Methylphenan...	0.750	0.775	0.822	0.774	0.753	0.795	0.778	3.51
20)	Fluoranthene	1.105	1.146	1.215	1.137	1.143	1.151	1.149	3.13
21)	Pyrene	1.127	1.179	1.220	1.178	1.174	1.176	1.176	2.52
22)	Benz[a]anthracene	1.067	1.125	1.177	1.117	1.192	1.205	1.147	4.62
23)	Chrysene	1.045	1.107	1.157	1.096	1.155	1.141	1.117	3.87
24)	Benzo[b]fluora...	1.144	1.217	1.232	1.158	1.216	1.209	1.196	3.01
25)	Benzo[k]fluora...	1.250	1.322	1.339	1.259	1.421	1.312	1.317	4.71
26)	Benzo[e]pyrene	1.142	1.221	1.198	1.176	1.244	1.279	1.210	4.04
27)	Benzo[a]pyrene	1.122	1.198	1.196	1.123	1.235	1.198	1.179	3.90
28)	Perylene	1.136	1.220	1.212	1.164	1.271	1.283	1.214	4.75

29) I	d12-Benzo[g,h,i]pe...	-----ISTD-----							
30)	Indeno[1,2,3-c...	1.359	1.351	1.394	1.332	1.320	1.250	1.334	3.64
31)	Dibenz[a,h]ant...	1.340	1.322	1.355	1.310	1.308	1.376	1.335	2.04
32)	Benzo[g,h,i]pe...	1.417	1.451	1.416	1.450	1.419	1.448	1.434	1.25

(#) = Out of Range

PHYSIS

Continuing Calibration Data

TERRA

FAUNA

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AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Data File : PAH500ICV.D
 Acq On : 09 May 2014 10:03 am
 Operator :
 Sample : PAH500ICV
 Misc :
 ALS Vial : 121 Sample Multiplier: 1

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Quant Time: May 12 18:27:21 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140422 EI O-5129\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Tue Apr 29 13:41:05 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	32.274	188	11039117m	2000.00		-1.60
29) d12-Benzo[g,h,i]perylene	76.821	288	9032556m	2000.00		-1.88
System Monitoring Compounds						
2) (d8-Naphthalene)	13.162	136	6287098m	1295.92		-0.64
3) (d10-Acenaphthene)	21.068	164	3639575m	1140.05		-1.24
4) (d10-Phenanthrene)	31.868	188	6040549m	1045.24		-1.59
5) (d12-Chrysene)	55.557	240	6481009m	983.45		-1.79
6) (d12-Perylene)	67.697	264	6559963m	1014.67		-1.83
Target Compounds						
7) Naphthalene	13.223	128	3261379m	527.42		Qvalue
8) 2-Methylnaphthalene	15.618	142	2226013m	508.06		
9) 1-Methylnaphthalene	16.064	142	2276125m	585.64		
10) Biphenyl	17.820	154	2720910m	502.24		
11) 2,6-Dimethylnaphthalene	18.622	156	1947963m	492.89		
12) Acenaphthylene	20.104	152	2977699m	510.44		
13) Acenaphthene	21.261	153	2017762m	533.16		
14) 2,3,5-Trimethylnaphtha...	23.971	170	1627602m	493.44		
15) Fluorene	24.692	166	2337082m	593.67		
16) Dibenzothiophene	31.025	184	2944908m	537.36		
17) Phenanthrene	32.050	178	3264308m	555.73		
18) Anthracene	32.416	178	2482132m	425.98		
19) 1-Methylphenanthrene	37.491	192	2264986m	509.11		
20) Fluoranthene	42.424	202	3365316m	512.44		
21) Pyrene	44.271	202	3554858m	536.64		
22) Benz[a]anthracene	55.446	228	3272139m	513.85		
23) Chrysene	55.781	228	3337959m	533.53		
24) Benzo[b]fluoranthene	64.784	252	3712246m	554.01		
25) Benzo[k]fluoranthene	64.987	252	3640016m	499.12		
26) Benzo[e]pyrene	66.854	252	3338021m	508.89		
27) Benzo[a]pyrene	67.220	252	3329008m	510.26		
28) Perylene	67.879	252	3231516m	488.83		
30) Indeno[1,2,3-c,d]pyrene	75.390	276	3380439m	540.68		
31) Dibenz[a,h]anthracene	75.695	278	3154315m	517.17		
32) Benzo[g,h,i]perylene	76.984	276	3634702m	567.46		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Data File : PAH500CCV2.D
 Acq On : 10 May 2014 08:13 am
 Operator :
 Sample : PAH500CCV2
 Misc :
 ALS Vial : 122 Sample Multiplier: 1

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Quant Time: May 12 18:29:00 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Mon May 12 17:32:57 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	32.258	188	15986506	2000.00		-0.02
29) d12-Benzo[g,h,i]perylene	76.819	288	13706866	2000.00		0.00
System Monitoring Compounds						
2) (d8-Naphthalene)	13.009	136	8445158	1202.04		-0.15
3) (d10-Acenaphthene)	21.010	164	4936232	1067.70		-0.06
4) (d10-Phenanthrene)	31.852	188	8651563	1033.75		-0.02
5) (d12-Chrysene)	55.558	240	9657890	1011.98		0.00
6) (d12-Perylene)	67.697	264	9271050	990.23		0.00
Target Compounds						
					Qvalue	
7) Naphthalene	13.068	128	3722850	415.73		100
8) 2-Methylnaphthalene	15.504	142	2646788	417.15		100
9) 1-Methylnaphthalene	15.960	142	2400983	426.58		99
10) Biphenyl	17.733	154	3262483	415.84		100
11) 2,6-Dimethylnaphthalene	18.540	156	2422670	423.30		100
12) Acenaphthylene	20.045	152	3671051	434.54		100
13) Acenaphthene	21.202	153	2374122	433.18		99
14) 2,3,5-Trimethylnaphtha...	23.925	170	2339838	489.84		100
15) Fluorene	24.646	166	2724934	477.98		98
16) Dibenzothiophene	31.001	184	3713360	467.88		100
17) Phenanthrene	32.029	178	4106427	482.74		100
18) Anthracene	32.402	178	4015498	475.86		100
19) 1-Methylphenanthrene	37.478	192	2898246	449.84		98
20) Fluoranthene	42.416	202	4351374	457.54		100
21) Pyrene	44.271	202	4538144	473.06		100
22) Benz[a]anthracene	55.437	228	3990026	432.67		100
23) Chrysene	55.774	228	4129033	455.73		100
24) Benzo[b]fluoranthene	64.786	252	4218519	434.73		100
25) Benzo[k]fluoranthene	64.984	252	4460020	422.30		100
26) Benzo[e]pyrene	66.857	252	4245113	446.89		100
27) Benzo[a]pyrene	67.219	252	4012411	424.68		100
28) Perylene	67.883	252	4184983	437.14		100
30) Indeno[1,2,3-c,d]pyrene	75.380	276	4041529m	425.98		
31) Dibenz[a,h]anthracene	75.697	278	3747284	404.87		100
32) Benzo[g,h,i]perylene	76.981	276	4662600	479.70		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Data File : PAH500FCV.D
 Acq On : 12 May 2014 04:20 am
 Operator :
 Sample : PAH500FCV
 Misc :
 ALS Vial : 122 Sample Multiplier: 1

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Quant Time: May 12 18:29:24 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Mon May 12 17:32:57 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	32.256	188	15477202	2000.00		-0.02
29) d12-Benzo[g,h,i]perylene	76.818	288	12477923	2000.00		0.00
System Monitoring Compounds						
2) (d8-Naphthalene)	13.010	136	8919278	1311.29		-0.15
3) (d10-Acenaphthene)	21.009	164	5076760	1134.23		-0.06
4) (d10-Phenanthrene)	31.851	188	8408495	1037.77		-0.02
5) (d12-Chrysene)	55.552	240	8830853	955.77		0.00
6) (d12-Perylene)	67.695	264	8381190	924.64		0.00
Target Compounds						Qvalue
7) Naphthalene	13.069	128	3950193	455.63		100
8) 2-Methylnaphthalene	15.504	142	2777705	452.18		99
9) 1-Methylnaphthalene	15.960	142	2517118	461.93		99
10) Biphenyl	17.733	154	3416611	449.81		100
11) 2,6-Dimethylnaphthalene	18.539	156	2507706	452.57		99
12) Acenaphthylene	20.044	152	3719374	454.75		100
13) Acenaphthene	21.202	153	2442468	460.32		99
14) 2,3,5-Trimethylnaphtha...	23.924	170	2364359	511.26		99
15) Fluorene	24.645	166	2729890	494.61		99
16) Dibenzothiophene	30.998	184	3627586	472.12		100
17) Phenanthrene	32.028	178	3994299	485.01		100
18) Anthracene	32.400	178	3859675	472.45		100
19) 1-Methylphenanthrene	37.474	192	2751236	441.08		99
20) Fluoranthene	42.407	202	4062909	441.26		100
21) Pyrene	44.264	202	4252000	457.82		100
22) Benz[a]anthracene	55.436	228	3675428	411.67		100
23) Chrysene	55.770	228	3764080	429.12		100
24) Benzo[b]fluoranthene	64.785	252	3900559	415.19		100
25) Benzo[k]fluoranthene	64.984	252	4108536	401.82		100
26) Benzo[e]pyrene	66.850	252	3986443	433.47		100
27) Benzo[a]pyrene	67.217	252	3650448	399.08		100
28) Perylene	67.880	252	3859175	416.38		100
30) Indeno[1,2,3-c,d]pyrene	75.390	276	3658553m	423.59		
31) Dibenz[a,h]anthracene	75.699	278	3244797	385.11		100
32) Benzo[g,h,i]perylene	76.982	276	4249837	480.29		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PAH500 ICV			PAH500 CCV			PAH500 FCV		
	5/9/14 10:03 AM			5/10/14 8:13 AM			5/12/14 4:20 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
d8-Naphthalene	1000	1296	30	1000	1202	20	1000	1311	31
d10-Acenaphthene	1000	1140	14	1000	1068	7	1000	1134	13
d10-Phenanthrene	1000	1045	5	1000	1034	3	1000	1038	4
d10-Chrysene	1000	983	2	1000	1012	1	1000	956	4
d12-Perylene	1000	1015	1	1000	990	1	1000	925	8
Naphthalene	500	527	5	500	416	17	500	456	9
2-Methylnaphthalene	500	508	2	500	417	17	500	452	10
1-Methylnaphthalene	500	586	17	500	427	15	500	462	8
Biphenyl	500	502	0	500	416	17	500	450	10
2,6-Dimethylnaphthalene	500	493	1	500	423	15	500	453	9
Acenaphthylene	500	510	2	500	435	13	500	455	9
Acenaphthene	500	533	7	500	433	13	500	460	8
2,3,5-Trimethylnaphthalene	500	493	1	500	490	2	500	511	2
Fluorene	500	594	19	500	478	4	500	495	1
Dibenzothiophene	500	537	7	500	468	6	500	472	6
Phenanthrene	500	556	11	500	483	3	500	485	3
Anthracene	500	426	15	500	476	5	500	472	6
1-Methylphenanthrene	500	509	2	500	450	10	500	441	12
Fluoranthene	500	512	2	500	458	8	500	441	12
Pyrene	500	537	7	500	473	5	500	458	8
Benz[a]anthracene	500	514	3	500	433	13	500	412	18
Chrysene	500	534	7	500	456	9	500	429	14
Benzo[b]fluoranthene	500	554	11	500	435	13	500	415	17
Benzo[k]fluoranthene	500	499	0	500	422	16	500	402	20
Benzo[e]pyrene	500	509	2	500	447	11	500	433	13
Benzo[a]pyrene	500	510	2	500	425	15	500	399	20
Perylene	500	489	2	500	437	13	500	416	17
Indeno[1,2,3-c,d]pyrene	500	451	10	500	426	15	500	424	15
Dibenz[a,h]anthracene	500	517	3	500	405	19	500	385	23
Benzo[g,h,i]perylene	500	567	13	500	480	4	500	480	4
Average	-	-	7	-	-	10	-	-	11

Organics - GC-MS-NCI

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Analytical Solutions
(EPA 8270C)

PHYSIS

Instrument Run Log

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

2013 Nov 08 1537 Sequence Log .LOG
 Starting sequence Fri Nov 08 15:37:22 2013

Instrument Name: GCMSQQQ
 Sequence File: D:\MassHunter\GCMS\1\sequence\131108 NCI . sequence. xml
 Comment:
 Operator: DATASYSTEM01\Admin
 Data Path: D:\MassHunter\GCMS\1\data\131108 NCI\
 Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX	HEX_NCI	HEX
2)	Sample	111	TOX1000	PYR_NCI	TOX1000
3)	Sample	112	TOX2500	PYR_NCI	TOX2500
4)	Sample	113	TOX5000	PYR_NCI	TOX5000
5)	Sample	114	TOX7500	PYR_NCI	TOX7500
6)	Sample	115	TOX10000	PYR_NCI	TOX10000
7)	Sample	121	FIP25	PYR_NCI	FIP25
8)	Sample	122	FIP50	PYR_NCI	FIP50
9)	Sample	123	FIP100	PYR_NCI	FIP100
10)	Sample	124	FIP250	PYR_NCI	FIP250
11)	Sample	125	FIP500	PYR_NCI	FIP500
12)	Sample	126	FIP1000	PYR_NCI	FIP1000
13)	Sample	131	PYR25	PYR_NCI	PYR25
14)	Sample	132	PYR50	PYR_NCI	PYR50
15)	Sample	133	PYR100	PYR_NCI	PYR100
16)	Sample	134	PYR250	PYR_NCI	PYR250
17)	Sample	135	PYR500	PYR_NCI	PYR500
18)	Sample	136	PYR1000	PYR_NCI	PYR1000
19)	Sample	138	TRAL01000I CV		
	Datafile		TRAL01000I CV		
	Method		PYR_NCI		
20)	Sample	137	PYR1000SPEX		
	Datafile		PYR1000SPEX		
	Method		PYR_NCI		
21)	Sample	141	HEX2	HEX_NCI	HEX2
22)	Sample	1	B_5034	PYR_NCI	B_5034
23)	Sample	2	BS1_5034	PYR_NCI	BS1_5034
24)	Sample	3	BS2_5034	PYR_NCI	BS2_5034
25)	Sample	4	22482MS1	PYR_NCI	22482MS1
26)	Sample	5	22482MS2	PYR_NCI	22482MS2
27)	Sample	141	HEX3	HEX_NCI	HEX3
28)	Sample	6	22492	PYR_NCI	22492
29)	Sample	7	22482	PYR_NCI	22482
30)	Sample	8	22482R2	PYR_NCI	22482R2
31)	Sample	9	22483	PYR_NCI	22483
32)	Sample	10	22484	PYR_NCI	22484
33)	Sample	11	22485	PYR_NCI	22485
34)	Sample	12	22486	PYR_NCI	22486
35)	Sample	13	22487	PYR_NCI	22487
36)	Sample	115	TOX10000CCV		
	Datafile		TOX10000CCV		
	Method		PYR_NCI		
37)	Sample	126	FIP1000CCV		
	Datafile		FIP1000CCV		
	Method		PYR_NCI		
38)	Sample	136	PYR1000CCV		
	Datafile		PYR1000CCV		
	Method		PYR_NCI		
39)	Sample	141	HEX4	HEX_NCI	HEX4
40)	Sample	14	22488	PYR_NCI	22488
41)	Sample	15	22489	PYR_NCI	22489
42)	Sample	16	22490	PYR_NCI	22490

2013 Nov 08 1537 Sequence Log .LOG

43) Sample	17	22491	PYR_NCI	22491
44) Sample	18	22546	PYR_NCI	22546
45) Sample	19	22547	PYR_NCI	22547
46) Sample	20	22548	PYR_NCI	22548
47) Sample	21	22549	PYR_NCI	22549
48) Sample	22	22550	PYR_NCI	22550
49) Sample	31	BS1	ACETONE	
Datafile		BS1	ACETONE	
Method			PYR_NCI	
50) Sample	32	BS2	ACETONE	
Datafile		BS2	ACETONE	
Method			PYR_NCI	
51) Sample	33	MS1	ACETONE	
Datafile		MS1	ACETONE	
Method			PYR_NCI	
52) Sample	34	MS2	ACETONE	
Datafile		MS2	ACETONE	
Method			PYR_NCI	
53) Sample	115	TOX10000FCV		
Datafile		TOX10000FCV		
Method			PYR_NCI	
54) Sample	126	FIP1000FCV		
Datafile		FIP1000FCV		
Method			PYR_NCI	
55) Sample	136	PYR1000FCV		
Datafile		PYR1000FCV		
Method			PYR_NCI	

Sequence completed Sun Nov 10 23:58:24 2013

D:\MassHunter\GCMS\1\data\131108_NCI\2013 Nov 08 1537 Sequence Log .LOG

2013 Nov 19 1352 Sequence Log .LOG
 Starting sequence Tue Nov 19 13:52:04 2013

Instrument Name: GCMSQQQ
 Sequence File: D:\MassHunter\GCMS\1\sequence\131119 PBDE NCI . sequence.xml
 Comment:
 Operator: DATASYSTEM01\Admin
 Data Path: D:\MassHunter\GCMS\1\data\131119 PBDE NCI\
 Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX	HEX_NCI	HEX
2)	Sample	121	PBDE10		
	Datafile		PBDE10		
	Method		NCI -15m PBDE		
3)	Sample	122	PBDE25		
	Datafile		PBDE25		
	Method		NCI -15m PBDE		
4)	Sample	123	PBDE50		
	Datafile		PBDE50		
	Method		NCI -15m PBDE		
5)	Sample	124	PBDE75		
	Datafile		PBDE75		
	Method		NCI -15m PBDE		
6)	Sample	125	PBDE100		
	Datafile		PBDE100		
	Method		NCI -15m PBDE		
7)	Sample	126	PBDE200		
	Datafile		PBDE200		
	Method		NCI -15m PBDE		
8)	Sample	133	PBDE200_NEW		
	Datafile		PBDE200_NEW		
	Method		NCI -15m PBDE		
9)	Sample	141	HEX2	HEX_NCI	HEX2
10)	Sample	1	B_5034		
	Datafile		B_5034		
	Method		NCI -15m PBDE		
11)	Sample	2	BS1_5034		
	Datafile		BS1_5034		
	Method		NCI -15m PBDE		
12)	Sample	3	BS2_5034		
	Datafile		BS2_5034		
	Method		NCI -15m PBDE		
13)	Sample	4	22482MS1		
	Datafile		22482MS1		
	Method		NCI -15m PBDE		
14)	Sample	5	22482MS2		
	Datafile		22482MS2		
	Method		NCI -15m PBDE		
15)	Sample	141	HEX3	HEX_NCI	HEX3
16)	Sample	6	22492		
	Datafile		22492		
	Method		NCI -15m PBDE		
17)	Sample	7	22482		
	Datafile		22482		
	Method		NCI -15m PBDE		
18)	Sample	8	22482R2		
	Datafile		22482R2		
	Method		NCI -15m PBDE		
19)	Sample	9	22483		
	Datafile		22483		
	Method		NCI -15m PBDE		
20)	Sample	10	22484		

2013 Nov 19 1352 Sequence Log .LOG

	Datafile	22484		
	Method	NCI -15m PBDE		
21)	Sample	11 22485		
	Datafile	22485		
	Method	NCI -15m PBDE		
22)	Sample	126 PBDE200CCV		
	Datafile	PBDE200CCV		
	Method	NCI -15m PBDE		
23)	Sample	133 PBDE200_NEW_CCV		
	Datafile	PBDE200_NEW_CCV		
	Method	NCI -15m PBDE		
24)	Sample	141 HEX4	HEX_NCI	HEX4
25)	Sample	12 22486		
	Datafile	22486		
	Method	NCI -15m PBDE		
26)	Sample	13 22487		
	Datafile	22487		
	Method	NCI -15m PBDE		
27)	Sample	14 22488		
	Datafile	22488		
	Method	NCI -15m PBDE		
28)	Sample	15 22489		
	Datafile	22489		
	Method	NCI -15m PBDE		
29)	Sample	16 22490		
	Datafile	22490		
	Method	NCI -15m PBDE		
30)	Sample	17 22491		
	Datafile	22491		
	Method	NCI -15m PBDE		
31)	Sample	18 22546		
	Datafile	22546		
	Method	NCI -15m PBDE		
32)	Sample	19 22547		
	Datafile	22547		
	Method	NCI -15m PBDE		
33)	Sample	20 22548		
	Datafile	22548		
	Method	NCI -15m PBDE		
34)	Sample	21 22549		
	Datafile	22549		
	Method	NCI -15m PBDE		
35)	Sample	22 22550		
	Datafile	22550		
	Method	NCI -15m PBDE		
36)	Sample	126 PBDE200FCV		
	Datafile	PBDE200FCV		
	Method	NCI -15m PBDE		
37)	Sample	133 PBDE200_NEW_FCV		
	Datafile	PBDE200_NEW_FCV		
	Method	NCI -15m PBDE		

Sequence completed Wed Nov 20 13:26:11 2013

D:\MassHunter\GCMS\1\data\131119 PBDE NCI\2013 Nov 19 1352 Sequence Log .LOG

2014 Apr 28 1625 Sequence Log .LOG
 Starting sequence Mon Apr 28 16:25:11 2014

Instrument Name: GCMS1
 Sequence File: C:\msdchem\1\sequence\Q2_140428 NCI 0-5136.S
 Comment:
 Operator:
 Data Path: C:\MSDCHEM\1\DATA\Q2_140428 NCI 0-5136\
 Method Path: C:\MSDCHEM\1\METHODS\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX	NCI_HEX	HEX
2)	Sample	121	PYR25	NCI	PYR25
3)	Sample	122	PYR50	NCI	PYR50
4)	Sample	123	PYR100	NCI	PYR100
5)	Sample	124	PYR250	NCI	PYR250
6)	Sample	125	PYR500	NCI	PYR500
7)	Sample	126	PYR1000	NCI	PYR1000
8)	Sample	131	PYR500I CV		
	Datafile		PYR500I CV		
	Method		NCI		
9)	Sample	141	HEX2	NCI_HEX	HEX2
10)	Sample	1	B_5136	NCI	B_5136
11)	Sample	2	BS1_5136	NCI	BS1_5136
12)	Sample	3	BS2_5136	NCI	BS2_5136
13)	Sample	4	22483MS1	NCI	22483MS1
14)	Sample	5	22483MS2	NCI	22483MS2
15)	Sample	6	22492CRM	NCI	22492CRM
16)	Sample	141	HEX3	NCI_HEX	HEX3
17)	Sample	7	22482	NCI	22482
18)	Sample	8	22483	NCI	22483
19)	Sample	9	22483R2	NCI	22483R2
20)	Sample	10	22484	NCI	22484
21)	Sample	11	22485	NCI	22485
22)	Sample	12	22486	NCI	22486
23)	Sample	13	22487	NCI	22487
24)	Sample	125	PYR500CCV		
	Datafile		PYR500CCV		
	Method		NCI		
25)	Sample	141	HEX4	NCI_HEX	HEX4
26)	Sample	14	22488	NCI	22488

Tue Apr 29 17:55:28 2014

Fatal sequence error detected.

No response, cannot bring MS on line (possible bad address or existing lock)
 [error -204]

C:\MSDCHEM\1\DATA\Q2_140428 NCI 0-5136\2014 Apr 28 1625 Quality Log.LOG
 C:\MSDCHEM\1\DATA\Q2_140428 NCI 0-5136\2014 Apr 28 1625 Sequence Log .LOG

2014 Apr 30 0935 Sequence Log .LOG
 Starting sequence Wed Apr 30 09: 35: 47 2014

Instrument Name: GCMS1
 Sequence File: C:\msdchem\1\sequence\Q2_140428 NCI 0-5136_3. S
 Comment:
 Operator:
 Data Path: C:\MSDCHEM\1\DATA\Q2_140428 NCI 0-5136\
 Method Path: C:\MSDCHEM\1\METHODS\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX5	NCI_HEX	HEX5
2)	Sample	125	PYR500CCV2		
	Datafile		PYR500CCV2		
	Method		NCI		
3)	Sample	141	HEX6	NCI_HEX	HEX6
4)	Sample	14	22488RR	NCI	22488RR
5)	Sample	15	22489	NCI	22489
6)	Sample	16	22490	NCI	22490
7)	Sample	17	22491	NCI	22491
8)	Sample	18	22546	NCI	22546
9)	Sample	19	22547	NCI	22547
10)	Sample	20	22548	NCI	22548
11)	Sample	21	22549	NCI	22549
12)	Sample	22	22550	NCI	22550
13)	Sample	125	PYR500FCV		
	Datafile		PYR500FCV		
	Method		NCI		
14)	Sample	121	PYR25END	NCI	PYR25END
15)	Sample	122	PYR50END	NCI	PYR50END
16)	Sample	123	PYR100END		
	Datafile		PYR100END		
	Method		NCI		
17)	Sample	124	PYR250END		
	Datafile		PYR250END		
	Method		NCI		
18)	Sample	125	PYR500END		
	Datafile		PYR500END		
	Method		NCI		
19)	Sample	126	PYR1000END		
	Datafile		PYR1000END		
	Method		NCI		

Sequence completed Thu May 01 04: 44: 03 2014

C:\MSDCHEM\1\DATA\Q2_140428 NCI 0-5136\2014 Apr 30 0935 Quality Log.LOG
 C:\MSDCHEM\1\DATA\Q2_140428 NCI 0-5136\2014 Apr 30 0935 Sequence Log .LOG

Fipronil & Degradates

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Initial Calibration Data

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Quantitative Analysis Calibration Report

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Batch Info

Batch Data Path	P:\Data, Organics Lab_Q1 Data Files\131108 NCI\QuantResults\O-5034 FIP.batch.bin		
Analysis Time	11/8/2014 9:24 PM	Analyst Name	
Report Time	6/10/2014 3:35 PM	Reporter Name	
Last Calib Update	11/20/2013 4:27 PM	Batch State	

Calibration Information

Fipronil Desulfinyl

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\Masshunter\Data\13110					
8 NCI\FIP100.D	Calibration	4	77372	100.0000	35.1051
C:\Masshunter\Data\13110					
8 NCI\FIP1000CCV.D	Calibration	1	844109	1000.0000	60.8916
C:\Masshunter\Data\13110					
8 NCI\FIP25.D	Calibration	6	32079	25.0000	57.2862
C:\Masshunter\Data\13110					
8 NCI\FIP250.D	Calibration	3	146477	250.0000	50.5091
C:\Masshunter\Data\13110					
8 NCI\FIP50.D	Calibration	5	38001	50.0000	59.2521
C:\Masshunter\Data\13110					
8 NCI\FIP500.D	Calibration	2	439911	500.0000	35.1639

Fipronil Sulfide

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\Masshunter\Data\13110					
8 NCI\FIP100.D	Calibration	4	76387	100.0000	34.6578
C:\Masshunter\Data\13110					
8 NCI\FIP1000CCV.D	Calibration	1	731099	1000.0000	52.7394
C:\Masshunter\Data\13110					
8 NCI\FIP25.D	Calibration	6	28666	25.0000	51.1908
C:\Masshunter\Data\13110					
8 NCI\FIP250.D	Calibration	3	121272	250.0000	41.8177
C:\Masshunter\Data\13110					
8 NCI\FIP50.D	Calibration	5	38172	50.0000	59.5191
C:\Masshunter\Data\13110					
8 NCI\FIP500.D	Calibration	2	436710	500.0000	34.9081

Fipronil

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\Masshunter\Data\13110					
8 NCI\FIP100.D	Calibration	4	19710	100.0000	8.9429
C:\Masshunter\Data\13110					
8 NCI\FIP1000CCV.D	Calibration	1	173487	1000.0000	12.5148
C:\Masshunter\Data\13110					
8 NCI\FIP25.D	Calibration	6	6899	25.0000	12.3201
C:\Masshunter\Data\13110					
8 NCI\FIP250.D	Calibration	3	28957	250.0000	9.9850
C:\Masshunter\Data\13110					
8 NCI\FIP50.D	Calibration	5	8376	50.0000	13.0604
C:\Masshunter\Data\13110					
8 NCI\FIP500.D	Calibration	2	99143	500.0000	7.9249

Fipronil Sulfone

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\Masshunter\Data\13110					
8 NCI\FIP100.D	Calibration	4	34009	100.0000	15.4303
C:\Masshunter\Data\13110					
8 NCI\FIP1000CCV.D	Calibration	1	264975	1000.0000	19.1145
C:\Masshunter\Data\13110					
8 NCI\FIP25.D	Calibration	6	9600	25.0000	17.1433
C:\Masshunter\Data\13110					
8 NCI\FIP250.D	Calibration	3	60264	250.0000	20.7805
C:\Masshunter\Data\13110					
8 NCI\FIP50.D	Calibration	5	15040	50.0000	23.4504

Quantitative Analysis Calibration Report

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C:\Masshunter\Data\13110					
8 NCI\FIP500.D	Calibration	2	132877	500.0000	10.6214

2,2',5,5'-Tetrabromobiphenyl

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\Masshunter\Data\13110					
8 NCI\FIP100.D	Calibration	4	22040	1000.0000	22.0402
C:\Masshunter\Data\13110					
8 NCI\FIP1000CCV.D	Calibration	1	13862	1000.0000	13.8625
C:\Masshunter\Data\13110					
8 NCI\FIP25.D	Calibration	6	22399	1000.0000	22.3991
C:\Masshunter\Data\13110					
8 NCI\FIP250.D	Calibration	3	11600	1000.0000	11.6001
C:\Masshunter\Data\13110					
8 NCI\FIP50.D	Calibration	5	12827	1000.0000	12.8269
C:\Masshunter\Data\13110					
8 NCI\FIP500.D	Calibration	2	25021	1000.0000	25.0206

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Continuing Calibration Data

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	P:\Data, Organics Lab_Q1 Data Files\131108 NCI\QuantResults\O-5034 FIP.batch.bin		
Analysis Time	11/10/2014 4:18 AM	Analyst Name	eugenechae
Report Time	6/10/2014 3:35 PM	Reporter Name	eugenechae
Last Calib Update	11/20/2013 4:27 PM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	FIP1000CCV
Level	1	Data File	FIP1000CCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Calibration	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD 2,2',5,5'-	RT	Response	ISTD Resp	RR	Final Conc	
Fipronil Desulfinyl	Tetrabromobiphenyl	17.166	844109	13862	60.8916	1014.1387	ng
Fipronil Sulfide	Tetrabromobiphenyl	19.093	731099	13862	52.7394	1015.1652	ng
Fipronil	Tetrabromobiphenyl	19.372	173487	13862	12.5148	1014.5149	ng
Fipronil Sulfone	Tetrabromobiphenyl	21.502	264975	13862	19.1145	996.2741	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	P:\Data, Organics Lab_Q1 Data Files\131108 NCI\QuantResults\O-5034 FIP.batch.bin		
Analysis Time	11/10/2014 9:50 PM	Analyst Name	eugenechae
Report Time	6/10/2014 3:35 PM	Reporter Name	eugenechae
Last Calib Update	11/20/2013 4:27 PM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	FIP1000FCV
Level		Data File	FIP1000FCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD 2,2',5,5'-	RT	Response	ISTD Resp	RR	Final Conc	
Fipronil Desulfinyl	Tetrabromobiphenyl	17.183	424333	7416	57.2151	952.9071	ng
Fipronil Sulfide	Tetrabromobiphenyl	19.110	355411	7416	47.9219	922.4338	ng
Fipronil	Tetrabromobiphenyl	19.381	84056	7416	11.3336	918.7618	ng
Fipronil Sulfone	Tetrabromobiphenyl	21.545	115877	7416	15.6244	814.3619	ng

	FIP1000 CCV			FIP1000 FCV		
	11/10/14 4:18 AM			11/10/14 9:50 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Fipronil Desulfinyl	1000	1014	1	1000	953	5
Fipronil Sulfide	1000	1015	2	1000	922	8
Fipronil	1000	1015	1	1000	919	8
Fipronil Sulfone	1000	996	0	1000	814	19
Average	-	-	1	-	-	13

PolyBrominated Diphenyl Ethers (PBDEs)

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	2,2',5,5' - Tetrabromobiphenyl	
	Response	Retention Time
PBDE200ICV	1833854	16.6937
B_5034	271893	16.6890
BS1_5034	227298	16.6889
BS2_5034	215733	16.6889
22482MS1	200232	16.6937
22482MS2	229647	16.6937
22492	371478	16.7568
22482	187853	16.6937
22482R2	349796	16.6937
22483	159478	16.6889
22484	205644	16.6937
22485	257522	16.6937
PBDE200CCV	2163969	16.6889
22486	390217	16.6939
22487	358139	16.6937
22488	410275	16.6937
22489	338348	16.6937
22490	339491	16.6937
22491	338383	16.6937
22546	325117	16.6937
22547	298241	16.6937
22548	331140	16.6937
22549	332894	16.6937
22550	309582	16.6889
PBDE200FCV	2613940	16.6889

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Initial Calibration Data

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Quantitative Analysis Calibration Report

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Batch Info

Batch Data Path	C:\msdchem\1\DATA\O-5034 PBDE\QuantResults\O-5034 PBDE.batch.bin	Analyst Name	
Analysis Time	11/19/2014 2:19 PM	Reporter Name	
Report Time	6/10/2014 12:31 PM	Batch State	
Last Calib Update	1/7/2014 7:24 PM		

Calibration Information

(FTBDE)

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	362466	50.0000	0.8609
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	337714	50.0000	0.8698
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	607995	50.0000	1.0693
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	307831	50.0000	0.8625
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	296957	50.0000	0.8792
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	282764	50.0000	0.8521

PBDE017

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	52253	10.0000	0.6205
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	528996	100.0000	0.6812
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1704812	200.0000	0.7496
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	123267	25.0000	0.6908
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	223360	50.0000	0.6613
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	332929	75.0000	0.6688

PBDE028

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	58500	10.0000	0.6947
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	566816	100.0000	0.7300
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1874211	200.0000	0.8241
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	117608	25.0000	0.6590
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	216999	50.0000	0.6425
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	338205	75.0000	0.6794

2,2',5,5'Tetrabromobiphenyl

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	8420757	1000.0000	8420.7572
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	7765091	1000.0000	7765.0915
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	11371385	1000.0000	11371.3849
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	7138104	1000.0000	7138.1044
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	6755020	1000.0000	6755.0195

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D Calibration 3 6636959 1000.0000 6636.9590

PBDE049

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	61371	10.0000	0.7288
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	585232	100.0000	0.7537
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1850487	200.0000	0.8137
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	133638	25.0000	0.7489
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	238360	50.0000	0.7057
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	355624	75.0000	0.7144

PBDE071

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	54217	10.0000	0.6438
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	493999	100.0000	0.6362
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1680098	200.0000	0.7387
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	110183	25.0000	0.6174
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	192682	50.0000	0.5705
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	301875	75.0000	0.6065

PBDE047

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	54571	10.0000	0.6481
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	454915	100.0000	0.5858
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1606336	200.0000	0.7063
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	103036	25.0000	0.5774
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	173451	50.0000	0.5135
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	279045	75.0000	0.5606

PBDE066

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	76790	10.0000	0.9119
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	505778	100.0000	0.6513
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1657219	200.0000	0.7287
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	120178	25.0000	0.6734
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	194152	50.0000	0.5748
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	300050	75.0000	0.6028

PBDE100

Calibration STD	CalType	Level	Response	Exp Conc	RF
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C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	47004	10.0000	0.5582
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	424904	100.0000	0.5472
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1356524	200.0000	0.5965
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	92995	25.0000	0.5211
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	155825	50.0000	0.4614
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	246104	75.0000	0.4944

(DFPBDE)

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	255002	50.0000	0.6057
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	271392	50.0000	0.6990
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	448005	50.0000	0.7880
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	211378	50.0000	0.5923
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	189019	50.0000	0.5596
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	205194	50.0000	0.6183

PBDE099

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	50407	10.0000	0.5986
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	442583	100.0000	0.5700
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1386670	200.0000	0.6097
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	92620	25.0000	0.5190
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	148404	50.0000	0.4394
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	253216	75.0000	0.5087

PBDE085

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	39462	10.0000	0.4686
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	360304	100.0000	0.4640
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1060242	200.0000	0.4662
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	72504	25.0000	0.4063
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	120379	50.0000	0.3564
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	199688	75.0000	0.4012

PBDE154

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	44515	10.0000	0.5286
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	412441	100.0000	0.5311

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1209803	200.0000	0.5320
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	83023	25.0000	0.4652
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	142484	50.0000	0.4219
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	243445	75.0000	0.4891

PBDE153

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	39939	10.0000	0.4743
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	390618	100.0000	0.5030
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1095420	200.0000	0.4817
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	80633	25.0000	0.4518
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	129283	50.0000	0.3828
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	219510	75.0000	0.4410

PBDE138

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	33029	10.0000	0.3922
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	358264	100.0000	0.4614
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	993361	200.0000	0.4368
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	72370	25.0000	0.4055
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	102656	50.0000	0.3039
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	198720	75.0000	0.3992

PBDE183

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	38071	10.0000	0.4521
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	311176	100.0000	0.4007
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	846727	200.0000	0.3723
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	66367	25.0000	0.3719
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	101259	50.0000	0.2998
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	185387	75.0000	0.3724

PBDE190

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	13841	10.0000	0.1644
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	154666	100.0000	0.1992
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	367277	200.0000	0.1615
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	32494	25.0000	0.1821

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	41375	50.0000	0.1225
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	88271	75.0000	0.1773

PBDE209

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	1273	50.0000	0.0030
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	7426	500.0000	0.0019
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	19867	1000.0000	0.0017
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	2479	125.0000	0.0028
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	2622	250.0000	0.0016
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	5048	375.0000	0.0020

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Continuing Calibration Data

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path C:\msdchem\1\DATA\O-5034 PBDE\QuantResults\O-5034 PBDE.batch.bin
Analysis Time 11/20/2014 3:06 AM **Analyst Name** eugenechae
Report Time 6/10/2014 12:31 PM **Reporter Name** eugenechae
Last Calib Update 1/7/2014 7:24 PM **Batch State** Processed

Analysis Info

Acq Time
Level
Position
Sample Type Sample
Dilution 1

Sample Name PBDE200CCV
Data File PBDE200CCV.D
Acq Method File NCI-15m PBDE.M
Sample Info
Comment

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphe nyl	15.154	91575	2163969	0.0423	47.0736	ng
PBDE017	2,2',5,5'Tetrabromobiphe nyl	15.706	277446	2163969	0.1282	176.6791	ng
PBDE028	2,2',5,5'Tetrabromobiphe nyl	16.054	318603	2163969	0.1472	187.6555	ng
PBDE049	2,2',5,5'Tetrabromobiphe nyl	18.035	275487	2163969	0.1273	161.4406	ng
PBDE071	2,2',5,5'Tetrabromobiphe nyl	18.118	279872	2163969	0.1293	184.7424	ng
PBDE047	2,2',5,5'Tetrabromobiphe nyl	18.423	247731	2163969	0.1145	172.8648	ng
PBDE066	2,2',5,5'Tetrabromobiphe nyl	18.757	264642	2163969	0.1223	175.5358	ng
PBDE100	2,2',5,5'Tetrabromobiphe nyl	20.254	225042	2163969	0.1040	181.8946	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphe nyl	20.588	68927	2163969	0.0319	49.4748	ng
PBDE099	2,2',5,5'Tetrabromobiphe nyl	20.757	225209	2163969	0.1041	177.8735	ng
PBDE085	2,2',5,5'Tetrabromobiphe nyl	21.619	176131	2163969	0.0814	179.1577	ng
PBDE154	2,2',5,5'Tetrabromobiphe nyl	22.215	215335	2163969	0.0995	190.5119	ng
PBDE153	2,2',5,5'Tetrabromobiphe nyl	22.927	196826	2163969	0.0910	190.7338	ng
PBDE138	2,2',5,5'Tetrabromobiphe nyl	23.789	168352	2163969	0.0778	180.3712	ng
PBDE183	2,2',5,5'Tetrabromobiphe nyl	24.937	157195	2163969	0.0726	194.1260	ng
PBDE190	2,2',5,5'Tetrabromobiphe nyl	26.085	66646	2163969		183.3474	ng
PBDE209	2,2',5,5'Tetrabromobiphe nyl	29.964	2957	2163969		756.3519	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\msdchem\1\DATA\O-5034 PBDE\QuantResults\O-5034 PBDE.batch.bin	Analyst Name	eugenechae
Analysis Time	11/20/2014 12:07 PM	Reporter Name	eugenechae
Report Time	6/10/2014 12:31 PM	Batch State	Processed
Last Calib Update	1/7/2014 7:24 PM		

Analysis Info

Acq Time		Sample Name	PBDE200FCV
Level		Data File	PBDE200FCV.D
Position		Acq Method File	NCI-15m PBDE.M
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphenyl	15.158	111235	2613940	0.0426	47.3364	ng
PBDE017	2,2',5,5'Tetrabromobiphenyl	15.711	341387	2613940	0.1306	179.9734	ng
PBDE028	2,2',5,5'Tetrabromobiphenyl	16.059	384857	2613940	0.1472	187.6576	ng
PBDE049	2,2',5,5'Tetrabromobiphenyl	18.035	326384	2613940	0.1249	158.3418	ng
PBDE071	2,2',5,5'Tetrabromobiphenyl	18.122	339491	2613940	0.1299	185.5199	ng
PBDE047	2,2',5,5'Tetrabromobiphenyl	18.428	292410	2613940	0.1119	168.9168	ng
PBDE066	2,2',5,5'Tetrabromobiphenyl	18.762	295763	2613940	0.1131	162.4072	ng
PBDE100	2,2',5,5'Tetrabromobiphenyl	20.254	241364	2613940	0.0923	161.5042	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphenyl	20.593	71805	2613940	0.0275	42.6679	ng
PBDE099	2,2',5,5'Tetrabromobiphenyl	20.762	235713	2613940	0.0902	154.1224	ng
PBDE085	2,2',5,5'Tetrabromobiphenyl	21.629	164001	2613940	0.0627	138.1027	ng
PBDE154	2,2',5,5'Tetrabromobiphenyl	22.220	213097	2613940	0.0815	156.0776	ng
PBDE153	2,2',5,5'Tetrabromobiphenyl	22.932	174237	2613940	0.0667	139.7793	ng
PBDE138	2,2',5,5'Tetrabromobiphenyl	23.799	128385	2613940	0.0491	113.8727	ng
PBDE183	2,2',5,5'Tetrabromobiphenyl	24.937	111787	2613940	0.0428	114.2854	ng
PBDE190	2,2',5,5'Tetrabromobiphenyl	26.090	37151	2613940	0.0142	84.6108	ng
PBDE209	2,2',5,5'Tetrabromobiphenyl	29.954	1389	2613940		294.0340	ng

	PBDE200 CCV			PBDE200 FCV		
	11/20/14 3:06 AM			11/20/14 12:07 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
FTBDE	50	47	5.85	50	47	5.33
DFPBDE	50	49	1.05	50	43	14.66
PBDE017	200	177	11.66	200	180	10.01
PBDE028	200	188	6.17	200	188	6.17
PBDE049	200	161	19.28	200	158	20.83
PBDE071	200	185	7.63	200	186	7.24
PBDE047	200	173	13.57	200	169	15.54
PBDE066	200	176	12.23	200	162	18.80
PBDE100	200	182	9.05	200	162	19.25
PBDE099	200	178	11.06	200	154	22.94
PBDE085	200	179	10.42	200	138	30.95
PBDE154	200	191	4.74	200	156	21.96
PBDE153	200	191	4.63	200	140	30.11
PBDE138	200	180	9.81	200	114	43.06
PBDE183	200	194	2.94	200	114	42.86
PBDE190	200	183	8.33	200	85	57.69
PBDE209	1000	756	24.36	1000	294	70.60
Average	-	-	9.58	-	-	25.76

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Pyrethroids

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Summary of Internal Standards

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	2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time
PYR500ICV	12422379	22.926
B_5136	28393165	22.934
BS1_5136	28222123	22.931
BS2_5136	32381596	22.931
22483MS1	27579040	22.931
22483MS2	35612894	22.935
22492	41883557	22.974
22482	27045062	22.933
22483	32095990	22.933
22483R2	33466719	22.934
22484	30090634	22.929
22485	31306580	22.931
22486	30117350	22.933
22487	28561023	22.929
PYR500CCV	13979475	22.926
PYR500CCV2	15222731	22.924
22488	27225208	22.931
22489	31545941	22.928
22490	28131311	22.927
22491	30880528	22.929
22546	34165465	22.931
22547	30667033	22.929
22548	38243831	22.93
22549	30924150	22.926
22550	29426652	22.925
PYR500FCV	14881995	22.921

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Initial Calibration Data

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Method Path : P:\Data, Organics Lab_Q2 Data Files\Q2_140428 NCI O-5136\
 Method File : Q_PYR_140411.M
 Title : Pyrethroids
 Last Update : Mon May 12 17:15:06 2014
 Response Via : Initial Calibration

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Calibration Files

500 =PYR500CCV_RR.D 250 =PYR250RR.D 100 =PYR100RR.D 50 =PYR50RR.D 25 =PYR25RR.D

	Compound	500	250	100	50	25	Avg	%RSD

1) I	2,2',5,5'-Tetrabro...	-----ISTD-----						
2) S	(PCB112)-PYR	1.200	1.289	1.271	1.295	1.299	1.271	3.24
3) S	(PCB198)-PYR	0.289	0.327	0.321	0.328	0.330	0.319	5.37
4)	Allethrin	0.169	0.101	0.141	0.097	0.103	0.122	25.85
5)	Prallethrin	0.202	0.131	0.109	0.145	0.138	0.145	23.73
6)	Resmethrin	0.297	0.137	0.133	0.127	0.129	0.165	45.05
7)	Bifenthrin	0.113	0.092	0.084	0.085	0.080	0.091	14.51
8)	Danitol (Fenpr...	0.243	0.158	0.140	0.154	0.165	0.172	23.65
9)	L-Cyhalothrin	0.308	0.211	0.205	0.207	0.245	0.235	18.74
10)	Permethrin-cis	0.011	0.004				0.008	59.43
11)	Permethrin-trans	0.007	0.003				0.005	58.89
12)	Cyfluthrin-1	0.063	0.035	0.037	0.037	0.040	0.042	27.17
13)	Cyfluthrin-2	0.072	0.040	0.038	0.037	0.041	0.046	32.62
14)	Cyfluthrin-3	0.052	0.035	0.033	0.034	0.040	0.039	19.73
15)	Cyfluthrin-4	0.047	0.028	0.028	0.030	0.034	0.033	23.26
16)	Cypermethrin-1	0.047	0.028	0.028	0.028	0.030	0.032	25.53
17)	Cypermethrin-2	0.040	0.021	0.023	0.021	0.017	0.024	36.08
18)	Cypermethrin-3	0.047	0.028	0.029	0.026	0.039	0.034	27.36
19)	Cypermethrin-4	0.036	0.021	0.020	0.019	0.020	0.023	30.79
20)	Fenvalerate	0.483	0.224	0.245	0.244	0.272	0.293	36.55
21)	Esfenvalerate	0.463	0.224	0.226	0.201	0.252	0.273	39.40
22)	Fluvalinate	0.247	0.132	0.142	0.142	0.141	0.161	30.03
23)	Deltamethrin/T...	0.022	0.007				0.015	70.73

(#) = Out of Range

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Data Path : P:\Data, Organics Lab_Q2 Data Files\Q2_140428 NCI O-5136\
 Data File : PYR500ICV.D
 Acq On : 28 Apr 2014 11:22 pm
 Operator :
 Sample : PYR500ICV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: May 12 17:30:34 2014
 Quant Method : C:\msdchem\1\DATA_Q2\Q2_140428 NCI O-5136\Q_PYR_140411.M
 Quant Title : Pyrethroids
 QLast Update : Mon May 12 17:15:06 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	22.926	79	12422379	1000.00		0.00
System Monitoring Compounds						
2) (PCB112)-PYR	19.986	326	6356378	402.67		0.01
Spiked Amount	400.000		Recovery	=	100.67%	
3) (PCB198)-PYR	28.183	358	1528093	385.56		0.02
Spiked Amount	400.000		Recovery	=	96.39%	
Target Compounds						
					Qvalue	
4) Allethrin	18.471	167	3865227m	1089.62		
5) Prallethrin	18.498	167	3674387m	945.79		
6) Resmethrin	18.852	167	4028482	751.58		96
7) Bifenthrin	25.328	386	1595684	895.79		98
8) Danitol (Fenpropathrin)	25.681	141	3503705	829.05	#	100
9) L-Cyhalothrin	28.003	241	3509483	734.32		99
10) Permethrin-cis	30.215	207	23446m	150.92		
11) Permethrin-trans	30.591	207	68803	519.22	#	97
12) Cyfluthrin-1	32.035	207	712039	707.04		98
13) Cyfluthrin-2	32.315	207	822505	701.74		97
14) Cyfluthrin-3	32.576	207	731552	837.61		89
15) Cyfluthrin-4	32.685	207	793461m	901.64		
16) Cypermethrin-1	33.038	207	692742	827.76	#	95
17) Cypermethrin-2	33.351	207	566458	796.69	#	97
18) Cypermethrin-3	33.608	207	691625	818.83	#	93
19) Cypermethrin-4	33.712	207	523713m	817.53		
20) Fenvalerate	36.095	211	7637267	819.09	#	99
21) Esfenvalerate	36.782	211	6689326	782.71		98
22) Fluvalinate	36.955	294	3572583m	801.17		
23) Deltamethrin/Tralomethrin	38.766	297	388377	798.01		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : P:\Data, Organics Lab_Q2 Data Files\Q2_140428 NCI O-5136\
 Data File : PYR500CCV.D
 Acq On : 29 Apr 2014 3:20 pm
 Operator :
 Sample : PYR500CCV
 Misc :
 ALS Vial : 125 Sample Multiplier: 1

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Quant Time: May 12 21:36:18 2014
 Quant Method : C:\msdchem\1\DATA_Q2\Q2_140428 NCI O-5136\Q_PYR_140411.M
 Quant Title : Pyrethroids
 QLast Update : Mon May 12 17:15:06 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	22.926	79	13979475	1000.00		0.00
System Monitoring Compounds						
2) (PCB112)-PYR	19.986	326	7069680	397.97		0.01
Spiked Amount 400.000			Recovery	=	99.49%	
3) (PCB198)-PYR	28.182	358	1558118	349.34		0.02
Spiked Amount 400.000			Recovery	=	87.33%	
Target Compounds						
					Qvalue	
4) Allethrin	18.471	167	1612580	609.79		98
5) Prallethrin	18.498	167	1899868m	600.45		
6) Resmethrin	18.851	167	3137762	621.81		98
7) Bifenthrin	25.326	386	860785	534.28		97
8) Danitol (Fenpropathrin)	25.679	141	1881929	533.90	#	100
9) L-Cyhalothrin	27.999	241	3507625	682.59		99
10) Permethrin-cis	30.215	207	21157m	136.40		
11) Permethrin-trans	30.578	207	35724m	361.85		
12) Cyfluthrin-1	32.032	207	531761	561.64		97
13) Cyfluthrin-2	32.308	207	726042	613.82		98
14) Cyfluthrin-3	32.580	207	465139	589.75		90
15) Cyfluthrin-4	32.686	207	331595m	507.52		
16) Cypermethrin-1	33.037	207	418777	580.72	#	98
17) Cypermethrin-2	33.345	207	361861	583.52	#	97
18) Cypermethrin-3	33.613	207	397590	558.32	#	96
19) Cypermethrin-4	33.703	207	322433m	582.62		
20) Fenvalerate	36.094	211	3606706	520.25	#	99
21) Esfenvalerate	36.781	211	4040172	564.68		91
22) Fluvalinate	36.955	294	2570797m	627.21		
23) Deltamethrin/Tralomethrin	38.764	297	304426	677.31		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : P:\Data, Organics Lab_Q2 Data Files\Q2_140428 NCI O-5136\
 Data File : PYR500CCV2.D
 Acq On : 30 Apr 2014 10:04 am
 Operator :
 Sample : PYR500CCV2
 Misc :
 ALS Vial : 125 Sample Multiplier: 1

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Quant Time: May 13 21:29:21 2014
 Quant Method : C:\msdchem\1\DATA_Q2\Q2_140428 NCI O-5136\Q_PYR_140411.M
 Quant Title : Pyrethroids
 QLast Update : Mon May 12 17:15:06 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	22.924	79	15222731	1000.00		0.00
System Monitoring Compounds						
2) (PCB112)-PYR	19.988	326	8524784	440.69		0.01
Spiked Amount 400.000			Recovery	=	110.17%	
3) (PCB198)-PYR	28.181	358	1881156	387.32		0.02
Spiked Amount 400.000			Recovery	=	96.83%	
Target Compounds						
					Qvalue	
4) Allethrin	18.471	167	2240619m	705.97		
5) Prallethrin	18.498	167	2172546m	618.33		
6) Resmethrin	18.853	167	4227429	693.96		97
7) Bifenthrin	25.323	386	1042607	577.44		96
8) Danitol (Fenpropathrin)	25.679	141	2422013	591.04	#	100
9) L-Cyhalothrin	27.998	241	4264413	730.53		98
10) Permethrin-cis	30.206	207	25043m	141.70		
11) Permethrin-trans	30.587	207	50114	406.81	#	100
12) Cyfluthrin-1	32.026	207	681920	616.03		98
13) Cyfluthrin-2	32.305	207	833211	631.92		98
14) Cyfluthrin-3	32.573	207	542682	615.89		91
15) Cyfluthrin-4	32.685	207	402974m	541.97		
16) Cypermethrin-1	33.038	207	486040	602.61	#	98
17) Cypermethrin-2	33.340	207	422253	606.41	#	96
18) Cypermethrin-3	33.599	207	480490	593.11	#	92
19) Cypermethrin-4	33.712	207	362332m	593.17		
20) Fenvalerate	36.087	211	4472330	557.13	#	100
21) Esfenvalerate	36.776	211	4938711	600.22		91
22) Fluvalinate	36.945	294	3032322m	655.49		
23) Deltamethrin/Tralomethrin	38.764	297	440937	770.66	#	77

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : P:\Data, Organics Lab_Q2 Data Files\Q2_140428 NCI O-5136\
 Data File : PYR500FCV.D
 Acq On : 30 Apr 2014 9:17 pm
 Operator :
 Sample : PYR500FCV
 Misc :
 ALS Vial : 125 Sample Multiplier: 1

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Quant Time: May 13 21:30:13 2014
 Quant Method : C:\msdchem\1\DATA_Q2\Q2_140428 NCI O-5136\Q_PYR_140411.M
 Quant Title : Pyrethroids
 QLast Update : Mon May 12 17:15:06 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	22.921	79	14881995	1000.00		0.00
System Monitoring Compounds						
2) (PCB112)-PYR	19.983	326	8330371	440.50		0.00
Spiked Amount 400.000			Recovery	=	110.13%	
3) (PCB198)-PYR	28.178	358	1724871	363.28		0.01
Spiked Amount 400.000			Recovery	=	90.82%	
Target Compounds						
					Qvalue	
4) Allethrin	18.461	167	1759208m	618.90		
5) Prallethrin	18.498	167	2486073m	679.06		
6) Resmethrin	18.848	167	4045348	686.36		96
7) Bifenthrin	25.320	386	1039437	585.70		97
8) Danitol (Fenpropathrin)	25.673	141	2290345	579.27	#	100
9) L-Cyhalothrin	27.993	241	4011221	713.42		98
10) Permethrin-cis	30.200	207	24846	142.66	#	2
11) Permethrin-trans	30.590	207	36594	355.50	#	24
12) Cyfluthrin-1	32.025	207	593532	576.92		98
13) Cyfluthrin-2	32.305	207	771997	613.42		96
14) Cyfluthrin-3	32.581	207	470416	570.94		89
15) Cyfluthrin-4	32.685	207	374048m	525.45		
16) Cypermethrin-1	33.037	207	434335	571.97	#	98
17) Cypermethrin-2	33.339	207	386928	584.96	#	98
18) Cypermethrin-3	33.600	207	407241	545.90	#	92
19) Cypermethrin-4	33.712	207	317815m	557.49		
20) Fenvalerate	36.084	211	3745598	513.49	#	100
21) Esfenvalerate	36.776	211	4200488	557.66		91
22) Fluvalinate	36.936	294	2639701m	614.80		
23) Deltamethrin/Tralomethrin	38.758	297	374450	722.90		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PYR500 ICV			PYR500 CCV			PYR500 CCV2			PYR500 FCV		
	4/28/14 11:22 PM			4/29/14 3:20 PM			4/30/14 10:04 AM			4/30/14 9:17 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PCB112	400	403	1	400	398	1	400	441	10	400	441	10
PCB198	400	386	4	400	349	13	400	387	3	400	363	9
Allethrin	500	1090	118	500	610	22	500	706	41	500	619	24
Prallethrin	500	946	89	500	600	20	500	618	24	500	679	36
Resmethrin	500	752	50	500	622	24	500	694	39	500	686	37
Bifenthrin	500	896	79	500	534	7	500	577	15	500	586	17
Danitol (Fenpropathrin)	500	829	66	500	534	7	500	591	18	500	579	16
Cyhalothrin-lambda	500	734	47	500	683	37	500	731	46	500	713	43
Permethrin-cis	134	151	13	134	136	2	134	142	6	134	143	7
Permethrin-trans	358	519	45	358	362	1	358	407	14	358	356	1
Cyfluthrin-1	500	707	41	500	562	12	500	616	23	500	577	15
Cyfluthrin-2	500	702	40	500	614	23	500	632	26	500	613	23
Cyfluthrin-3	500	838	68	500	590	18	500	616	23	500	571	14
Cyfluthrin-4	500	902	80	500	508	2	500	542	8	500	525	5
Cypermethrin-1	500	828	66	500	581	16	500	603	21	500	572	14
Cypermethrin-2	500	797	59	500	584	17	500	606	21	500	585	17
Cypermethrin-3	500	819	64	500	558	12	500	593	19	500	546	9
Cypermethrin-4	500	818	64	500	583	17	500	593	19	500	557	11
Fenvalerate	500	819	64	500	520	4	500	557	11	500	513	3
Esfenvalerate	500	783	57	500	565	13	500	600	20	500	558	12
Fluvalinate	500	801	60	500	627	25	500	655	31	500	615	23
Deltamethrin-Tralomethrin	500	798	60	500	677	35	500	771	54	500	723	45
Average	-	-	56	-	-	15	-	-	23	-	-	16

PHYSIS

Toxaphene

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	2,2',5,5' - Tetrabromobiphenyl	
	Response	Retention Time
TOX10000.D	26263	24.1147
B_5034.D	78034	24.0978
BS1_5034.D	118687	24.0893
BS2_5034.D	77482	24.0893
22482MS1.D	147756	24.0978
22482MS2.D	85915	24.0978
22492.D	205359	24.2415
22482.D	63163	24.0978
22482R2.D	99923	24.0978
22483.D	82969	24.0978
22484.D	97235	24.0978
22485.D	80325	24.0978
22486.D	58758	24.0978
22487.D	58879	24.0893
TOX10000CCV.D	13618	24.0978
22488.D	74584	24.0893
22489.D	56606	24.0893
22490.D	97537	24.0893
22491.D	60677	24.0893
22546.D	57063	24.0809
22547.D	108522	24.0893
22548.D	55908	24.0809
22549.D	75679	24.0809
22550.D	53150	24.0809
TOX10000FCV.D	8180	24.1062

PHYSIS

Continuing Calibration Data

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	TOX10000 CCV			TOX10000 FCV		
	11/10/13 3:20 AM			11/10/13 8:52 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Toxaphene	10000	14625	46	10000	25565	156

June 05, 2014

Chris Stransky
 AMEC
 9210 Sky Park Court
 Suite 200
 San Diego, CA 92123-

Project Name: RHMP Bight '13
 Physis Project ID: 1307002-012

Dear Chris,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 8/29/2013. A total of 12 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventionals
Percent Solids by SM 2540B
Ammonia as N by SM 4500-NH ₃ D
Acid Volatile Sulfides (AVS) by Plumb, 1981 and TERL
Elements
Trace Metals by EPA 6020
Trace Mercury by EPA 245.7
Total Phosphorus by EPA 6020
Simultaneously Extracted Metals Analysis (AVS-SEM) by EPA 200.8
Organics
Toxaphene w/ OCPs by EPA 8270C-NCI
Synthetic Pyrethroid Pesticides by EPA 8270C-NCI
Polynuclear Aromatic Hydrocarbons by EPA 8270C
PBDE Congeners by EPA 8270C-NCI
Organochlorine Pesticides & PCB Congeners/Aroclors by EPA 8270C
Fipronil & Degradates by EPA 8270C-NCI
Subcontract
Total Organic Carbon by SM 5310 B
Total Nitrogen by SM 4500-N

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

Misty Mercier
Extension 202
714-335-5918 cell
mistymercier@physislabs.com

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and are used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use was assessed through the analysis of procedural blanks at a minimum frequency of one per batch. Physis' QM requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the procedural blanks be flagged in the project sample results with a B qualifier.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS1/MS2, BS1/BS2, LCS1/LCS2, LCM1/LCM2, CRM1/CRM2, surrogate spikes and/or replicate project sample analysis (R1/R2) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

MATRIX SPIKES: MS samples were employed to assess the effect a particular project sample matrix has on the accuracy of a measurement. It is prepared by adding a known amount of the target analyte(s) to an aliquot of the project sample. Matrix spikes indicate the bias of analytical measurements due to chemical interferences inherent in the sample matrix. If the matrix spike recovery does not fall within the specified acceptance limits, it may be an indication of sample matrix interference in the specific project sample used for the MS. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

BLANK SPIKES: BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

CERTIFIED REFERENCE MATERIALS: CRMs are pre-homogenized materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of a preparation and analytical method. CRMs are analyzed to provide evidence that the laboratory method produces results that are comparable to those obtained by an independent organization.

SURROGATES: Where CRMs are unavailable, target analyte recovery can be assessed by monitoring added surrogate compounds/elements. A surrogate is a pure analyte unlikely to be found in any project sample and most often used with organic analytical procedures. Percent recovery is calculated for each surrogate and is used to monitor method performance within each discrete sample and is indicative of the procedure's ability to recover the actual analytes of interest.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored

under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes. Physis' QM requires that all samples analyzed beyond the method recommended holding time be flagged in the sample results with an H qualifier.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
*	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified recovery and/or RPD acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore MS recovery and/or RPD acceptance limits do not apply
SL	analyte results for R1 and/or R2 were lower than 10 times the MDL, therefore RPD acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore MS recovery and/or RPD were outside the specified acceptance limits
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples



CASE NARRATIVE

QUALIFIER NOTES

In addition to the use of analyte specific Physis Qualifier Codes where applicable, the following were also noted.

ELEMENTS CRM: Several elements, Aluminum (Al), Antimony (Sb), Arsenic (As), Beryllium (Be), Chromium (Cr), Iron (Fe) and Nickel (Ni) were above the specified acceptance limits in one or more CRM - RTC 016-050 and/or CRM - ERA 540. This occurred as a result of a more rigorous digestion employed by Physis, which causes a higher yield for some lithogenous elements. These values are in agreement with past internal results for CRM - RTC 016-050 and CRM - ERA 540.

ORGANICS: Blank spikes (BS1/BS2) for Endosulfan-I, Endosulfan-II, Endrin Aldehyde and Resmethrin fell outside of the acceptance range required by the associated project QAPP (70% – 130%), but passed PHYSIS' internal acceptance range for this analysis (50% - 150% for Endosulfan-I and Endosulfan-II, 0%-125% for Endrin Aldehyde, 0%-130% for Resmethrin).

Relative percent difference between blank spikes (BS1/BS2) failed for PAHs due to overspiking of BS1 compared to BS2.

ORGANICS TUNE: Physis uses the software supplied with its Agilent GCMS systems to tune its instruments. Moreover, with today's technology software algorithms provided by the instrument manufacturer provide a more stable system across a wider mass range than manual tuning to achieve specific tuning targets such as DFTPP. The following quote is from EPA Method 8270D Section 11.3.1.

“The analyst is always free to choose criteria that are tighter than those included in this method or to use other documented criteria provided they are used consistently throughout the initial calibration, calibration verification, and sample analyses.”

The key here is that the instrument is tuned and that those tune settings are used for the subsequent analysis of the calibration curve, calibration verification, and samples. Moreover, another key reason for tuning to specific criteria is to insure that the GCMS is generating spectra that match the spectra in the NIST Library for confirming the identification of the target analyte. Physis can provide library search results for our calibration standards indicating a very high match quality with the NIST library spectra.



Physis did analyze the DFTPP tune solution with each batch (except for the first batch where the tune solution was mis-injected) and the passing tune reports have been provided indicating that using the instrument tuning software is closely matched to DFTPP tune requirements.

ORGANICS CALIBRATION: A calibration point in the middle of the curve (100 ng) for PCB201 was not used for the calibration of the instrument. This was an error of the analyst that has since been corrected.

ORGANICS CCVS: CCVs for Fipronils were done at 1000 ng, PBDEs were done at 200 ng, and Pyrethroids were done at 500 ng. These values are at the high point of the calibration. This was an error of the analyst that has since been corrected.

Revisions 6/20/2014-

- Aroclors:
 - Updated Aroclor MDLs/RLs from 10/20 to 1/2
 - Added Aroclor 1262 and Aroclor 1268
 - After review of the data, the Technical Director made a decision to revise the data for the Aroclors
- RPDs:
 - Reviewed and updated all RPDs to 25%, per the RHMP QAPP. Revised Passes to Fails and added QA Qualifiers, where needed due to update.
- Acceptance Ranges
 - Reviewed and updated all Acceptance ranges per the RHMP QAPP. Revised Passes to Fails and added QA Qualifier, where needed due to update.
- CRM
 - After review of the data, the Technical Director made a decision to revise the Organics data for the CRM (SRM 1944).
- Recovery surrogates
 - After review of the recovery surrogates, the Technical Director made a decision to revise PAH recovery surrogates for sample B13-8073 (Physis Sample ID: 22557)

Revisions 8/20/2014-

- Analytical Report:
 - Added Time Analyzed to all analysis.
- Level 3 reports:
 - Revised tune report.



Performance-Based Chemistry-

The chemistry results provided in this report are derived from “performance-based” chemistry rather than the use of specific EPA published laboratory methods. This does not eliminate our responsibility to use Good Laboratory Practices. It does allow for incorporation of improvements in technology or the use of laboratory preferences for techniques that improve the efficiency and sensitivity of the laboratory and maintain or enhance the quality of the data.

“The Environmental Protection Agency (EPA) is actively working to implement the President’s program for reinventing government and reforming regulatory policy. As part of this program, EPA has been working at breaking down barriers to using new monitoring techniques. One barrier is the requirement to use specific measurement methods or technologies in complying with some of the Agency’s regulations. EPA’s Environmental Monitoring Management Council (EMMC), members of the regulated community, and Congress agree that EPA needs to change the way it specifies monitoring requirements in regulations and permits. There is broad acceptance for Agency-wide use of a nonprescriptive performance-based measurement system (PBMS)”. PBMS conveys "what" needs to be accomplished, but not prescriptively "how" to do it. EPA defines PBMS as a set of processes wherein the data needs, mandates, or limitations of a program or project are specified, and serve as criteria for selecting appropriate methods to meet those needs in a cost-effective manner. The criteria may be published in regulations, technical guidance documents, permits, work plans, or enforcement orders. Under a performance-based approach, EPA would specify:

- Questions to be answered by monitoring.
- Decisions to be supported by the data.
- Level of uncertainty acceptable for making decisions.
- Documentation to be generated to support this approach in the RCRA monitoring program.

(Taken from OSWER PBMS Implementation Plan, October 9, 1998, A Cooperative Effort Among: OSW, OERR, OUST, TIO, FFROL and CEPPO).”

The US EPA has included references to being “performance-based” in many of their newer methods. The use of performance-based methods is even more critical for programs like this study in order to allow the laboratory to adapt methods that optimize the goal of the project in terms of achieving ultra-low sensitivity and analysis of new chemicals of concern. I would also like to quote US EPA Method 8270-



“In addition, SW-846 methods, with the exception of required method use for the analysis of method-defined parameters, are intended to be guidance methods which contain general information on how to perform an analytical procedure or technique which a laboratory can use as a basic starting point for generating its own detailed Standard Operating Procedure (SOP), either for its own general use or for a specific project application.”

Performance-based chemistry was first used for NOAA’s National Status and Trends Program in the early 1980’s which is now operated under the US EPA as the National Coastal Condition Assessment Program (NCCA). The NS&T program included 3 large well-established laboratories for the analysis of samples from each of 3 regions of the United States. It was concluded at the beginning of this program that a significant improvement in the quality and comparability of the results would be achieved by allowing the participating laboratories to optimize their own individual methods. The key to this approach and any subsequent performance-based chemistry programs is the successful inclusion of an interlaboratory comparison as well as the clear detailed specification of data quality objectives (DQOs) for the project. All the Bight Survey projects from 1994 to 2013 have been performance-based and each of the surveys included interlaboratory comparisons as a key component for ensuring high quality data that is comparable between laboratories over time.

The one area that has not evolved along with the advent of performance-based chemistry is the data validation process. Today’s data validation process still relies upon collecting and evaluating laboratory analytical information and comparing it to the details of a specific EPA analytical method such as EPA 8270 for GCMS analysis or EPA 6020 for ICPMS analysis. This can occur even when the requirement in the method is out-dated and based on old technology. Data validation procedures need to be adapted to performance-based chemistry allowing for any individual laboratory to use or not use any method or any part of a method they choose as long as they can demonstrate their ability to successfully pass interlaboratory comparisons, performance evaluation samples, and meet the data quality objectives of the project QA Plan.

EPA Method Modifications-

With reference to performance-based methods, the following information is provided as a basis of comparison between the Physis methods used for this study and the associated EPA Method. Its purpose is solely to provide information and is not intended to highlight errors. Physis has successfully participated in several interlaboratory comparison studies including the Bight 13 Project demonstrating the viability of our analytical process. Physis has included the QAQC data in this report necessary to show that the results comply with the project QA Plan and indicate acceptable accuracy and precision.



1. Internal Laboratory QA/QC Frequency for GC/MS Analyses- Physis uses GC columns that are longer and narrower and the GC oven is programmed at a very slow rate of 2.5°C per minute both of which are not typically used by most laboratories. The purpose for this is to maximize separation of the 100's to 1000's of compounds present in environmental samples reducing co-elution with interfering compounds, reducing background noise, and enhancing the accuracy of quantitation. At the same time this process extends the run-time for each sample to ca. 90 minutes as compared to the 15-30 minutes with typical conditions. At 90 minutes per run, the maximum number of runs for any 12-hour period is 8. Each batch of samples typically includes the DFTPP tune solution and the initial calibration verification of from 1 to 4 solutions (Depending on the target parameters) for a total of 2-5 runs leaving an opening for 3-6 samples before having to redo the QA samples if the 12-hour constraint is applied. At this rate it's not economically viable to follow the 12-hour rule and complete the analyses of the samples.

Since the 12-hour criteria was established when the state-of-the-art was GCs equipped with packed columns and GC/MS systems were not anywhere near as stable as the electronics of today. Physis does follow the criteria's intent by analyzing the calibration verification standards at the beginning, middle, and end of each batch of no more than 20 samples rather than every 12 hours.

2. Calibration and Quantitation- Physis bases its calibration curve on the mass of each compound rather than concentration. Using the internal standard method of quantitation, use of mass rather than concentration eliminates the extract or digestate volume term from the formula used to calculate concentrations in the samples. Therefore there is no need to measure the precise volume of the extract or digestate. For GC/MS analysis, extract volumes can be quite low and small volume changes will be reflected in increased variation of the internal standard response from sample to sample due to differences in the extract volume and not due to the instability of the GC/MS. Through long-term experience, Physis chemists are trained to take into consideration this change in volume when evaluating whether a change in the internal standard response is caused by a change in the GC/MS sensitivity or extract volume.

The "recovery" of the Internal Standard and its variability is reported in Form VII SV-1 for reporting IS peak areas. For the sample IS compared to the ICV/CCV IS peak area, this form has a wide acceptance range at 50-200% which is considerably larger than the variation in the nominal estimate made of our extract volumes. Therefore significant deviations from



expected IS responses are clearly obvious to the analyst and would require corrective action and re-analysis. The difficulty is the fact that Form VII SV-1 does not accommodate volumes and therefore does not allow for evaluation of the sample IS as it compares to the ICV/CCV on an even basis.

3. Negative Chemical Ionization- Some target analytes are analyzed using the GCMS in the Negative Chemical Ionization Mode (NCI). This results in non-standard mass spectra that cannot be compared to the EI spectra in the NIST library.
4. Aroclor PCBs- Physis analyzes PCBs using a congener-based calibration standard composed of 52 or more different congeners representing ca. 75-80% of the PCBs discharged into the environment. Physis uses the results from the congener analysis to estimate Aroclor concentrations. To do this, Physis determines the Aroclor mixture present in the sample, sums the results for the congeners present in that Aroclor mixture then corrects the result to account for the missing mass based on a previous comparison of an Aroclor calibration standard to the congener mixture. Physis does not perform blank or matrix spikes using Aroclor mixtures since PCB spiking is done via the congener solution. Aroclor-based quantitation is inherently inaccurate and imprecise and results based on our process are as accurate if not more accurate than the Aroclor-based process since the quantitation is based on individual peaks rather than summing peaks.
5. Pyrethroid/Fipronil Surrogates- Physis spikes all samples with a surrogate solution containing TCMX, PCBo30, PCB112, and PCB198 for the Chlorinated Pesticides, Congener PCBs, Pyrethroids, and Fipronils; d8-Naphthalene, d10-Acenaphthene, d10-Phenanthrene, d12-Chrysene, and d12-Perylene for the PAHs; and FBDE-3002, FBDE-5004, and FBDE-8001 for the PBDEs. Since Pyrethroids and Fipronils are quantified using NCI, only the PCB112 and PCB198 surrogates are used as surrogates for these compounds.
6. Sample Preservation - According to the Standard Operating Procedure for Sample Logistics, sediment and tissue samples were placed in a freezer maintained at $-20 \pm 4^{\circ}\text{C}$ until preserved or processed.

ANALYTICAL

REPORT

PHYSICS

TERRA **AMERICA** **AURA**

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CA ELAP #2769

Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> Sample ID: 22546-R1 B13-8109 Grab Matrix: Sediment Sampled: 28-Aug-13 7:43 Received: 29-Aug-13 Method: EPA 8270C Batch ID: O-5136 Prepared: 22-Apr-14 Analyzed: 11-May-14 0:00 </div>						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	2.4	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	
<div> Sample ID: 22547-R1 B13-8118 Grab Matrix: Sediment Sampled: 28-Aug-13 10:36 Received: 29-Aug-13 Method: EPA 8270C Batch ID: O-5136 Prepared: 22-Apr-14 Analyzed: 11-May-14 0:00 </div>						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	6.2	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	
<div> Sample ID: 22548-R1 B13-8122 Grab Matrix: Sediment Sampled: 28-Aug-13 13:48 Received: 29-Aug-13 Method: EPA 8270C Batch ID: O-5136 Prepared: 22-Apr-14 Analyzed: 11-May-14 0:00 </div>						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	



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CA ELAP #2769

Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1260	NA	5.7	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22549-R1**B13-8033 Grab****Matrix: Sediment****Sampled: 28-Aug-13 16:58****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 12-May-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	5.3	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22550-R1**B13-8093 Grab****Matrix: Sediment****Sampled: 29-Aug-13 7:34****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 12-May-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	5.9	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22551-R1**B13-8100 Grab****Matrix: Sediment****Sampled: 29-Aug-13 8:44****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	



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Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	53.9	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22552-R1**B13-8099 Grab****Matrix: Sediment****Sampled: 29-Aug-13 9:55****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	15.6	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22553-R1**B13-8098 Grab****Matrix: Sediment****Sampled: 29-Aug-13 11:06****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	2.1	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22554-R1**B13-8096 Grab****Matrix: Sediment****Sampled: 29-Aug-13 12:34****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14 0:00



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Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	ND	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22555-R1**B13-8095 Grab****Matrix: Sediment****Sampled: 29-Aug-13 14:14****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	13.1	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22556-R1**B13-8087 Grab****Matrix: Sediment****Sampled: 29-Aug-13 15:16****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	ND	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	



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Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22557-R1</div> <div>B13-8073 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-6004</div> </div> <div> <div>Sampled: 29-Aug-13 16:38</div> <div>Prepared: 16-May-14</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 01-Jun-14 0:00</div> </div>						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	ND	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22546-R1 B13-8109 Grab Matrix: Sediment Sampled: 28-Aug-13 7:43 Received: 29-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 10-Nov-13 11:18						
Toxaphene	NA	ND	0.1	0.2	ng/dry g	
Method: EPA 8270C Batch ID: O-5136 Prepared: 22-Apr-14 Analyzed: 11-May-14 20:05						
(PCB030)	NA	84			% Recovery	
(PCB112)	NA	92			% Recovery	
(PCB198)	NA	88			% Recovery	
(TCMX)	NA	87			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	0.37	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22547-R1**B13-8118 Grab****Matrix: Sediment****Sampled: 28-Aug-13 10:36****Received: 29-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 10-Nov-13 12:22

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5136	Prepared: 22-Apr-14	Analyzed: 11-May-14 21:44		
(PCB030)	NA	103			% Recovery	
(PCB112)	NA	106			% Recovery	
(PCB198)	NA	101			% Recovery	
(TCMX)	NA	101			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22548-R1**B13-8122 Grab****Matrix: Sediment****Sampled: 28-Aug-13 13:48****Received: 29-Aug-13**

Method: EPA 8270-CNCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 10-Nov-13 13:25

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5136	Prepared: 22-Apr-14	Analyzed: 11-May-14 23:23		
(PCB030)	NA	73			% Recovery	
(PCB112)	NA	86			% Recovery	
(PCB198)	NA	97			% Recovery	
(TCMX)	NA	78			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22549-R1**B13-8033 Grab****Matrix: Sediment****Sampled: 28-Aug-13 16:58****Received: 29-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 10-Nov-13 14:29

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C		Batch ID: O-5136		Prepared: 22-Apr-14	
(PCB030)	NA	93			% Recovery	Analyzed: 12-May-14 1:02
(PCB112)	NA	94			% Recovery	
(PCB198)	NA	98			% Recovery	
(TCMX)	NA	96			% Recovery	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22550-R1 B13-8093 Grab Matrix: Sediment Sampled: 29-Aug-13 7:34 Received: 29-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 10-Nov-13 15:33						
Toxaphene	NA	ND	0.1	0.2	ng/dry g	
Method: EPA 8270C Batch ID: O-5136 Prepared: 22-Apr-14 Analyzed: 12-May-14 2:41						
(PCB030)	NA	84			% Recovery	
(PCB112)	NA	94			% Recovery	
(PCB198)	NA	103			% Recovery	
(TCMX)	NA	88			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22551-R1**B13-8100 Grab****Matrix: Sediment****Sampled: 29-Aug-13 8:44****Received: 29-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13 14:36

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-6004	Prepared: 16-May-14	Analyzed: 01-Jun-14 8:41		
(PCB030)	NA	98			% Recovery	
(PCB112)	NA	96			% Recovery	
(PCB198)	NA	78			% Recovery	
(TCMX)	NA	99			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	0.49	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	0.84	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlorthane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	0.35	0.05	0.1	ng/dry g	

Sample ID: 22552-R1**B13-8099 Grab****Matrix: Sediment****Sampled: 29-Aug-13 9:55****Received: 29-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13 16:43

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C		Batch ID: O-6004		Prepared: 16-May-14	
(PCB030)	NA	89			% Recovery	Analyzed: 01-Jun-14 10:19
(PCB112)	NA	87			% Recovery	
(PCB198)	NA	74			% Recovery	
(TCMX)	NA	89			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	0.57	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	0.55	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22553-R1**B13-8098 Grab****Matrix: Sediment****Sampled: 29-Aug-13 11:06****Received: 29-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13 17:47

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-6004	Prepared: 16-May-14	Analyzed: 01-Jun-14 11:58		
(PCB030)	NA	95		% Recovery		
(PCB112)	NA	97		% Recovery		
(PCB198)	NA	89		% Recovery		
(TCMX)	NA	93		% Recovery		



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22554-R1 B13-8096 Grab Matrix: Sediment Sampled: 29-Aug-13 12:34 Received: 29-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5039 Prepared: 12-Nov-13 Analyzed: 15-Nov-13 18:51						
Toxaphene	NA	ND	0.1	0.2	ng/dry g	
Method: EPA 8270C Batch ID: O-6004 Prepared: 16-May-14 Analyzed: 01-Jun-14 13:37						
(PCB030)	NA	93			% Recovery	
(PCB112)	NA	99			% Recovery	
(PCB198)	NA	85			% Recovery	
(TCMX)	NA	94			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22555-R1**B13-8095 Grab****Matrix: Sediment****Sampled: 29-Aug-13 14:14****Received: 29-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13 19:55

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C		Batch ID: O-6004		Prepared: 16-May-14	
					Analyzed: 01-Jun-14 18:58	
(PCB030)	NA	94			% Recovery	
(PCB112)	NA	99			% Recovery	
(PCB198)	NA	82			% Recovery	
(TCMX)	NA	97			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22556-R1**B13-8087 Grab****Matrix: Sediment****Sampled: 29-Aug-13 15:16****Received: 29-Aug-13**

Method: EPA 8270-C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13 20:59

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C		Batch ID: O-6004		Prepared: 16-May-14	
(PCB030)	NA	92			% Recovery	Analyzed: 01-Jun-14 20:36
(PCB112)	NA	102			% Recovery	
(PCB198)	NA	92			% Recovery	
(TCMX)	NA	97			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22557-R1**B13-8073 Grab****Matrix: Sediment****Sampled: 29-Aug-13 16:38****Received: 29-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13 22:03

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C		Batch ID: O-6004		Prepared: 16-May-14	
(PCB030)	NA	85			% Recovery	Analyzed: 01-Jun-14 22:15
(PCB112)	NA	104			% Recovery	
(PCB198)	NA	91			% Recovery	
(TCMX)	NA	65			% Recovery	



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22546-R1		B13-8109 Grab	Matrix: Sediment	Sampled: 28-Aug-13 7:43	Received: 29-Aug-13	
	Method: Plumb, 1981 and TER	Batch ID: C-14065		Prepared: 15-Oct-13	Analyzed: 15-Oct-13 0:00	
Acid Volatile Sulfides	NA	5.96	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14071		Prepared: 16-Oct-13	Analyzed: 16-Oct-13 0:00	
Ammonia as N	NA	0.48	0.02	0.03	mg/dry kg	
	Method: SM 2540B	Batch ID: E-7004		Prepared: 14-Oct-13	Analyzed: 14-Oct-13 0:00	
Percent Solids	NA	64.7	0.1	0.1	% Dry Weight	
	Method: EPA 6020	Batch ID: E-7006		Prepared: 12-Oct-13	Analyzed: 21-Oct-13 15:02	
Total Phosphorus	NA	313.437	0.016	0.05	µg/dry g	
Sample ID: 22547-R1		B13-8118 Grab	Matrix: Sediment	Sampled: 28-Aug-13 10:36	Received: 29-Aug-13	
	Method: Plumb, 1981 and TER	Batch ID: C-14065		Prepared: 15-Oct-13	Analyzed: 15-Oct-13 0:00	
Acid Volatile Sulfides	NA	4.29	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14071		Prepared: 16-Oct-13	Analyzed: 16-Oct-13 0:00	
Ammonia as N	NA	0.47	0.02	0.03	mg/dry kg	
	Method: SM 2540B	Batch ID: E-7004		Prepared: 14-Oct-13	Analyzed: 14-Oct-13 0:00	
Percent Solids	NA	54	0.1	0.1	% Dry Weight	
	Method: EPA 6020	Batch ID: E-7006		Prepared: 12-Oct-13	Analyzed: 21-Oct-13 15:11	
Total Phosphorus	NA	666.258	0.016	0.05	µg/dry g	
Sample ID: 22548-R1		B13-8122 Grab	Matrix: Sediment	Sampled: 28-Aug-13 13:48	Received: 29-Aug-13	
	Method: Plumb, 1981 and TER	Batch ID: C-14065		Prepared: 15-Oct-13	Analyzed: 15-Oct-13 0:00	
Acid Volatile Sulfides	NA	4.61	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14071		Prepared: 16-Oct-13	Analyzed: 16-Oct-13 0:00	
Ammonia as N	NA	0.26	0.02	0.03	mg/dry kg	
	Method: SM 2540B	Batch ID: E-7004		Prepared: 14-Oct-13	Analyzed: 14-Oct-13 0:00	
Percent Solids	NA	69.8	0.1	0.1	% Dry Weight	
	Method: EPA 6020	Batch ID: E-7006		Prepared: 12-Oct-13	Analyzed: 21-Oct-13 15:16	
Total Phosphorus	NA	276.556	0.016	0.05	µg/dry g	
Sample ID: 22549-R1		B13-8033 Grab	Matrix: Sediment	Sampled: 28-Aug-13 16:58	Received: 29-Aug-13	
	Method: Plumb, 1981 and TER	Batch ID: C-14065		Prepared: 15-Oct-13	Analyzed: 15-Oct-13 0:00	
Acid Volatile Sulfides	NA	88	0.05	0.1	mg/dry kg	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
	Method: SM 4500-NH ₃ D	Batch ID: C-14071		Prepared: 16-Oct-13		Analyzed: 16-Oct-13 0:00
Ammonia as N	NA	1.46	0.02	0.03	mg/dry kg	
	Method: SM 2540B	Batch ID: E-7004		Prepared: 14-Oct-13		Analyzed: 14-Oct-13 0:00
Percent Solids	NA	47.8	0.1	0.1	% Dry Weight	
	Method: EPA 6020	Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 21-Oct-13 15:20
Total Phosphorus	NA	501.7	0.016	0.05	µg/dry g	
Sample ID: 22550-R1 B13-8093 Grab						
	Method: Plumb, 1981 and TER	Batch ID: C-14065		Prepared: 15-Oct-13		Analyzed: 15-Oct-13 0:00
Acid Volatile Sulfides	NA	3.89	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14071		Prepared: 16-Oct-13		Analyzed: 16-Oct-13 0:00
Ammonia as N	NA	0.36	0.02	0.03	mg/dry kg	
	Method: SM 2540B	Batch ID: E-7004		Prepared: 14-Oct-13		Analyzed: 14-Oct-13 0:00
Percent Solids	NA	66.5	0.1	0.1	% Dry Weight	
	Method: EPA 6020	Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 21-Oct-13 15:25
Total Phosphorus	NA	298.87	0.016	0.05	µg/dry g	
Sample ID: 22551-R1 B13-8100 Grab						
	Method: Plumb, 1981 and TER	Batch ID: C-14065		Prepared: 15-Oct-13		Analyzed: 15-Oct-13 0:00
Acid Volatile Sulfides	NA	25.96	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14071		Prepared: 16-Oct-13		Analyzed: 16-Oct-13 0:00
Ammonia as N	NA	0.86	0.02	0.03	mg/dry kg	
	Method: SM 2540B	Batch ID: E-7004		Prepared: 14-Oct-13		Analyzed: 14-Oct-13 0:00
Percent Solids	NA	42.1	0.1	0.1	% Dry Weight	
	Method: EPA 6020	Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 21-Oct-13 15:30
Total Phosphorus	NA	731.669	0.016	0.05	µg/dry g	
Sample ID: 22552-R1 B13-8099 Grab						
	Method: Plumb, 1981 and TER	Batch ID: C-14065		Prepared: 15-Oct-13		Analyzed: 15-Oct-13 0:00
Acid Volatile Sulfides	NA	24.97	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14071		Prepared: 16-Oct-13		Analyzed: 16-Oct-13 0:00
Ammonia as N	NA	0.59	0.02	0.03	mg/dry kg	
	Method: SM 2540B	Batch ID: E-7004		Prepared: 14-Oct-13		Analyzed: 14-Oct-13 0:00



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Percent Solids	NA	51.8	0.1	0.1	% Dry Weight	
	Method: EPA 6020	Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 21-Oct-13 15:34
Total Phosphorus	NA	529.122	0.016	0.05	µg/dry g	
Sample ID: 22553-R1	B13-8098 Grab	Matrix: Sediment	Sampled: 29-Aug-13 11:06	Received: 29-Aug-13		
	Method: Plumb, 1981 and TER	Batch ID: C-14065	Prepared: 15-Oct-13	Analyzed: 15-Oct-13 0:00		
Acid Volatile Sulfides	NA	3.31	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14071	Prepared: 16-Oct-13	Analyzed: 16-Oct-13 0:00		
Ammonia as N	NA	0.31	0.02	0.03	mg/dry kg	
	Method: SM 2540B	Batch ID: E-7004	Prepared: 14-Oct-13	Analyzed: 14-Oct-13 0:00		
Percent Solids	NA	67.6	0.1	0.1	% Dry Weight	
	Method: EPA 6020	Batch ID: E-7006	Prepared: 12-Oct-13	Analyzed: 21-Oct-13 15:39		
Total Phosphorus	NA	228.047	0.016	0.05	µg/dry g	
Sample ID: 22554-R1	B13-8096 Grab	Matrix: Sediment	Sampled: 29-Aug-13 12:34	Received: 29-Aug-13		
	Method: Plumb, 1981 and TER	Batch ID: C-14065	Prepared: 15-Oct-13	Analyzed: 15-Oct-13 0:00		
Acid Volatile Sulfides	NA	3.83	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14071	Prepared: 16-Oct-13	Analyzed: 16-Oct-13 0:00		
Ammonia as N	NA	0.36	0.02	0.03	mg/dry kg	
	Method: SM 2540B	Batch ID: E-7004	Prepared: 14-Oct-13	Analyzed: 14-Oct-13 0:00		
Percent Solids	NA	67.5	0.1	0.1	% Dry Weight	
	Method: EPA 6020	Batch ID: E-7006	Prepared: 12-Oct-13	Analyzed: 21-Oct-13 15:43		
Total Phosphorus	NA	267.578	0.016	0.05	µg/dry g	
Sample ID: 22555-R1	B13-8095 Grab	Matrix: Sediment	Sampled: 29-Aug-13 14:14	Received: 29-Aug-13		
	Method: Plumb, 1981 and TER	Batch ID: C-14065	Prepared: 15-Oct-13	Analyzed: 15-Oct-13 0:00		
Acid Volatile Sulfides	NA	39.02	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14071	Prepared: 16-Oct-13	Analyzed: 16-Oct-13 0:00		
Ammonia as N	NA	0.81	0.02	0.03	mg/dry kg	
	Method: SM 2540B	Batch ID: E-7004	Prepared: 14-Oct-13	Analyzed: 14-Oct-13 0:00		
Percent Solids	NA	39.2	0.1	0.1	% Dry Weight	
	Method: EPA 6020	Batch ID: E-7006	Prepared: 12-Oct-13	Analyzed: 21-Oct-13 15:48		
Total Phosphorus	NA	783.583	0.016	0.05	µg/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22556-R1		B13-8087 Grab	Matrix: Sediment	Sampled: 29-Aug-13 15:16	Received: 29-Aug-13	
	Method: Plumb, 1981 and TER	Batch ID: C-14065		Prepared: 15-Oct-13	Analyzed: 15-Oct-13 0:00	
Acid Volatile Sulfides	NA	2.13	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14071		Prepared: 16-Oct-13	Analyzed: 16-Oct-13 0:00	
Ammonia as N	NA	0.24	0.02	0.03	mg/dry kg	
	Method: SM 2540B	Batch ID: E-7004		Prepared: 14-Oct-13	Analyzed: 14-Oct-13 0:00	
Percent Solids	NA	74.3	0.1	0.1	% Dry Weight	
	Method: EPA 6020	Batch ID: E-7007		Prepared: 12-Oct-13	Analyzed: 21-Oct-13 17:08	
Total Phosphorus	NA	243.945	0.016	0.05	µg/dry g	
Sample ID: 22557-R1		B13-8073 Grab	Matrix: Sediment	Sampled: 29-Aug-13 16:38	Received: 29-Aug-13	
	Method: Plumb, 1981 and TER	Batch ID: C-14065		Prepared: 15-Oct-13	Analyzed: 15-Oct-13 0:00	
Acid Volatile Sulfides	NA	87.63	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14071		Prepared: 16-Oct-13	Analyzed: 16-Oct-13 0:00	
Ammonia as N	NA	0.39	0.02	0.03	mg/dry kg	
	Method: SM 2540B	Batch ID: E-7004		Prepared: 14-Oct-13	Analyzed: 14-Oct-13 0:00	
Percent Solids	NA	68.6	0.1	0.1	% Dry Weight	
	Method: EPA 6020	Batch ID: E-7007		Prepared: 12-Oct-13	Analyzed: 21-Oct-13 17:17	
Total Phosphorus	NA	189.922	0.016	0.05	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22546-R1 B13-8109 Grab Matrix: Sediment Sampled: 28-Aug-13 7:43 Received: 29-Aug-13 Method: EPA 245.7 Batch ID: E-6038 Prepared: 22-Oct-13 Analyzed: 22-Oct-13 0:00						
Mercury (Hg)	NA	0.2343	0.00001	0.00002	µg/dry g	
Method: EPA 6020 Batch ID: E-7006 Prepared: 12-Oct-13 Analyzed: 22-Oct-13 18:02						
Aluminum (Al)	NA	14474.7	1	5	µg/dry g	
Antimony (Sb)	NA	0.173	0.025	0.05	µg/dry g	
Arsenic (As)	NA	5.513	0.025	0.05	µg/dry g	
Barium (Ba)	NA	51.897	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.291	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1204	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	27.2327	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	45.9594	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	16030.5	1	5	µg/dry g	
Lead (Pb)	NA	20.5683	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	7.22	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.153	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.35	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	92.488	0.025	0.05	µg/dry g	

Sample ID: 22547-R1 B13-8118 Grab Matrix: Sediment Sampled: 28-Aug-13 10:36 Received: 29-Aug-13 Method: EPA 245.7 Batch ID: E-6038 Prepared: 22-Oct-13 Analyzed: 22-Oct-13 0:00						
Mercury (Hg)	NA	0.6195	0.00001	0.00002	µg/dry g	
Method: EPA 6020 Batch ID: E-7006 Prepared: 12-Oct-13 Analyzed: 22-Oct-13 18:12						
Aluminum (Al)	NA	31356.6	1	5	µg/dry g	
Antimony (Sb)	NA	0.327	0.025	0.05	µg/dry g	
Arsenic (As)	NA	11.207	0.025	0.05	µg/dry g	
Barium (Ba)	NA	98.815	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.548	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.179	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	55.5499	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	99.1408	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	31527.1	1	5	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Lead (Pb)	NA	36.0305	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	14.56	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.261	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.64	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	168.769	0.025	0.05	µg/dry g	

Sample ID: 22548-R1**B13-8122 Grab****Matrix: Sediment****Sampled: 28-Aug-13 13:48****Received: 29-Aug-13**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.1716	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 22-Oct-13 18:16
Aluminum (Al)	NA	14144.5	1	5	µg/dry g	
Antimony (Sb)	NA	0.11	0.025	0.05	µg/dry g	
Arsenic (As)	NA	4.344	0.025	0.05	µg/dry g	
Barium (Ba)	NA	70.851	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.187	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1372	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	28.1918	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	32.0845	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	14982.5	1	5	µg/dry g	
Lead (Pb)	NA	11.9767	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	6.19	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.095	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.27	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	80.93	0.025	0.05	µg/dry g	

Sample ID: 22549-R1**B13-8033 Grab****Matrix: Sediment****Sampled: 28-Aug-13 16:58****Received: 29-Aug-13**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.1845	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 22-Oct-13 18:21
Aluminum (Al)	NA	34928.8	1	5	µg/dry g	
Antimony (Sb)	NA	0.285	0.025	0.05	µg/dry g	
Arsenic (As)	NA	7.982	0.025	0.05	µg/dry g	
Barium (Ba)	NA	92.784	0.025	0.05	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Beryllium (Be)	NA	0.573	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2297	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	46.0093	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	100.8652	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	32280.4	1	5	µg/dry g	
Lead (Pb)	NA	23.5371	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	14.1	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.276	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.52	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	175.166	0.025	0.05	µg/dry g	

Sample ID: 22550-R1**B13-8093 Grab****Matrix: Sediment****Sampled: 29-Aug-13 7:34****Received: 29-Aug-13**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.1763	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 22-Oct-13 18:26
Aluminum (Al)	NA	13609.4	1	5	µg/dry g	
Antimony (Sb)	NA	0.212	0.025	0.05	µg/dry g	
Arsenic (As)	NA	6.725	0.025	0.05	µg/dry g	
Barium (Ba)	NA	37.315	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.259	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.0676	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	26.7602	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	37.7513	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	15443.3	1	5	µg/dry g	
Lead (Pb)	NA	17.7224	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	6.11	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.128	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.25	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	97.372	0.025	0.05	µg/dry g	

Sample ID: 22551-R1**B13-8100 Grab****Matrix: Sediment****Sampled: 29-Aug-13 8:44****Received: 29-Aug-13**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.6203	0.00001	0.00002	µg/dry g	
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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Method: EPA 6020		Batch ID: E-7006	Prepared: 12-Oct-13		Analyzed: 22-Oct-13 18:30	
Aluminum (Al)	NA	42172	1	5	µg/dry g	
Antimony (Sb)	NA	0.435	0.025	0.05	µg/dry g	
Arsenic (As)	NA	12.291	0.025	0.05	µg/dry g	
Barium (Ba)	NA	123.76	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.736	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2703	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	73.1008	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	158.1639	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	38789.6	1	5	µg/dry g	
Lead (Pb)	NA	51.5877	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	18.96	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.389	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.92	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	238.729	0.025	0.05	µg/dry g	

Sample ID: 22552-R1**B13-8099 Grab****Matrix: Sediment****Sampled: 29-Aug-13 9:55****Received: 29-Aug-13**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.4133	0.00001	0.00002	µg/dry g	
Method: EPA 6020		Batch ID: E-7006	Prepared: 12-Oct-13		Analyzed: 22-Oct-13 18:35	
Aluminum (Al)	NA	28817.8	1	5	µg/dry g	
Antimony (Sb)	NA	0.44	0.025	0.05	µg/dry g	
Arsenic (As)	NA	8.132	0.025	0.05	µg/dry g	
Barium (Ba)	NA	86.367	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.486	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1719	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	49.1853	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	98.8823	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	29194.8	1	5	µg/dry g	
Lead (Pb)	NA	34.2079	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	13.26	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.225	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.58	0.01	0.02	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Zinc (Zn)	NA	168.002	0.025	0.05	µg/dry g	
Sample ID: 22553-R1 B13-8098 Grab Matrix: Sediment Sampled: 29-Aug-13 11:06 Received: 29-Aug-13 Method: EPA 245.7 Batch ID: E-6038 Prepared: 22-Oct-13 Analyzed: 22-Oct-13 0:00						
Mercury (Hg)	NA	0.1276	0.00001	0.00002	µg/dry g	
Method: EPA 6020 Batch ID: E-7006 Prepared: 12-Oct-13 Analyzed: 22-Oct-13 18:40						
Aluminum (Al)	NA	11423.9	1	5	µg/dry g	
Antimony (Sb)	NA	0.176	0.025	0.05	µg/dry g	
Arsenic (As)	NA	3.973	0.025	0.05	µg/dry g	
Barium (Ba)	NA	30.817	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.196	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.0503	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	19.5479	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	37.3815	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	12119.4	1	5	µg/dry g	
Lead (Pb)	NA	13.3615	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	4.93	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.086	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	61.4	0.025	0.05	µg/dry g	

Sample ID: 22554-R1 B13-8096 Grab Matrix: Sediment Sampled: 29-Aug-13 12:34 Received: 29-Aug-13 Method: EPA 245.7 Batch ID: E-6038 Prepared: 22-Oct-13 Analyzed: 22-Oct-13 0:00						
Mercury (Hg)	NA	0.1652	0.00001	0.00002	µg/dry g	
Method: EPA 6020 Batch ID: E-7006 Prepared: 12-Oct-13 Analyzed: 22-Oct-13 18:44						
Aluminum (Al)	NA	13359.9	1	5	µg/dry g	
Antimony (Sb)	NA	0.224	0.025	0.05	µg/dry g	
Arsenic (As)	NA	4.41	0.025	0.05	µg/dry g	
Barium (Ba)	NA	41.869	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.239	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.0664	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	22.8916	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	43.5091	0.0025	0.005	µg/dry g	



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Iron (Fe)	NA	14013.6	1	5	µg/dry g	
Lead (Pb)	NA	15.3649	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	6.06	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.09	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.26	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	74.326	0.025	0.05	µg/dry g	

Sample ID: 22555-R1**B13-8095 Grab****Matrix: Sediment****Sampled: 29-Aug-13 14:14****Received: 29-Aug-13**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.668	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 22-Oct-13 18:49
Aluminum (Al)	NA	42219.9	1	5	µg/dry g	
Antimony (Sb)	NA	0.53	0.025	0.05	µg/dry g	
Arsenic (As)	NA	13.021	0.025	0.05	µg/dry g	
Barium (Ba)	NA	114.536	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.769	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2723	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	79.8841	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	179.6054	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	40459.5	1	5	µg/dry g	
Lead (Pb)	NA	56.5928	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	20.76	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.415	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.97	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	266.377	0.025	0.05	µg/dry g	

Sample ID: 22556-R1**B13-8087 Grab****Matrix: Sediment****Sampled: 29-Aug-13 15:16****Received: 29-Aug-13**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.0682	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7007		Prepared: 12-Oct-13		Analyzed: 22-Oct-13 20:00
Aluminum (Al)	NA	7390.4	1	5	µg/dry g	
Antimony (Sb)	NA	0.156	0.025	0.05	µg/dry g	
Arsenic (As)	NA	5.299	0.025	0.05	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Barium (Ba)	NA	19.784	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.141	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.03	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	12.2231	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	19.4188	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	9900.2	1	5	µg/dry g	
Lead (Pb)	NA	8.9627	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	3.29	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.065	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.08	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	44.844	0.025	0.05	µg/dry g	

Sample ID: 22557-R1**B13-8073 Grab****Matrix: Sediment****Sampled: 29-Aug-13 16:38****Received: 29-Aug-13**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.2902	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7007		Prepared: 12-Oct-13		Analyzed: 22-Oct-13 20:09
Aluminum (Al)	NA	9765	1	5	µg/dry g	
Antimony (Sb)	NA	0.168	0.025	0.05	µg/dry g	
Arsenic (As)	NA	3.968	0.025	0.05	µg/dry g	
Barium (Ba)	NA	22.013	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.174	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1666	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	17.9832	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	65.3327	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	9221.3	1	5	µg/dry g	
Lead (Pb)	NA	16.4354	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	4.25	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.091	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.28	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	96.629	0.025	0.05	µg/dry g	



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22546-R1 B13-8109 Grab Matrix: Sediment Sampled: 28-Aug-13 7:43 Received: 29-Aug-13 Method: EPA 200.8 Batch ID: E-7010 Prepared: 18-Oct-13 Analyzed: 18-Oct-13 18:23						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.2778	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0531	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0079	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.7166	0.0015	0.003	µmol/dry g	
Sample ID: 22547-R1 B13-8118 Grab Matrix: Sediment Sampled: 28-Aug-13 10:36 Received: 29-Aug-13 Method: EPA 200.8 Batch ID: E-7010 Prepared: 18-Oct-13 Analyzed: 18-Oct-13 18:32						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.7292	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.1142	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0156	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.3469	0.0015	0.003	µmol/dry g	
Sample ID: 22548-R1 B13-8122 Grab Matrix: Sediment Sampled: 28-Aug-13 13:48 Received: 29-Aug-13 Method: EPA 200.8 Batch ID: E-7010 Prepared: 18-Oct-13 Analyzed: 18-Oct-13 18:37						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.149	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0394	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0048	0.0033	0.0066	µmol/dry g	J
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.6639	0.0015	0.003	µmol/dry g	
Sample ID: 22549-R1 B13-8033 Grab Matrix: Sediment Sampled: 28-Aug-13 16:58 Received: 29-Aug-13 Method: EPA 200.8 Batch ID: E-7010 Prepared: 18-Oct-13 Analyzed: 18-Oct-13 18:42						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.1792	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0626	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0154	0.0033	0.0066	µmol/dry g	



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.2988	0.0015	0.003	µmol/dry g	

Sample ID: 22550-R1**B13-8093 Grab****Matrix: Sediment****Sampled: 29-Aug-13 7:34****Received: 29-Aug-13**

Method: EPA 200.8

Batch ID: E-7010

Prepared: 18-Oct-13

Analyzed: 18-Oct-13 18:47

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.273	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0504	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0076	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.7243	0.0015	0.003	µmol/dry g	

Sample ID: 22551-R1**B13-8100 Grab****Matrix: Sediment****Sampled: 29-Aug-13 8:44****Received: 29-Aug-13**

Method: EPA 200.8

Batch ID: E-7010

Prepared: 18-Oct-13

Analyzed: 18-Oct-13 18:52

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	1.0528	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.2448	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0318	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	3.0145	0.0015	0.003	µmol/dry g	

Sample ID: 22552-R1**B13-8099 Grab****Matrix: Sediment****Sampled: 29-Aug-13 9:55****Received: 29-Aug-13**

Method: EPA 200.8

Batch ID: E-7010

Prepared: 18-Oct-13

Analyzed: 18-Oct-13 18:56

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.3205	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0991	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0142	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.3538	0.0015	0.003	µmol/dry g	

Sample ID: 22553-R1**B13-8098 Grab****Matrix: Sediment****Sampled: 29-Aug-13 11:06****Received: 29-Aug-13**

Method: EPA 200.8

Batch ID: E-7010

Prepared: 18-Oct-13

Analyzed: 18-Oct-13 19:01

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.2438	0.0062	0.0124	µmol/dry g	



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Lead (Pb) - SEM	NA	0.0442	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0056	0.0033	0.0066	µmol/dry g	J
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.4958	0.0015	0.003	µmol/dry g	

Sample ID: 22554-R1**B13-8096 Grab**

Method: EPA 200.8

Matrix: Sediment

Batch ID: E-7010

Sampled: 29-Aug-13 12:34

Prepared: 18-Oct-13

Received: 29-Aug-13

Analyzed: 18-Oct-13 19:06

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.2659	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0497	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0071	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.6282	0.0015	0.003	µmol/dry g	

Sample ID: 22555-R1**B13-8095 Grab**

Method: EPA 200.8

Matrix: Sediment

Batch ID: E-7010

Sampled: 29-Aug-13 14:14

Prepared: 18-Oct-13

Received: 29-Aug-13

Analyzed: 18-Oct-13 19:11

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.6126	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.1716	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0241	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	2.4935	0.0015	0.003	µmol/dry g	

Sample ID: 22556-R1**B13-8087 Grab**

Method: EPA 200.8

Matrix: Sediment

Batch ID: E-7011

Sampled: 29-Aug-13 15:16

Prepared: 18-Oct-13

Received: 29-Aug-13

Analyzed: 18-Oct-13 20:17

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.1786	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0243	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0037	0.0033	0.0066	µmol/dry g	J
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.3069	0.0015	0.003	µmol/dry g	

Sample ID: 22557-R1**B13-8073 Grab**

Method: EPA 200.8

Matrix: Sediment

Batch ID: E-7011

Sampled: 29-Aug-13 16:38

Prepared: 18-Oct-13

Received: 29-Aug-13

Analyzed: 18-Oct-13 20:22



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	μmol/dry g	
Copper (Cu) - SEM	NA	0.1365	0.0062	0.0124	μmol/dry g	
Lead (Pb) - SEM	NA	0.0498	0.0002	0.0004	μmol/dry g	
Nickel (Ni) - SEM	NA	0.005	0.0033	0.0066	μmol/dry g	J
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	μmol/dry g	
Zinc (Zn) - SEM	NA	1.1146	0.0015	0.003	μmol/dry g	



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Fipronil & Degradates**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22546-R1 B13-8109 Grab Matrix: Sediment Sampled: 28-Aug-13 7:43 Received: 29-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 10-Nov-13 11:18						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22547-R1 B13-8118 Grab Matrix: Sediment Sampled: 28-Aug-13 10:36 Received: 29-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 10-Nov-13 12:22						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22548-R1 B13-8122 Grab Matrix: Sediment Sampled: 28-Aug-13 13:48 Received: 29-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 10-Nov-13 13:25						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22549-R1 B13-8033 Grab Matrix: Sediment Sampled: 28-Aug-13 16:58 Received: 29-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 10-Nov-13 14:29						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22550-R1 B13-8093 Grab Matrix: Sediment Sampled: 29-Aug-13 7:34 Received: 29-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 10-Nov-13 15:33						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	



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Fipronil & Degradates**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
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Sample ID: 22551-R1**B13-8100 Grab****Matrix: Sediment****Sampled: 29-Aug-13 8:44****Received: 29-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13 14:36

Fipronil	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
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Sample ID: 22552-R1**B13-8099 Grab****Matrix: Sediment****Sampled: 29-Aug-13 9:55****Received: 29-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13 16:43

Fipronil	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
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Sample ID: 22553-R1**B13-8098 Grab****Matrix: Sediment****Sampled: 29-Aug-13 11:06****Received: 29-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13 17:47

Fipronil	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
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Sample ID: 22554-R1**B13-8096 Grab****Matrix: Sediment****Sampled: 29-Aug-13 12:34****Received: 29-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13 18:51

Fipronil	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
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Sample ID: 22555-R1**B13-8095 Grab****Matrix: Sediment****Sampled: 29-Aug-13 14:14****Received: 29-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13 19:55

Fipronil	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
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Fipronil & Degradates

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22556-R1**B13-8087 Grab**

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5039

Sampled: 29-Aug-13 15:16

Prepared: 12-Nov-13

Received: 29-Aug-13

Analyzed: 15-Nov-13 20:59

Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22557-R1**B13-8073 Grab**

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5039

Sampled: 29-Aug-13 16:38

Prepared: 12-Nov-13

Received: 29-Aug-13

Analyzed: 15-Nov-13 22:03

Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22546-R1</div> <div>B13-8109 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5136</div> </div> <div> <div>Sampled: 28-Aug-13 7:43</div> <div>Prepared: 22-Apr-14</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 11-May-14 20:05</div> </div>						
PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.23	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.05	0.05	0.1	ng/dry g	J
PCB101	NA	0.34	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.16	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	0.64	0.05	0.1	ng/dry g	
PCB141	NA	0.16	0.05	0.1	ng/dry g	
PCB149	NA	0.35	0.05	0.1	ng/dry g	
PCB151	NA	0.07	0.05	0.1	ng/dry g	J
PCB153	NA	0.51	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.15	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.1	0.1	0.2	ng/dry g	J
PCB169	NA	0.47	0.05	0.1	ng/dry g	
PCB170	NA	0.25	0.05	0.1	ng/dry g	
PCB174	NA	0.09	0.05	0.1	ng/dry g	J
PCB177	NA	0.06	0.05	0.1	ng/dry g	J
PCB180	NA	0.29	0.05	0.1	ng/dry g	
PCB183	NA	0.07	0.05	0.1	ng/dry g	J
PCB187	NA	0.15	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22547-R1

B13-8118 Grab

Matrix: Sediment

Sampled: 28-Aug-13 10:36

Received: 29-Aug-13

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 11-May-14 21:44

PCB003	NA	ND	0.05	0.1	ng/dry g	
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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	0.17	0.05	0.1	ng/dry g	
PCB095	NA	0.55	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.2	0.05	0.1	ng/dry g	
PCB101	NA	0.76	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.55	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.38	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.7	0.05	0.1	ng/dry g	
PCB141	NA	0.24	0.05	0.1	ng/dry g	
PCB149	NA	0.9	0.05	0.1	ng/dry g	
PCB151	NA	0.24	0.05	0.1	ng/dry g	
PCB153	NA	1.1	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.11	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.3	0.1	0.2	ng/dry g	
PCB169	NA	1.05	0.05	0.1	ng/dry g	
PCB170	NA	0.43	0.05	0.1	ng/dry g	
PCB174	NA	0.27	0.05	0.1	ng/dry g	
PCB177	NA	0.15	0.05	0.1	ng/dry g	
PCB180	NA	0.71	0.05	0.1	ng/dry g	
PCB183	NA	0.18	0.05	0.1	ng/dry g	
PCB187	NA	0.41	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22548-R1**B13-8122 Grab****Matrix: Sediment****Sampled: 28-Aug-13 13:48****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 11-May-14 23:23

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	0.34	0.05	0.1	ng/dry g	
PCB095	NA	0.7	0.05	0.1	ng/dry g	
PCB097	NA	0.25	0.05	0.1	ng/dry g	
PCB099	NA	0.28	0.05	0.1	ng/dry g	
PCB101	NA	0.87	0.05	0.1	ng/dry g	
PCB105	NA	0.16	0.05	0.1	ng/dry g	
PCB110	NA	0.71	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.58	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	0.15	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.25	0.05	0.1	ng/dry g	
PCB141	NA	0.27	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB149	NA	0.72	0.05	0.1	ng/dry g	
PCB151	NA	0.2	0.05	0.1	ng/dry g	
PCB153	NA	1.03	0.05	0.1	ng/dry g	
PCB156	NA	0.08	0.05	0.1	ng/dry g	J
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.07	0.05	0.1	ng/dry g	J
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.3	0.1	0.2	ng/dry g	
PCB169	NA	0.42	0.05	0.1	ng/dry g	
PCB170	NA	0.26	0.05	0.1	ng/dry g	
PCB174	NA	0.19	0.05	0.1	ng/dry g	
PCB177	NA	0.11	0.05	0.1	ng/dry g	
PCB180	NA	0.37	0.05	0.1	ng/dry g	
PCB183	NA	0.1	0.05	0.1	ng/dry g	
PCB187	NA	0.26	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22549-R1**B13-8033 Grab****Matrix: Sediment****Sampled: 28-Aug-13 16:58****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 12-May-14 1:02

PCB003	NA	ND	0.05	0.1	ng/dry g
PCB005	NA	ND	0.05	0.1	ng/dry g
PCB008	NA	ND	0.05	0.1	ng/dry g
PCB015	NA	ND	0.05	0.1	ng/dry g
PCB018	NA	ND	0.05	0.1	ng/dry g
PCB027	NA	ND	0.05	0.1	ng/dry g
PCB028	NA	ND	0.05	0.1	ng/dry g



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.36	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.32	0.05	0.1	ng/dry g	
PCB101	NA	0.61	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.39	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.55	0.05	0.1	ng/dry g	
PCB141	NA	0.22	0.05	0.1	ng/dry g	
PCB149	NA	1.2	0.05	0.1	ng/dry g	
PCB151	NA	0.3	0.05	0.1	ng/dry g	
PCB153	NA	1.5	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.25	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.3	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	0.41	0.05	0.1	ng/dry g	
PCB174	NA	0.23	0.05	0.1	ng/dry g	
PCB177	NA	0.12	0.05	0.1	ng/dry g	
PCB180	NA	0.71	0.05	0.1	ng/dry g	
PCB183	NA	0.18	0.05	0.1	ng/dry g	
PCB187	NA	0.4	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22550-R1**B13-8093 Grab****Matrix: Sediment****Sampled: 29-Aug-13 7:34****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 12-May-14 2:41

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	0.32	0.05	0.1	ng/dry g	
PCB095	NA	0.6	0.05	0.1	ng/dry g	
PCB097	NA	0.16	0.05	0.1	ng/dry g	
PCB099	NA	0.25	0.05	0.1	ng/dry g	
PCB101	NA	0.79	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.61	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.49	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	0.21	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.55	0.05	0.1	ng/dry g	
PCB141	NA	0.36	0.05	0.1	ng/dry g	
PCB149	NA	1.01	0.05	0.1	ng/dry g	
PCB151	NA	0.28	0.05	0.1	ng/dry g	
PCB153	NA	1.19	0.05	0.1	ng/dry g	
PCB156	NA	0.1	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.19	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.3	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	0.2	0.05	0.1	ng/dry g	
PCB174	NA	0.24	0.05	0.1	ng/dry g	
PCB177	NA	0.13	0.05	0.1	ng/dry g	
PCB180	NA	0.51	0.05	0.1	ng/dry g	
PCB183	NA	0.16	0.05	0.1	ng/dry g	
PCB187	NA	0.31	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22551-R1**B13-8100 Grab****Matrix: Sediment****Sampled: 29-Aug-13 8:44****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14 8:41

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB052	NA	1.74	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	1.72	0.05	0.1	ng/dry g	
PCB070	NA	1.4	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	2.1	0.05	0.1	ng/dry g	
PCB095	NA	3.94	0.05	0.1	ng/dry g	
PCB097	NA	1.12	0.05	0.1	ng/dry g	
PCB099	NA	1.71	0.05	0.1	ng/dry g	
PCB101	NA	4.14	0.05	0.1	ng/dry g	
PCB105	NA	0.65	0.05	0.1	ng/dry g	
PCB110	NA	4.19	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	2.91	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	4.39	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	3.37	0.05	0.1	ng/dry g	
PCB151	NA	0.62	0.05	0.1	ng/dry g	
PCB153	NA	3.36	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB170	NA	1.62	0.05	0.1	ng/dry g	
PCB174	NA	0.5	0.05	0.1	ng/dry g	
PCB177	NA	0.51	0.05	0.1	ng/dry g	
PCB180	NA	1.84	0.05	0.1	ng/dry g	
PCB183	NA	0.34	0.05	0.1	ng/dry g	
PCB187	NA	1.28	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22552-R1**B13-8099 Grab****Matrix: Sediment****Sampled: 29-Aug-13 9:55****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14 10:19

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.96	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.89	0.05	0.1	ng/dry g	
PCB101	NA	1.51	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	1.52	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.72	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	2.09	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	1.21	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	1.99	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB180	NA	0.98	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	0.69	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22553-R1**B13-8098 Grab****Matrix: Sediment****Sampled: 29-Aug-13 11:06****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14 11:58

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	0.26	0.05	0.1	ng/dry g	
PCB095	NA	0.17	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.21	0.05	0.1	ng/dry g	
PCB101	NA	0.3	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	0.32	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	0.41	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22554-R1**B13-8096 Grab****Matrix: Sediment****Sampled: 29-Aug-13 12:34****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14 13:37

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	0.24	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	0.16	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22555-R1**B13-8095 Grab****Matrix: Sediment****Sampled: 29-Aug-13 14:14****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14 18:58

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.96	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.62	0.05	0.1	ng/dry g	
PCB101	NA	1.46	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.94	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.71	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.91	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	0.96	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	1.84	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	0.63	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	0.54	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22556-R1**B13-8087 Grab****Matrix: Sediment****Sampled: 29-Aug-13 15:16****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14 20:36

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	ND	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22557-R1

B13-8073 Grab

Matrix: Sediment

Sampled: 29-Aug-13 16:38

Received: 29-Aug-13

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13

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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Method: EPA 8270C		Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 01-Jun-14 22:15
PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	0.26	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Sample ID: 22546-R1

B13-8109 Grab

Matrix: Sediment

Sampled: 28-Aug-13 7:43

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 20-Nov-13 8:58

(DFPBDE)	NA	65			% Recovery	
(FTBDE)	NA	94			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22547-R1

B13-8118 Grab

Matrix: Sediment

Sampled: 28-Aug-13 10:36

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 20-Nov-13 9:37

(DFPBDE)	NA	64			% Recovery	
(FTBDE)	NA	92			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.07	0.05	0.1	ng/dry g	J
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22548-R1

B13-8122 Grab

Matrix: Sediment

Sampled: 28-Aug-13 13:48

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 20-Nov-13 10:16

(DFPBDE)	NA	68			% Recovery	
(FTBDE)	NA	90			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22549-R1

B13-8033 Grab

Matrix: Sediment

Sampled: 28-Aug-13 16:58

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 20-Nov-13 10:55

(DFPBDE)	NA	53			% Recovery	
(FTBDE)	NA	99			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.24	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	0.35	0.05	0.1	ng/dry g	
PBDE100	NA	0.07	0.05	0.1	ng/dry g	J
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22550-R1

B13-8093 Grab

Matrix: Sediment

Sampled: 29-Aug-13 7:34

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 20-Nov-13 11:34

(DFPBDE)	NA	66			% Recovery
(FTBDE)	NA	92			% Recovery
PBDE017	NA	ND	0.05	0.1	ng/dry g
PBDE028	NA	ND	0.05	0.1	ng/dry g
PBDE047	NA	ND	0.05	0.1	ng/dry g
PBDE049	NA	ND	0.05	0.1	ng/dry g
PBDE066	NA	ND	0.05	0.1	ng/dry g
PBDE071	NA	ND	0.05	0.1	ng/dry g
PBDE085	NA	ND	0.05	0.1	ng/dry g
PBDE099	NA	ND	0.05	0.1	ng/dry g
PBDE100	NA	ND	0.05	0.1	ng/dry g
PBDE138	NA	ND	0.05	0.1	ng/dry g
PBDE153	NA	ND	0.05	0.1	ng/dry g
PBDE154	NA	ND	0.05	0.1	ng/dry g
PBDE183	NA	ND	0.05	0.1	ng/dry g
PBDE190	NA	ND	0.05	0.1	ng/dry g



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22551-R1

B13-8100 Grab

Matrix: Sediment

Sampled: 29-Aug-13 8:44

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13 17:21

(DFPBDE)	NA	69			% Recovery	
(FTBDE)	NA	84			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.31	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	0.57	0.05	0.1	ng/dry g	
PBDE100	NA	0.13	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	0.31	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22552-R1

B13-8099 Grab

Matrix: Sediment

Sampled: 29-Aug-13 9:55

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13 18:00

(DFPBDE)	NA	85			% Recovery	
(FTBDE)	NA	97			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.3	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE099	NA	0.33	0.05	0.1	ng/dry g	
PBDE100	NA	0.15	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	0.12	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22553-R1

B13-8098 Grab

Matrix: Sediment

Sampled: 29-Aug-13 11:06

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13 18:39

(DFPBDE)	NA	82			% Recovery	
(FTBDE)	NA	98			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.1	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	0.05	0.05	0.1	ng/dry g	J
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22554-R1

B13-8096 Grab

Matrix: Sediment

Sampled: 29-Aug-13 12:34

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13 19:18

(DFPBDE)	NA	101			% Recovery	
(FTBDE)	NA	94			% Recovery	



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PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.08	0.05	0.1	ng/dry g	J
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	0.12	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22555-R1

B13-8095 Grab

Matrix: Sediment

Sampled: 29-Aug-13 14:14

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13 19:57

(DFPBDE)	NA	91			% Recovery
(FTBDE)	NA	95			% Recovery
PBDE017	NA	ND	0.05	0.1	ng/dry g
PBDE028	NA	ND	0.05	0.1	ng/dry g
PBDE047	NA	0.25	0.05	0.1	ng/dry g
PBDE049	NA	ND	0.05	0.1	ng/dry g
PBDE066	NA	ND	0.05	0.1	ng/dry g
PBDE071	NA	ND	0.05	0.1	ng/dry g
PBDE085	NA	ND	0.05	0.1	ng/dry g
PBDE099	NA	ND	0.05	0.1	ng/dry g
PBDE100	NA	ND	0.05	0.1	ng/dry g
PBDE138	NA	ND	0.05	0.1	ng/dry g
PBDE153	NA	ND	0.05	0.1	ng/dry g
PBDE154	NA	ND	0.05	0.1	ng/dry g
PBDE183	NA	ND	0.05	0.1	ng/dry g



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PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22556-R1

B13-8087 Grab

Matrix: Sediment

Sampled: 29-Aug-13 15:16

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13 21:46

(DFPBDE)	NA	58			% Recovery	
(FTBDE)	NA	95			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.06	0.05	0.1	ng/dry g	J
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22557-R1

B13-8073 Grab

Matrix: Sediment

Sampled: 29-Aug-13 16:38

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13 22:25

(DFPBDE)	NA	52			% Recovery	
(FTBDE)	NA	96			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.07	0.05	0.1	ng/dry g	J
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	



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PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22546-R1</div> <div>B13-8109 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5136</div> </div> <div> <div>Sampled: 28-Aug-13 7:43</div> <div>Prepared: 22-Apr-14</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 11-May-14 20:05</div> </div>						
(d10-Acenaphthene)	NA	66			% Recovery	
(d10-Phenanthrene)	NA	57			% Recovery	
(d12-Chrysene)	NA	66			% Recovery	
(d8-Naphthalene)	NA	67			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	3.6	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	2.1	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	1.6	1	5	ng/dry g	J
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	6	1	5	ng/dry g	
Anthracene	NA	7.6	1	5	ng/dry g	
Benz[a]anthracene	NA	30	1	5	ng/dry g	
Benzo[a]pyrene	NA	46.4	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	28.7	1	5	ng/dry g	
Benzo[e]pyrene	NA	30.4	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	46.7	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	13.7	1	5	ng/dry g	
Biphenyl	NA	1.5	1	5	ng/dry g	J
Chrysene	NA	36.2	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	6.2	1	5	ng/dry g	
Dibenzothiophene	NA	3.4	1	5	ng/dry g	J
Fluoranthene	NA	59.6	1	5	ng/dry g	
Fluorene	NA	2.4	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	37.2	1	5	ng/dry g	
Naphthalene	NA	3.4	1	5	ng/dry g	J
Perylene	NA	10.1	1	5	ng/dry g	
Phenanthrene	NA	41.6	1	5	ng/dry g	
Pyrene	NA	83.8	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22547-R1</div> <div>B13-8118 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5136</div> </div> <div> <div>Sampled: 28-Aug-13 10:36</div> <div>Prepared: 22-Apr-14</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 11-May-14 21:44</div> </div>						
(d10-Acenaphthene)	NA	81			% Recovery	
(d10-Phenanthrene)	NA	81			% Recovery	
(d12-Chrysene)	NA	85			% Recovery	
(d8-Naphthalene)	NA	72			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	4.8	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	1.7	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	1.6	1	5	ng/dry g	J
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	6.6	1	5	ng/dry g	
Anthracene	NA	7.2	1	5	ng/dry g	
Benz[a]anthracene	NA	54.4	1	5	ng/dry g	
Benzo[a]pyrene	NA	93	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	57.3	1	5	ng/dry g	
Benzo[e]pyrene	NA	61.4	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	73.2	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	29.5	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	70.3	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	12.8	1	5	ng/dry g	
Dibenzothiophene	NA	2.1	1	5	ng/dry g	J
Fluoranthene	NA	53.3	1	5	ng/dry g	
Fluorene	NA	1.8	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	61.3	1	5	ng/dry g	
Naphthalene	NA	3.1	1	5	ng/dry g	J
Perylene	NA	18	1	5	ng/dry g	
Phenanthrene	NA	18.5	1	5	ng/dry g	
Pyrene	NA	83.6	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22548-R1</div> <div>B13-8122 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5136</div> </div> <div> <div>Sampled: 28-Aug-13 13:48</div> <div>Prepared: 22-Apr-14</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 11-May-14 23:23</div> </div>						
(d10-Acenaphthene)	NA	62			% Recovery	
(d10-Phenanthrene)	NA	56			% Recovery	
(d12-Chrysene)	NA	75			% Recovery	
(d8-Naphthalene)	NA	67			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	1.5	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	1.1	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	1.1	1	5	ng/dry g	J
Anthracene	NA	1.2	1	5	ng/dry g	J
Benz[a]anthracene	NA	8.7	1	5	ng/dry g	
Benzo[a]pyrene	NA	17.4	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	11.4	1	5	ng/dry g	
Benzo[e]pyrene	NA	12.1	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	16.7	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	6.1	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	11.9	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	2.7	1	5	ng/dry g	J
Dibenzothiophene	NA	1	1	5	ng/dry g	J
Fluoranthene	NA	12.2	1	5	ng/dry g	
Fluorene	NA	ND	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	13.4	1	5	ng/dry g	
Naphthalene	NA	1.5	1	5	ng/dry g	J
Perylene	NA	3.4	1	5	ng/dry g	J
Phenanthrene	NA	6.9	1	5	ng/dry g	
Pyrene	NA	16	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22549-R1</div> <div>B13-8033 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5136</div> </div> <div> <div>Sampled: 28-Aug-13 16:58</div> <div>Prepared: 22-Apr-14</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 12-May-14 1:02</div> </div>						
(d10-Acenaphthene)	NA	76			% Recovery	
(d10-Phenanthrene)	NA	65			% Recovery	
(d12-Chrysene)	NA	87			% Recovery	
(d8-Naphthalene)	NA	75			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	2.3	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	1.3	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	1.3	1	5	ng/dry g	J
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	2.6	1	5	ng/dry g	J
Anthracene	NA	6.4	1	5	ng/dry g	
Benz[a]anthracene	NA	11.7	1	5	ng/dry g	
Benzo[a]pyrene	NA	22.7	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	21.5	1	5	ng/dry g	
Benzo[e]pyrene	NA	21	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	20.6	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	11.5	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	23	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	3.3	1	5	ng/dry g	J
Dibenzothiophene	NA	1.6	1	5	ng/dry g	J
Fluoranthene	NA	22.5	1	5	ng/dry g	
Fluorene	NA	1.9	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	15.5	1	5	ng/dry g	
Naphthalene	NA	2.3	1	5	ng/dry g	J
Perylene	NA	7.1	1	5	ng/dry g	
Phenanthrene	NA	12.3	1	5	ng/dry g	
Pyrene	NA	26.1	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22550-R1</div> <div>B13-8093 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5136</div> </div> <div> <div>Sampled: 29-Aug-13 7:34</div> <div>Prepared: 22-Apr-14</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 12-May-14 2:41</div> </div>						
(d10-Acenaphthene)	NA	65			% Recovery	
(d10-Phenanthrene)	NA	60			% Recovery	
(d12-Chrysene)	NA	83			% Recovery	
(d8-Naphthalene)	NA	70			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	1.6	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	1.1	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	1.5	1	5	ng/dry g	J
Anthracene	NA	2.7	1	5	ng/dry g	J
Benz[a]anthracene	NA	11.5	1	5	ng/dry g	
Benzo[a]pyrene	NA	18.8	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	15.7	1	5	ng/dry g	
Benzo[e]pyrene	NA	14	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	14.4	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	8.3	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	16	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	2.5	1	5	ng/dry g	J
Dibenzothiophene	NA	1.1	1	5	ng/dry g	J
Fluoranthene	NA	17.9	1	5	ng/dry g	
Fluorene	NA	1.2	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	12.2	1	5	ng/dry g	
Naphthalene	NA	1.6	1	5	ng/dry g	J
Perylene	NA	4.1	1	5	ng/dry g	J
Phenanthrene	NA	9.3	1	5	ng/dry g	
Pyrene	NA	20	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22551-R1</div> <div>B13-8100 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-6004</div> </div> <div> <div>Sampled: 29-Aug-13 8:44</div> <div>Prepared: 16-May-14</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 01-Jun-14 8:41</div> </div>						
(d10-Acenaphthene)	NA	94			% Recovery	
(d10-Phenanthrene)	NA	90			% Recovery	
(d12-Chrysene)	NA	79			% Recovery	
(d8-Naphthalene)	NA	96			% Recovery	
1-Methylnaphthalene	NA	1.7	1	5	ng/dry g	J
1-Methylphenanthrene	NA	14.6	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	3.8	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	2.2	1	5	ng/dry g	J
2-Methylnaphthalene	NA	4.7	1	5	ng/dry g	J
Acenaphthene	NA	2.5	1	5	ng/dry g	J
Acenaphthylene	NA	35.1	1	5	ng/dry g	
Anthracene	NA	40.4	1	5	ng/dry g	
Benz[a]anthracene	NA	123.3	1	5	ng/dry g	
Benzo[a]pyrene	NA	182.5	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	131.9	1	5	ng/dry g	
Benzo[e]pyrene	NA	124.2	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	211.3	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	77.4	1	5	ng/dry g	
Biphenyl	NA	2.3	1	5	ng/dry g	J
Chrysene	NA	188	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	42.1	1	5	ng/dry g	
Dibenzothiophene	NA	5	1	5	ng/dry g	
Fluoranthene	NA	174.2	1	5	ng/dry g	
Fluorene	NA	3.9	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	186.4	1	5	ng/dry g	
Naphthalene	NA	11.4	1	5	ng/dry g	
Perylene	NA	36.9	1	5	ng/dry g	
Phenanthrene	NA	68	1	5	ng/dry g	
Pyrene	NA	312.5	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22552-R1</div> <div>B13-8099 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-6004</div> </div> <div> <div>Sampled: 29-Aug-13 9:55</div> <div>Prepared: 16-May-14</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 01-Jun-14 10:19</div> </div>						
(d10-Acenaphthene)	NA	76			% Recovery	
(d10-Phenanthrene)	NA	74			% Recovery	
(d12-Chrysene)	NA	65			% Recovery	
(d8-Naphthalene)	NA	84			% Recovery	
1-Methylnaphthalene	NA	1.7	1	5	ng/dry g	J
1-Methylphenanthrene	NA	8.3	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	2.3	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	1.8	1	5	ng/dry g	J
2-Methylnaphthalene	NA	4.3	1	5	ng/dry g	J
Acenaphthene	NA	3.3	1	5	ng/dry g	J
Acenaphthylene	NA	21.4	1	5	ng/dry g	
Anthracene	NA	22.8	1	5	ng/dry g	
Benz[a]anthracene	NA	86.8	1	5	ng/dry g	
Benzo[a]pyrene	NA	165.6	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	104.6	1	5	ng/dry g	
Benzo[e]pyrene	NA	109.6	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	181.7	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	60.3	1	5	ng/dry g	
Biphenyl	NA	2.8	1	5	ng/dry g	J
Chrysene	NA	119	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	32.7	1	5	ng/dry g	
Dibenzothiophene	NA	3.7	1	5	ng/dry g	J
Fluoranthene	NA	148	1	5	ng/dry g	
Fluorene	NA	4.5	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	153.2	1	5	ng/dry g	
Naphthalene	NA	14.1	1	5	ng/dry g	
Perylene	NA	31.3	1	5	ng/dry g	
Phenanthrene	NA	50.6	1	5	ng/dry g	
Pyrene	NA	298.4	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22553-R1</div> <div>B13-8098 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-6004</div> </div> <div> <div>Sampled: 29-Aug-13 11:06</div> <div>Prepared: 16-May-14</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 01-Jun-14 11:58</div> </div>						
(d10-Acenaphthene)	NA	89			% Recovery	
(d10-Phenanthrene)	NA	86			% Recovery	
(d12-Chrysene)	NA	83			% Recovery	
(d8-Naphthalene)	NA	100			% Recovery	
1-Methylnaphthalene	NA	1.4	1	5	ng/dry g	J
1-Methylphenanthrene	NA	7.5	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	1.5	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	1.1	1	5	ng/dry g	J
2-Methylnaphthalene	NA	3.9	1	5	ng/dry g	J
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	12.4	1	5	ng/dry g	
Anthracene	NA	8.2	1	5	ng/dry g	
Benz[a]anthracene	NA	48.7	1	5	ng/dry g	
Benzo[a]pyrene	NA	82.1	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	41.5	1	5	ng/dry g	
Benzo[e]pyrene	NA	51.2	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	77	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	24.6	1	5	ng/dry g	
Biphenyl	NA	2	1	5	ng/dry g	J
Chrysene	NA	54.8	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	14	1	5	ng/dry g	
Dibenzothiophene	NA	1.5	1	5	ng/dry g	J
Fluoranthene	NA	82.1	1	5	ng/dry g	
Fluorene	NA	1.1	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	63.4	1	5	ng/dry g	
Naphthalene	NA	8.6	1	5	ng/dry g	
Perylene	NA	14.1	1	5	ng/dry g	
Phenanthrene	NA	16.8	1	5	ng/dry g	
Pyrene	NA	189	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22554-R1</div> <div>B13-8096 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-6004</div> </div> <div> <div>Sampled: 29-Aug-13 12:34</div> <div>Prepared: 16-May-14</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 01-Jun-14 13:37</div> </div>						
(d10-Acenaphthene)	NA	93			% Recovery	
(d10-Phenanthrene)	NA	87			% Recovery	
(d12-Chrysene)	NA	81			% Recovery	
(d8-Naphthalene)	NA	103			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	5	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	1.5	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	1.3	1	5	ng/dry g	J
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	7.3	1	5	ng/dry g	
Anthracene	NA	5.9	1	5	ng/dry g	
Benz[a]anthracene	NA	28.1	1	5	ng/dry g	
Benzo[a]pyrene	NA	42.6	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	21.1	1	5	ng/dry g	
Benzo[e]pyrene	NA	26.4	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	42	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	13.5	1	5	ng/dry g	
Biphenyl	NA	1.4	1	5	ng/dry g	J
Chrysene	NA	33.8	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	8	1	5	ng/dry g	
Dibenzothiophene	NA	1.5	1	5	ng/dry g	J
Fluoranthene	NA	39.5	1	5	ng/dry g	
Fluorene	NA	ND	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	34.9	1	5	ng/dry g	
Naphthalene	NA	4.4	1	5	ng/dry g	J
Perylene	NA	7.3	1	5	ng/dry g	
Phenanthrene	NA	16	1	5	ng/dry g	
Pyrene	NA	96.4	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22555-R1 B13-8095 Grab Matrix: Sediment Sampled: 29-Aug-13 14:14 Received: 29-Aug-13 Method: EPA 8270C Batch ID: O-6004 Prepared: 16-May-14 Analyzed: 01-Jun-14 18:58						
(d10-Acenaphthene)	NA	89			% Recovery	
(d10-Phenanthrene)	NA	87			% Recovery	
(d12-Chrysene)	NA	84			% Recovery	
(d8-Naphthalene)	NA	82			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	3.4	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	1.3	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	1.5	1	5	ng/dry g	J
Acenaphthene	NA	1.2	1	5	ng/dry g	J
Acenaphthylene	NA	15.2	1	5	ng/dry g	
Anthracene	NA	26.1	1	5	ng/dry g	
Benz[a]anthracene	NA	48.9	1	5	ng/dry g	
Benzo[a]pyrene	NA	84.5	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	76.7	1	5	ng/dry g	
Benzo[e]pyrene	NA	62.9	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	95.9	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	48.4	1	5	ng/dry g	
Biphenyl	NA	1.6	1	5	ng/dry g	J
Chrysene	NA	88	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	19.7	1	5	ng/dry g	
Dibenzothiophene	NA	2.8	1	5	ng/dry g	J
Fluoranthene	NA	63.3	1	5	ng/dry g	
Fluorene	NA	3	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	87.3	1	5	ng/dry g	
Naphthalene	NA	4.7	1	5	ng/dry g	J
Perylene	NA	18.9	1	5	ng/dry g	
Phenanthrene	NA	28.8	1	5	ng/dry g	
Pyrene	NA	83.5	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22556-R1 B13-8087 Grab Matrix: Sediment Sampled: 29-Aug-13 15:16 Received: 29-Aug-13 Method: EPA 8270C Batch ID: O-6004 Prepared: 16-May-14 Analyzed: 01-Jun-14 20:36						
(d10-Acenaphthene)	NA	100			% Recovery	
(d10-Phenanthrene)	NA	92			% Recovery	
(d12-Chrysene)	NA	86			% Recovery	
(d8-Naphthalene)	NA	105			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	1	1	5	ng/dry g	J
Anthracene	NA	ND	1	5	ng/dry g	
Benz[a]anthracene	NA	3.2	1	5	ng/dry g	J
Benzo[a]pyrene	NA	6.7	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	4.8	1	5	ng/dry g	J
Benzo[e]pyrene	NA	5	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	10.7	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	3.5	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	4.9	1	5	ng/dry g	J
Dibenz[a,h]anthracene	NA	1.3	1	5	ng/dry g	J
Dibenzothiophene	NA	ND	1	5	ng/dry g	
Fluoranthene	NA	4.7	1	5	ng/dry g	J
Fluorene	NA	ND	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	8.5	1	5	ng/dry g	
Naphthalene	NA	2.1	1	5	ng/dry g	J
Perylene	NA	1.3	1	5	ng/dry g	J
Phenanthrene	NA	3.8	1	5	ng/dry g	J
Pyrene	NA	5.7	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22557-R1</div> <div>B13-8073 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-6004</div> </div> <div> <div>Sampled: 29-Aug-13 16:38</div> <div>Prepared: 16-May-14</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 01-Jun-14 22:15</div> </div>						
(d10-Acenaphthene)	NA	64			% Recovery	
(d10-Phenanthrene)	NA	72			% Recovery	
(d12-Chrysene)	NA	72			% Recovery	
(d8-Naphthalene)	NA	36			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	ND	1	5	ng/dry g	
Benz[a]anthracene	NA	1.3	1	5	ng/dry g	J
Benzo[a]pyrene	NA	1.7	1	5	ng/dry g	J
Benzo[b]fluoranthene	NA	2.5	1	5	ng/dry g	J
Benzo[e]pyrene	NA	1.8	1	5	ng/dry g	J
Benzo[g,h,i]perylene	NA	4.8	1	5	ng/dry g	J
Benzo[k]fluoranthene	NA	1.3	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	2	1	5	ng/dry g	J
Dibenz[a,h]anthracene	NA	ND	1	5	ng/dry g	
Dibenzothiophene	NA	ND	1	5	ng/dry g	
Fluoranthene	NA	3.5	1	5	ng/dry g	J
Fluorene	NA	ND	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	3.3	1	5	ng/dry g	J
Naphthalene	NA	ND	1	5	ng/dry g	
Perylene	NA	ND	1	5	ng/dry g	
Phenanthrene	NA	3.8	1	5	ng/dry g	J
Pyrene	NA	3.8	1	5	ng/dry g	J



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Sample ID: 22546-R1

B13-8109 Grab

Matrix: Sediment

Sampled: 28-Aug-13 7:43

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 30-Apr-14 15:54

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22547-R1

B13-8118 Grab

Matrix: Sediment

Sampled: 28-Aug-13 10:36

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 30-Apr-14 16:58

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Resmethrin	NA	ND	0.25	0.5	ng/dry g	
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Sample ID: 22548-R1

B13-8122 Grab

Matrix: Sediment

Sampled: 28-Aug-13 13:48

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 30-Apr-14 18:03

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22549-R1

B13-8033 Grab

Matrix: Sediment

Sampled: 28-Aug-13 16:58

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 30-Apr-14 19:08

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22550-R1

B13-8093 Grab

Matrix: Sediment

Sampled: 29-Aug-13 7:34

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 30-Apr-14 20:12

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22551-R1

B13-8100 Grab

Matrix: Sediment

Sampled: 29-Aug-13 8:44

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 12:38

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22552-R1

B13-8099 Grab

Matrix: Sediment

Sampled: 29-Aug-13 9:55

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 14:17

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22553-R1

B13-8098 Grab

Matrix: Sediment

Sampled: 29-Aug-13 11:06

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 15:56

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22554-R1

B13-8096 Grab

Matrix: Sediment

Sampled: 29-Aug-13 12:34

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 17:35

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22555-R1

B13-8095 Grab

Matrix: Sediment

Sampled: 29-Aug-13 14:14

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 19:14

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22556-R1

B13-8087 Grab

Matrix: Sediment

Sampled: 29-Aug-13 15:16

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 20:52

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenprothrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22557-R1

B13-8073 Grab

Matrix: Sediment

Sampled: 29-Aug-13 16:38

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 10:28

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenprothrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

QUALITY CONTROL REPORT

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CA ELAP #2769

Aroclor PCBs**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
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Sample ID: 22544-B1**QAQC Procedural Blank**

Method: EPA 8270C

Matrix: DI Water

Batch ID: O-5136

Sampled:

Prepared: 22-Apr-14

Received:

Analyzed: 09-May-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g					
Aroclor 1221	NA	ND	1	2	ng/dry g					
Aroclor 1232	NA	ND	1	2	ng/dry g					
Aroclor 1242	NA	ND	1	2	ng/dry g					
Aroclor 1248	NA	ND	1	2	ng/dry g					
Aroclor 1254	NA	ND	1	2	ng/dry g					
Aroclor 1260	NA	ND	1	2	ng/dry g					
Aroclor 1262	NA	ND	1	2	ng/dry g					
Aroclor 1268	NA	ND	1	2	ng/dry g					

Sample ID: 22545-B1**QAQC Procedural Blank**

Method: EPA 8270C

Matrix: DI Water

Batch ID: O-6004

Sampled:

Prepared: 16-May-14

Received:

Analyzed: 31-May-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g					
Aroclor 1221	NA	ND	1	2	ng/dry g					
Aroclor 1232	NA	ND	1	2	ng/dry g					
Aroclor 1242	NA	ND	1	2	ng/dry g					
Aroclor 1248	NA	ND	1	2	ng/dry g					
Aroclor 1254	NA	ND	1	2	ng/dry g					
Aroclor 1260	NA	ND	1	2	ng/dry g					
Aroclor 1262	NA	ND	1	2	ng/dry g					
Aroclor 1268	NA	ND	1	2	ng/dry g					



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Chlorinated Pesticides**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22544-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C-NCI		Batch ID: O-5034		Prepared: 06-Nov-13		Analyzed: 09-Nov-13 12:57		
Toxaphene	NA	ND	0.1	0.2	ng/dry g					
		Method: EPA 8270C		Batch ID: O-5136		Prepared: 22-Apr-14		Analyzed: 09-May-14 13:44		
(PCB030)	NA	105			% Recovery	100		105	50 - 150% PASS	
(PCB112)	NA	102			% Recovery	100		102	50 - 150% PASS	
(PCB198)	NA	104			% Recovery	100		104	50 - 150% PASS	
(TCMX)	NA	101			% Recovery	100		101	50 - 150% PASS	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g					
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g					
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g					
Aldrin	NA	ND	0.05	0.1	ng/dry g					
BHC-alpha	NA	ND	0.05	0.1	ng/dry g					
BHC-beta	NA	ND	0.05	0.1	ng/dry g					
BHC-delta	NA	ND	0.05	0.1	ng/dry g					
BHC-gamma	NA	ND	0.05	0.1	ng/dry g					
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g					
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g					
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g					
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g					
Dicofol	NA	ND	0.05	0.1	ng/dry g					
Dieldrin	NA	ND	0.05	0.1	ng/dry g					
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g					
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g					
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g					
Endrin	NA	ND	0.05	0.1	ng/dry g					
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g					



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Chlorinated Pesticides**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Endrin ketone	NA	ND	0.05	0.1	ng/dry g					
Heptachlor	NA	ND	0.05	0.1	ng/dry g					
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g					
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g					
Methoxychlor	NA	ND	0.05	0.1	ng/dry g					
Mirex	NA	ND	0.05	0.1	ng/dry g					
Oxychlorodane	NA	ND	0.05	0.1	ng/dry g					
Perthane	NA	ND	0.05	0.1	ng/dry g					
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 22544-BS1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 09-Nov-14 14:01

Toxaphene	NA	11990.4	0.1	0.2	ng/dry g	10000	0	120	70 - 130%	PASS
		Method: EPA 8270C				Batch ID: O-5136		Prepared: 22-Apr-14		Analyzed: 09-May-14 15:23
(PCB030)	NA	104			% Recovery	100	0	104	70 - 130%	PASS
(PCB112)	NA	101			% Recovery	100	0	101	70 - 130%	PASS
(PCB198)	NA	105			% Recovery	100	0	105	70 - 130%	PASS
(TCMX)	NA	101			% Recovery	100	0	101	70 - 130%	PASS
2,4'-DDD	NA	986.17	0.05	0.1	ng/dry g	1000	0	99	70 - 130%	PASS
2,4'-DDE	NA	888.08	0.05	0.1	ng/dry g	1000	0	89	70 - 130%	PASS
2,4'-DDT	NA	1214.34	0.05	0.1	ng/dry g	1000	0	121	70 - 130%	PASS
4,4'-DDD	NA	1065.48	0.05	0.1	ng/dry g	1000	0	107	70 - 130%	PASS
4,4'-DDE	NA	905.8	0.05	0.1	ng/dry g	1000	0	91	70 - 130%	PASS
4,4'-DDMU	NA	938.5	0.05	0.1	ng/dry g	1000	0	94	70 - 130%	PASS
4,4'-DDT	NA	1231.14	0.05	0.1	ng/dry g	1000	0	123	70 - 130%	PASS
Aldrin	NA	949.95	0.05	0.1	ng/dry g	1000	0	95	70 - 130%	PASS
BHC-alpha	NA	1025.55	0.05	0.1	ng/dry g	1000	0	103	70 - 130%	PASS
BHC-beta	NA	1117.09	0.05	0.1	ng/dry g	1000	0	112	70 - 130%	PASS
BHC-delta	NA	976.62	0.05	0.1	ng/dry g	1000	0	98	70 - 130%	PASS
BHC-gamma	NA	1104.62	0.05	0.1	ng/dry g	1000	0	110	70 - 130%	PASS
Chlordane-alpha	NA	954.34	0.05	0.1	ng/dry g	1000	0	95	70 - 130%	PASS
Chlordane-gamma	NA	995.13	0.05	0.1	ng/dry g	1000	0	100	70 - 130%	PASS

CA ELAP #2769

QUALITY CONTROL REPORT

Sample ID: 22544-BS2		QAQC Procedural Blank			Matrix: DI Water			Sampled:			Received:			
		Method: EPA 8270C-NCI			Batch ID: O-5034			Prepared: 06-Nov-13			Analyzed: 09-Nov-14 15:05			
Toxaphene	NA	9145	0.1	0.2	ng/dry g	10000	0	91	70 - 130%	PASS	27	25	FAIL	R
		Method: EPA 8270C			Batch ID: O-5136			Prepared: 22-Apr-14			Analyzed: 09-May-14 17:01			
(PCB030)	NA	105			% Recovery	100	0	105	70 - 130%	PASS	1	25	PASS	
(PCB112)	NA	102			% Recovery	100	0	102	70 - 130%	PASS	1	25	PASS	
(PCB198)	NA	107			% Recovery	100	0	107	70 - 130%	PASS	2	25	PASS	
(TCMX)	NA	102			% Recovery	100	0	102	70 - 130%	PASS	1	25	PASS	
2,4'-DDD	NA	978.51	0.05	0.1	ng/dry g	1000	0	98	70 - 130%	PASS	1	25	PASS	
2,4'-DDE	NA	879.91	0.05	0.1	ng/dry g	1000	0	88	70 - 130%	PASS	1	25	PASS	
2,4'-DDT	NA	1197.64	0.05	0.1	ng/dry g	1000	0	120	70 - 130%	PASS	1	25	PASS	
4,4'-DDD	NA	1060.48	0.05	0.1	ng/dry g	1000	0	106	70 - 130%	PASS	1	25	PASS	
4,4'-DDE	NA	900.88	0.05	0.1	ng/dry g	1000	0	90	70 - 130%	PASS	1	25	PASS	



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
4,4'-DDMU	NA	932.26	0.05	0.1	ng/dry g	1000	0	93	70 - 130% PASS	1	25	PASS
4,4'-DDT	NA	1245.92	0.05	0.1	ng/dry g	1000	0	125	70 - 130% PASS	2	25	PASS
Aldrin	NA	949.89	0.05	0.1	ng/dry g	1000	0	95	70 - 130% PASS	0	25	PASS
BHC-alpha	NA	1028.01	0.05	0.1	ng/dry g	1000	0	103	70 - 130% PASS	0	25	PASS
BHC-beta	NA	1115.94	0.05	0.1	ng/dry g	1000	0	112	70 - 130% PASS	0	25	PASS
BHC-delta	NA	1048.49	0.05	0.1	ng/dry g	1000	0	105	70 - 130% PASS	7	25	PASS
BHC-gamma	NA	1126.67	0.05	0.1	ng/dry g	1000	0	113	70 - 130% PASS	3	25	PASS
Chlordane-alpha	NA	946.84	0.05	0.1	ng/dry g	1000	0	95	70 - 130% PASS	0	25	PASS
Chlordane-gamma	NA	989.98	0.05	0.1	ng/dry g	1000	0	99	70 - 130% PASS	1	25	PASS
cis-Nonachlor	NA	910.62	0.05	0.1	ng/dry g	1000	0	91	70 - 130% PASS	0	25	PASS
DCPA (Dacthal)	NA	1003.38	0.05	0.1	ng/dry g	1000	0	100	70 - 130% PASS	0	25	PASS
Dicofol	NA	1414.76	0.05	0.1	ng/dry g	1000	0	141	70 - 130% FAIL	23	25	PASS R
Dieldrin	NA	842.17	0.05	0.1	ng/dry g	1000	0	84	70 - 130% PASS	2	25	PASS
Endosulfan sulfate	NA	1001.98	0.05	0.1	ng/dry g	1000	0	100	70 - 130% PASS	5	25	PASS
Endosulfan-I	NA	511.83	0.05	0.1	ng/dry g	1000	0	51	70 - 130% FAIL	10	25	PASS *
Endosulfan-II	NA	661.57	0.05	0.1	ng/dry g	1000	0	66	70 - 130% FAIL	10	25	PASS *
Endrin	NA	1232.39	0.05	0.1	ng/dry g	1000	0	123	70 - 130% PASS	1	25	PASS
Endrin aldehyde	NA	259.86	0.05	0.1	ng/dry g	1000	0	26	70 - 130% FAIL	147	25	FAIL *
Endrin ketone	NA	1111.61	0.05	0.1	ng/dry g	1000	0	111	70 - 130% PASS	9	25	PASS
Heptachlor	NA	1243.44	0.05	0.1	ng/dry g	1000	0	124	70 - 130% PASS	0	25	PASS
Heptachlor epoxide	NA	1078.81	0.05	0.1	ng/dry g	1000	0	108	70 - 130% PASS	1	25	PASS
Hexachlorobenzene	NA	923.09	0.05	0.1	ng/dry g	1000	0	92	70 - 130% PASS	0	25	PASS
Methoxychlor	NA	1267	0.05	0.1	ng/dry g	1000	0	127	70 - 130% PASS	5	25	PASS
Mirex	NA	1027.35	0.05	0.1	ng/dry g	1000	0	103	70 - 130% PASS	5	25	PASS
Oxychlordane	NA	1097.5	0.05	0.1	ng/dry g	1000	0	110	70 - 130% PASS	10	25	PASS
Perthane	NA	1205.84	0.05	0.1	ng/dry g	1000	0	121	70 - 130% PASS	2	25	PASS
trans-Nonachlor	NA	966.18	0.05	0.1	ng/dry g	1000	0	97	70 - 130% PASS	0	25	PASS

Sample ID: 22545-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13 7:42

Toxaphene	NA	ND	0.1	0.2	ng/dry g							
Method: EPA 8270C						Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 31-May-14 22:59		



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
(PCB030)	NA	100			% Recovery	100		100 50 - 150% PASS		
(PCB112)	NA	107			% Recovery	100		107 50 - 150% PASS		
(PCB198)	NA	97			% Recovery	100		97 50 - 150% PASS		
(TCMX)	NA	94			% Recovery	100		94 50 - 150% PASS		
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g					
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g					
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g					
Aldrin	NA	ND	0.05	0.1	ng/dry g					
BHC-alpha	NA	ND	0.05	0.1	ng/dry g					
BHC-beta	NA	ND	0.05	0.1	ng/dry g					
BHC-delta	NA	ND	0.05	0.1	ng/dry g					
BHC-gamma	NA	ND	0.05	0.1	ng/dry g					
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g					
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g					
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g					
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g					
Dicofol	NA	ND	0.05	0.1	ng/dry g					
Dieldrin	NA	ND	0.05	0.1	ng/dry g					
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g					
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g					
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g					
Endrin	NA	ND	0.05	0.1	ng/dry g					
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g					
Endrin ketone	NA	ND	0.05	0.1	ng/dry g					
Heptachlor	NA	ND	0.05	0.1	ng/dry g					
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g					
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g					



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Chlorinated Pesticides**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Methoxychlor	NA	ND	0.05	0.1	ng/dry g					
Mirex	NA	ND	0.05	0.1	ng/dry g					
Oxychlorane	NA	ND	0.05	0.1	ng/dry g					
Perthane	NA	ND	0.05	0.1	ng/dry g					
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 22545-BS1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13 8:46

Toxaphene	NA	9366	0.1	0.2	ng/dry g	10000	0	94	70 - 130%	PASS
Method: EPA 8270C Batch ID: O-6004 Prepared: 16-May-14 Analyzed: 31-May-14 23:38										
(PCB030)	NA	108			% Recovery	100	0	108	70 - 130%	PASS
(PCB112)	NA	114			% Recovery	100	0	114	70 - 130%	PASS
(PCB198)	NA	97			% Recovery	100	0	97	70 - 130%	PASS
(TCMX)	NA	111			% Recovery	100	0	111	70 - 130%	PASS
2,4'-DDD	NA	1278.4	0.05	0.1	ng/dry g	1000	0	128	70 - 130%	PASS
2,4'-DDE	NA	1128.51	0.05	0.1	ng/dry g	1000	0	113	70 - 130%	PASS
2,4'-DDT	NA	1203.52	0.05	0.1	ng/dry g	1000	0	120	70 - 130%	PASS
4,4'-DDD	NA	1226.55	0.05	0.1	ng/dry g	1000	0	123	70 - 130%	PASS
4,4'-DDE	NA	1119.38	0.05	0.1	ng/dry g	1000	0	112	70 - 130%	PASS
4,4'-DDMU	NA	1010	0.05	0.1	ng/dry g	1000	0	101	70 - 130%	PASS
4,4'-DDT	NA	1195.76	0.05	0.1	ng/dry g	1000	0	120	70 - 130%	PASS
Aldrin	NA	1210.54	0.05	0.1	ng/dry g	1000	0	121	70 - 130%	PASS
BHC-alpha	NA	1228.76	0.05	0.1	ng/dry g	1000	0	123	70 - 130%	PASS
BHC-beta	NA	934.51	0.05	0.1	ng/dry g	1000	0	93	70 - 130%	PASS
BHC-delta	NA	1108.68	0.05	0.1	ng/dry g	1000	0	111	70 - 130%	PASS
BHC-gamma	NA	1281.95	0.05	0.1	ng/dry g	1000	0	128	70 - 130%	PASS
Chlordane-alpha	NA	1192.68	0.05	0.1	ng/dry g	1000	0	119	70 - 130%	PASS
Chlordane-gamma	NA	1259.1	0.05	0.1	ng/dry g	1000	0	126	70 - 130%	PASS
cis-Nonachlor	NA	1130.26	0.05	0.1	ng/dry g	1000	0	113	70 - 130%	PASS
DCEPA (Dacthal)	NA	1189.43	0.05	0.1	ng/dry g	1000	0	119	70 - 130%	PASS
Dicofol	NA	930.12	0.05	0.1	ng/dry g	1000	0	93	70 - 130%	PASS
Dieldrin	NA	1168.44	0.05	0.1	ng/dry g	1000	0	117	70 - 130%	PASS

CA ELAP #2769

QUALITY CONTROL REPORT

Sample ID: 22545-BS2		QAQC Procedural Blank			Matrix: DI Water			Sampled:			Received:		
		Method: EPA 8270C-NCl			Batch ID: O-5039			Prepared: 12-Nov-13			Analyzed: 15-Nov-13 9:50		
Toxaphene	NA	9874	0.1	0.2	ng/dry g	10000	0	99	70 - 130%	PASS	5	25	PASS
		Method: EPA 8270C			Batch ID: O-6004			Prepared: 16-May-14			Analyzed: 01-Jun-14 1:17		
(PCB030)	NA	101			% Recovery	100	0	101	70 - 130%	PASS	7	25	PASS
(PCB112)	NA	105			% Recovery	100	0	105	70 - 130%	PASS	8	25	PASS
(PCB198)	NA	93			% Recovery	100	0	93	70 - 130%	PASS	4	25	PASS
(TCMX)	NA	103			% Recovery	100	0	103	70 - 130%	PASS	7	25	PASS
2,4'-DDD	NA	1112.38	0.05	0.1	ng/dry g	1000	0	111	70 - 130%	PASS	14	25	PASS
2,4'-DDE	NA	1006.37	0.05	0.1	ng/dry g	1000	0	101	70 - 130%	PASS	11	25	PASS
2,4'-DDT	NA	1233.04	0.05	0.1	ng/dry g	1000	0	123	70 - 130%	PASS	2	25	PASS
4,4'-DDD	NA	1042.23	0.05	0.1	ng/dry g	1000	0	104	70 - 130%	PASS	17	25	PASS
4,4'-DDE	NA	996.8	0.05	0.1	ng/dry g	1000	0	100	70 - 130%	PASS	11	25	PASS
4,4'-DDMU	NA	1130	0.05	0.1	ng/dry g	1000	0	113	70 - 130%	PASS	11	25	PASS
4,4'-DDT	NA	1182.73	0.05	0.1	ng/dry g	1000	0	118	70 - 130%	PASS	2	25	PASS
Aldrin	NA	1193.48	0.05	0.1	ng/dry g	1000	0	119	70 - 130%	PASS	2	25	PASS
BHC-alpha	NA	1136.6	0.05	0.1	ng/dry g	1000	0	114	70 - 130%	PASS	8	25	PASS



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
BHC-beta	NA	865.1	0.05	0.1	ng/dry g	1000	0	87 70 - 130% PASS	7 25 PASS	
BHC-delta	NA	979.66	0.05	0.1	ng/dry g	1000	0	98 70 - 130% PASS	12 25 PASS	
BHC-gamma	NA	1232.16	0.05	0.1	ng/dry g	1000	0	123 70 - 130% PASS	4 25 PASS	
Chlordane-alpha	NA	1083.85	0.05	0.1	ng/dry g	1000	0	108 70 - 130% PASS	10 25 PASS	
Chlordane-gamma	NA	1141.53	0.05	0.1	ng/dry g	1000	0	114 70 - 130% PASS	10 25 PASS	
cis-Nonachlor	NA	1060.62	0.05	0.1	ng/dry g	1000	0	106 70 - 130% PASS	6 25 PASS	
DCPA (Dacthal)	NA	1120.07	0.05	0.1	ng/dry g	1000	0	112 70 - 130% PASS	6 25 PASS	
Dicofol	NA	810.84	0.05	0.1	ng/dry g	1000	0	81 70 - 130% PASS	14 25 PASS	
Dieldrin	NA	1050.79	0.05	0.1	ng/dry g	1000	0	105 70 - 130% PASS	11 25 PASS	
Endosulfan sulfate	NA	1021.52	0.05	0.1	ng/dry g	1000	0	102 70 - 130% PASS	4 25 PASS	
Endosulfan-I	NA	268.16	0.05	0.1	ng/dry g	1000	0	27 70 - 130% FAIL	50 25 FAIL	R
Endosulfan-II	NA	579.93	0.05	0.1	ng/dry g	1000	0	58 70 - 130% FAIL	16 25 PASS	*
Endrin	NA	1210.72	0.05	0.1	ng/dry g	1000	0	121 70 - 130% PASS	7 25 PASS	
Endrin aldehyde	NA	158.43	0.05	0.1	ng/dry g	1000	0	16 70 - 130% FAIL	29 25 FAIL	*
Endrin ketone	NA	1086.45	0.05	0.1	ng/dry g	1000	0	109 70 - 130% PASS	4 25 PASS	
Heptachlor	NA	1274.29	0.05	0.1	ng/dry g	1000	0	127 70 - 130% PASS	1 25 PASS	
Heptachlor epoxide	NA	1233.05	0.05	0.1	ng/dry g	1000	0	123 70 - 130% PASS	0 25 PASS	
Hexachlorobenzene	NA	1057.26	0.05	0.1	ng/dry g	1000	0	106 70 - 130% PASS	6 25 PASS	
Methoxychlor	NA	1195.72	0.05	0.1	ng/dry g	1000	0	120 70 - 130% PASS	2 25 PASS	
Mirex	NA	1112.94	0.05	0.1	ng/dry g	1000	0	111 70 - 130% PASS	2 25 PASS	
Oxychlordane	NA	1246.19	0.05	0.1	ng/dry g	1000	0	125 70 - 130% PASS	4 25 PASS	
Perthane	NA	1197.12	0.05	0.1	ng/dry g	1000	0	120 70 - 130% PASS	1 25 PASS	
trans-Nonachlor	NA	1120.33	0.05	0.1	ng/dry g	1000	0	112 70 - 130% PASS	9 25 PASS	

Sample ID: 22558-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14 6:37

(PCB030)	NA	117			% Recovery	100	117	60 - 140% PASS	
(PCB112)	NA	108			% Recovery	100	108	60 - 140% PASS	
(PCB198)	NA	66			% Recovery	100	66	60 - 140% PASS	
(TCMX)	NA	119			% Recovery	100	119	60 - 140% PASS	
2,4'-DDD	NA	38.22	0.05	0.1	ng/dry g	38	101	60 - 140% PASS	
2,4'-DDE	NA	24.84	0.05	0.1	ng/dry g	19	131	60 - 140% PASS	



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
4,4'-DDD	NA	90.66	0.05	0.1	ng/dry g	108		84 60 - 140% PASS		
4,4'-DDE	NA	94.36	0.05	0.1	ng/dry g	86		110 60 - 140% PASS		
4,4'-DDT	NA	136.47	0.05	0.1	ng/dry g	170		80 60 - 140% PASS		
Chlordane-alpha	NA	16.09	0.05	0.1	ng/dry g	16.5		98 60 - 140% PASS		
Chlordane-gamma	NA	21.25	0.05	0.1	ng/dry g	19		112 60 - 140% PASS		
cis-Nonachlor	NA	3.58	0.05	0.1	ng/dry g	3.7		97 60 - 140% PASS		
Hexachlorobenzene	NA	6.5	0.05	0.1	ng/dry g	6		108 60 - 140% PASS		
trans-Nonachlor	NA	9.83	0.05	0.1	ng/dry g	8.2		120 60 - 140% PASS		



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CA ELAP #2769

Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
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Acid Volatile Sulfides

Method: Plumb, 1981 and TERL

Fraction: NA

22544-B1	QAQC Procedural Blank	C-14065 ND Prepared: 15-Oct-13	0.05	0.1	mg/dry kg							
		Analyzed: 15-Oct-13 0:00										
22544-BS1	QAQC Procedural Blank	C-14065 7.17 Prepared: 15-Oct-13	0.05	0.1	mg/dry kg	7.75	0	93	80 - 120% PASS			
		Analyzed: 15-Oct-13 0:00										
22544-BS2	QAQC Procedural Blank	C-14065 6.72 Prepared: 15-Oct-13	0.05	0.1	mg/dry kg	7.75	0	87	80 - 120% PASS	7	25	PASS
		Analyzed: 15-Oct-13 0:00										
22546-MS1	B13-8109	C-14065 15.35 Prepared: 15-Oct-13	0.05	0.1	mg/dry kg	8.07	5.49	122	50 - 130% PASS			
		Analyzed: 15-Oct-13 0:00										
22546-MS2	B13-8109	C-14065 14.9 Prepared: 15-Oct-13	0.05	0.1	mg/dry kg	8.42	5.49	112	50 - 130% PASS	9	25	PASS
		Analyzed: 15-Oct-13 0:00										
22546-R2	B13-8109	C-14065 5.01 Prepared: 15-Oct-13	0.05	0.1	mg/dry kg					17	25	PASS
		Analyzed: 15-Oct-13 0:00										

Ammonia as N

Method: SM 4500-NH₃ D

Fraction: NA

22544-B1	QAQC Procedural Blank	C-14071 ND Prepared: 16-Oct-13	0.02	0.03	mg/dry kg							
		Analyzed: 16-Oct-13 0:00										
22544-BS1	QAQC Procedural Blank	C-14071 4.11 Prepared: 16-Oct-13	0.02	0.03	mg/dry kg	3.98	0	103	80 - 120% PASS			
		Analyzed: 16-Oct-13 0:00										
22544-BS2	QAQC Procedural Blank	C-14071 3.98 Prepared: 16-Oct-13	0.02	0.03	mg/dry kg	3.98	0	100	80 - 120% PASS	3	25	PASS
		Analyzed: 16-Oct-13 0:00										
22546-MS1	B13-8109	C-14071 4.06 Prepared: 16-Oct-13	0.02	0.03	mg/dry kg	3.79	0.5	94	70 - 130% PASS			
		Analyzed: 16-Oct-13 0:00										
22546-MS2	B13-8109	C-14071 4.08 Prepared: 16-Oct-13	0.02	0.03	mg/dry kg	3.8	0.5	94	70 - 130% PASS	0	25	PASS
		Analyzed: 16-Oct-13 0:00										
22546-R2	B13-8109	C-14071 0.52 Prepared: 16-Oct-13	0.02	0.03	mg/dry kg					8	25	PASS
		Analyzed: 16-Oct-13 0:00										

Percent Solids

Method: SM 2540B

Fraction: NA

22544-B1	QAQC Procedural Blank	E-7004 ND Prepared: 14-Oct-13	0.1	0.1	% Dry Weight							
		Analyzed: 14-Oct-13 0:00										
22546-R2	B13-8109	E-7004 64.9 Prepared: 14-Oct-13	0.1	0.1	% Dry Weight					0	25	PASS
		Analyzed: 14-Oct-13 0:00										



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Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
22556-R2	B13-8087	E-7004 Prepared: 14-Oct-13	74.3	0.1	0.1	% Dry Weight			0 25	PASS
						Analyzed: 14-Oct-13 0:00				

Total Phosphorus			Method: EPA 6020			Fraction: NA				
22544-B1	QAQC Procedural Blank	E-7006 Prepared: 12-Oct-13	ND	0.016	0.05	µg/dry g				
						Analyzed: 21-Oct-13 14:57				
22544-BS1	QAQC Procedural Blank	E-7006 Prepared: 12-Oct-13	48.811	0.016	0.05	µg/dry g	50	0	98	80 - 120% PASS
						Analyzed: 21-Oct-13 16:07				
22544-BS2	QAQC Procedural Blank	E-7006 Prepared: 12-Oct-13	48.862	0.016	0.05	µg/dry g	50	0	98	80 - 120% PASS
						Analyzed: 21-Oct-13 16:11				
22546-MS1	B13-8109	E-7006 Prepared: 12-Oct-13	1678.429	0.016	0.05	µg/dry g	1293	309.402	106	70 - 130% PASS
						Analyzed: 21-Oct-13 16:25				
22546-MS2	B13-8109	E-7006 Prepared: 12-Oct-13	1679.541	0.016	0.05	µg/dry g	1293	309.402	106	70 - 130% PASS
						Analyzed: 21-Oct-13 16:29				
22546-R2	B13-8109	E-7006 Prepared: 12-Oct-13	305.367	0.016	0.05	µg/dry g			3	25 PASS
						Analyzed: 21-Oct-13 15:06				
22545-B1	QAQC Procedural Blank	E-7007 Prepared: 12-Oct-13	ND	0.016	0.05	µg/dry g				
						Analyzed: 21-Oct-13 17:03				
22545-BS1	QAQC Procedural Blank	E-7007 Prepared: 12-Oct-13	49.805	0.016	0.05	µg/dry g	50	0	100	80 - 120% PASS
						Analyzed: 21-Oct-13 18:21				
22545-BS2	QAQC Procedural Blank	E-7007 Prepared: 12-Oct-13	49.18	0.016	0.05	µg/dry g	50	0	98	80 - 120% PASS
						Analyzed: 21-Oct-13 18:26				
22556-MS1	B13-8087	E-7007 Prepared: 12-Oct-13	1161.931	0.016	0.05	µg/dry g	944.5	238.118	98	70 - 130% PASS
						Analyzed: 21-Oct-13 18:48				
22556-MS2	B13-8087	E-7007 Prepared: 12-Oct-13	1135.839	0.016	0.05	µg/dry g	944.5	238.118	95	70 - 130% PASS
						Analyzed: 21-Oct-13 18:53				
22556-R2	B13-8087	E-7007 Prepared: 12-Oct-13	232.29	0.016	0.05	µg/dry g			5	25 PASS
						Analyzed: 21-Oct-13 17:12				



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22544-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	ND	0.00001	0.00002	µg/dry g					
Method: EPA 6020										
						Batch ID: E-7006		Prepared: 12-Oct-13	Analyzed: 22-Oct-13 17:57	
Aluminum (Al)	NA	ND	1	5	µg/dry g					
Antimony (Sb)	NA	ND	0.025	0.05	µg/dry g					
Arsenic (As)	NA	ND	0.025	0.05	µg/dry g					
Barium (Ba)	NA	ND	0.025	0.05	µg/dry g					
Beryllium (Be)	NA	ND	0.025	0.05	µg/dry g					
Cadmium (Cd)	NA	ND	0.0025	0.005	µg/dry g					
Chromium (Cr)	NA	ND	0.0025	0.005	µg/dry g					
Copper (Cu)	NA	ND	0.0025	0.005	µg/dry g					
Iron (Fe)	NA	ND	1	5	µg/dry g					
Lead (Pb)	NA	ND	0.0025	0.005	µg/dry g					
Nickel (Ni)	NA	ND	0.01	0.02	µg/dry g					
Selenium (Se)	NA	ND	0.025	0.05	µg/dry g					
Silver (Ag)	NA	ND	0.01	0.02	µg/dry g					
Zinc (Zn)	NA	ND	0.025	0.05	µg/dry g					

Sample ID: 22544-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.949	0.00001	0.00002	µg/dry g	1	0	95	80 - 120%	PASS
Method: EPA 6020										
						Batch ID: E-7006		Prepared: 12-Oct-13	Analyzed: 22-Oct-13 19:08	
Aluminum (Al)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS
Antimony (Sb)	NA	2.234	0.025	0.05	µg/dry g	2	0	112	80 - 120%	PASS
Arsenic (As)	NA	2.16	0.025	0.05	µg/dry g	2	0	108	80 - 120%	PASS
Barium (Ba)	NA	2.118	0.025	0.05	µg/dry g	2	0	106	80 - 120%	PASS
Beryllium (Be)	NA	1.888	0.025	0.05	µg/dry g	2	0	94	80 - 120%	PASS
Cadmium (Cd)	NA	2.1034	0.0025	0.005	µg/dry g	2	0	105	80 - 120%	PASS
Chromium (Cr)	NA	2.0206	0.0025	0.005	µg/dry g	2	0	101	80 - 120%	PASS
Copper (Cu)	NA	2.0268	0.0025	0.005	µg/dry g	2	0	101	80 - 120%	PASS



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS
Lead (Pb)	NA	2.0486	0.0025	0.005	µg/dry g	2	0	102	80 - 120%	PASS
Nickel (Ni)	NA	1.96	0.01	0.02	µg/dry g	2	0	98	80 - 120%	PASS
Selenium (Se)	NA	2.121	0.025	0.05	µg/dry g	2	0	106	80 - 120%	PASS
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	0.2	0	100	80 - 120%	PASS
Zinc (Zn)	NA	2.288	0.025	0.05	µg/dry g	2	0	114	80 - 120%	PASS

Sample ID: 22544-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.903	0.00001	0.00002	µg/dry g	1	0	90	80 - 120%	PASS	5	25	PASS
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Method: EPA 6020

Batch ID: E-7006

Prepared: 12-Oct-13

Analyzed: 22-Oct-13 19:13

Aluminum (Al)	NA	2	1	5	µg/dry g	2	0	100	80 - 120%	PASS	5	25	PASS
Antimony (Sb)	NA	2.148	0.025	0.05	µg/dry g	2	0	107	80 - 120%	PASS	5	25	PASS
Arsenic (As)	NA	2.137	0.025	0.05	µg/dry g	2	0	107	80 - 120%	PASS	1	25	PASS
Barium (Ba)	NA	2.065	0.025	0.05	µg/dry g	2	0	103	80 - 120%	PASS	3	25	PASS
Beryllium (Be)	NA	1.899	0.025	0.05	µg/dry g	2	0	95	80 - 120%	PASS	1	25	PASS
Cadmium (Cd)	NA	2.1398	0.0025	0.005	µg/dry g	2	0	107	80 - 120%	PASS	2	25	PASS
Chromium (Cr)	NA	2.0109	0.0025	0.005	µg/dry g	2	0	101	80 - 120%	PASS	0	25	PASS
Copper (Cu)	NA	2.0223	0.0025	0.005	µg/dry g	2	0	101	80 - 120%	PASS	0	25	PASS
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS	0	25	PASS
Lead (Pb)	NA	2.0386	0.0025	0.005	µg/dry g	2	0	102	80 - 120%	PASS	0	25	PASS
Nickel (Ni)	NA	1.97	0.01	0.02	µg/dry g	2	0	99	80 - 120%	PASS	0	25	PASS
Selenium (Se)	NA	2.129	0.025	0.05	µg/dry g	2	0	106	80 - 120%	PASS	0	25	PASS
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	0.2	0	100	80 - 120%	PASS	0	25	PASS
Zinc (Zn)	NA	2.322	0.025	0.05	µg/dry g	2	0	116	80 - 120%	PASS	2	25	PASS

Sample ID: 22545-B1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 6020

Batch ID: E-7007

Prepared: 12-Oct-13

Analyzed: 22-Oct-13 19:55

Aluminum (Al)	NA	ND	1	5	µg/dry g								
Antimony (Sb)	NA	ND	0.025	0.05	µg/dry g								
Arsenic (As)	NA	ND	0.025	0.05	µg/dry g								
Barium (Ba)	NA	ND	0.025	0.05	µg/dry g								



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Beryllium (Be)	NA	ND	0.025	0.05	µg/dry g					
Cadmium (Cd)	NA	ND	0.0025	0.005	µg/dry g					
Chromium (Cr)	NA	ND	0.0025	0.005	µg/dry g					
Copper (Cu)	NA	ND	0.0025	0.005	µg/dry g					
Iron (Fe)	NA	ND	1	5	µg/dry g					
Lead (Pb)	NA	ND	0.0025	0.005	µg/dry g					
Nickel (Ni)	NA	ND	0.01	0.02	µg/dry g					
Selenium (Se)	NA	ND	0.025	0.05	µg/dry g					
Silver (Ag)	NA	ND	0.01	0.02	µg/dry g					
Zinc (Zn)	NA	ND	0.025	0.05	µg/dry g					

Sample ID: 22545-BS1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 6020

Batch ID: E-7007

Prepared: 12-Oct-13

Analyzed: 22-Oct-13 21:15

Aluminum (Al)	NA	2	1	5	µg/dry g	2	0	100	80 - 120%	PASS
Antimony (Sb)	NA	2.171	0.025	0.05	µg/dry g	2	0	109	80 - 120%	PASS
Arsenic (As)	NA	2.113	0.025	0.05	µg/dry g	2	0	106	80 - 120%	PASS
Barium (Ba)	NA	2.142	0.025	0.05	µg/dry g	2	0	107	80 - 120%	PASS
Beryllium (Be)	NA	1.918	0.025	0.05	µg/dry g	2	0	96	80 - 120%	PASS
Cadmium (Cd)	NA	2.1215	0.0025	0.005	µg/dry g	2	0	106	80 - 120%	PASS
Chromium (Cr)	NA	1.9645	0.0025	0.005	µg/dry g	2	0	98	80 - 120%	PASS
Copper (Cu)	NA	1.9528	0.0025	0.005	µg/dry g	2	0	98	80 - 120%	PASS
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS
Lead (Pb)	NA	2.0667	0.0025	0.005	µg/dry g	2	0	103	80 - 120%	PASS
Nickel (Ni)	NA	1.92	0.01	0.02	µg/dry g	2	0	96	80 - 120%	PASS
Selenium (Se)	NA	2.087	0.025	0.05	µg/dry g	2	0	104	80 - 120%	PASS
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	0.2	0	100	80 - 120%	PASS
Zinc (Zn)	NA	2.243	0.025	0.05	µg/dry g	2	0	112	80 - 120%	PASS

Sample ID: 22545-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 6020

Batch ID: E-7007

Prepared: 12-Oct-13

Analyzed: 22-Oct-13 21:20

Aluminum (Al)	NA	2	1	5	µg/dry g	2	0	100	80 - 120%	PASS	0	25	PASS
Antimony (Sb)	NA	2.144	0.025	0.05	µg/dry g	2	0	107	80 - 120%	PASS	2	25	PASS

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QUALITY CONTROL REPORT

Sample ID: 22546-MS1		B13-8109 Grab			Matrix: Sediment			Sampled: 28-Aug-13 7:43			Received: 29-Aug-13	
		Method: EPA 245.7			Batch ID: E-6038			Prepared: 22-Oct-13			Analyzed: 22-Oct-13 0:00	
Mercury (Hg)	NA	0.50168	0.00001	0.00002	µg/dry g	0.2586	0.2253	107	75 - 125%	PASS		
		Method: EPA 6020			Batch ID: E-7006			Prepared: 12-Oct-13			Analyzed: 22-Oct-13 19:17	
Aluminum (Al)	NA	15790.3	1	5	µg/dry g	1034	14663.6	109	75 - 125%	PASS		
Antimony (Sb)	NA	54.655	0.025	0.05	µg/dry g	51.72	0.17	105	75 - 125%	PASS		
Arsenic (As)	NA	60.953	0.025	0.05	µg/dry g	51.72	5.373	107	75 - 125%	PASS		
Barium (Ba)	NA	106.787	0.025	0.05	µg/dry g	51.72	53.227	104	75 - 125%	PASS		
Beryllium (Be)	NA	52.856	0.025	0.05	µg/dry g	51.72	0.279	102	75 - 125%	PASS		
Cadmium (Cd)	NA	51.9859	0.0025	0.005	µg/dry g	51.72	0.1165	100	75 - 125%	PASS		
Chromium (Cr)	NA	83.7617	0.0025	0.005	µg/dry g	51.72	26.842	110	75 - 125%	PASS		
Copper (Cu)	NA	97.2436	0.0025	0.005	µg/dry g	51.72	45.5277	100	75 - 125%	PASS		
Iron (Fe)	NA	17407.2	1	5	µg/dry g	1034	16099	127	75 - 125%	FAIL	SH	
Lead (Pb)	NA	68.7863	0.0025	0.005	µg/dry g	51.72	18.8785	96	75 - 125%	PASS		
Nickel (Ni)	NA	60.43	0.01	0.02	µg/dry g	51.72	7.13	103	75 - 125%	PASS		
Selenium (Se)	NA	57.992	0.025	0.05	µg/dry g	51.72	0.146	112	75 - 125%	PASS		
Silver (Ag)	NA	5.52	0.01	0.02	µg/dry g	5.17	0.34	100	75 - 125%	PASS		
Zinc (Zn)	NA	142.158	0.025	0.05	µg/dry g	51.72	90.851	99	75 - 125%	PASS		



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS			PRECISION % LIMITS		QA CODE
Sample ID: 22546-MS2		B13-8109 Grab		Matrix: Sediment			Sampled: 28-Aug-13 7:43			Received: 29-Aug-13			
		Method: EPA 245.7			Batch ID: E-6038			Prepared: 22-Oct-13			Analyzed: 22-Oct-13 0:00		
Mercury (Hg)	NA	0.4991	0.00001	0.00002	µg/dry g	0.2586	0.2253	106	75 - 125%	PASS	1	25	PASS
		Method: EPA 6020			Batch ID: E-7006			Prepared: 12-Oct-13			Analyzed: 22-Oct-13 19:22		
Aluminum (Al)	NA	15563.3	1	5	µg/dry g	1034	14663.6	87	75 - 125%	PASS	22	25	PASS
Antimony (Sb)	NA	54.287	0.025	0.05	µg/dry g	51.72	0.17	105	75 - 125%	PASS	0	25	PASS
Arsenic (As)	NA	61.305	0.025	0.05	µg/dry g	51.72	5.373	108	75 - 125%	PASS	1	25	PASS
Barium (Ba)	NA	106.22	0.025	0.05	µg/dry g	51.72	53.227	102	75 - 125%	PASS	2	25	PASS
Beryllium (Be)	NA	52.479	0.025	0.05	µg/dry g	51.72	0.279	101	75 - 125%	PASS	1	25	PASS
Cadmium (Cd)	NA	51.5306	0.0025	0.005	µg/dry g	51.72	0.1165	99	75 - 125%	PASS	1	25	PASS
Chromium (Cr)	NA	83.9153	0.0025	0.005	µg/dry g	51.72	26.842	110	75 - 125%	PASS	0	25	PASS
Copper (Cu)	NA	97.4263	0.0025	0.005	µg/dry g	51.72	45.5277	100	75 - 125%	PASS	0	25	PASS
Iron (Fe)	NA	17201.6	1	5	µg/dry g	1034	16099	107	75 - 125%	PASS	17	25	PASS
Lead (Pb)	NA	68.5338	0.0025	0.005	µg/dry g	51.72	18.8785	96	75 - 125%	PASS	0	25	PASS
Nickel (Ni)	NA	60.28	0.01	0.02	µg/dry g	51.72	7.13	103	75 - 125%	PASS	0	25	PASS
Selenium (Se)	NA	57.695	0.025	0.05	µg/dry g	51.72	0.146	111	75 - 125%	PASS	1	25	PASS
Silver (Ag)	NA	5.49	0.01	0.02	µg/dry g	5.17	0.34	100	75 - 125%	PASS	0	25	PASS
Zinc (Zn)	NA	142.338	0.025	0.05	µg/dry g	51.72	90.851	100	75 - 125%	PASS	1	25	PASS



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Iron (Fe)	NA	16167.4	1	5	µg/dry g				1 25	PASS
Lead (Pb)	NA	17.1888	0.0025	0.005	µg/dry g				18 25	PASS
Nickel (Ni)	NA	7.04	0.01	0.02	µg/dry g				3 25	PASS
Selenium (Se)	NA	0.139	0.025	0.05	µg/dry g				10 25	PASS
Silver (Ag)	NA	0.33	0.01	0.02	µg/dry g				6 25	PASS
Zinc (Zn)	NA	89.215	0.025	0.05	µg/dry g				4 25	PASS

Sample ID: 22556-MS1

B13-8087 Grab

Matrix: Sediment

Sampled: 29-Aug-13 15:16

Received: 29-Aug-13

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.24935	0.00001	0.00002	µg/dry g	0.1889	0.0764	92	75 - 125%	PASS
Method: EPA 6020 Batch ID: E-7007 Prepared: 12-Oct-13 Analyzed: 22-Oct-13 21:25										
Aluminum (Al)	NA	8179	1	5	µg/dry g	756	7287.8	118	75 - 125%	PASS
Antimony (Sb)	NA	36.473	0.025	0.05	µg/dry g	37.78	0.142	96	75 - 125%	PASS
Arsenic (As)	NA	44.363	0.025	0.05	µg/dry g	37.78	5.363	103	75 - 125%	PASS
Barium (Ba)	NA	57.27	0.025	0.05	µg/dry g	37.78	19.105	101	75 - 125%	PASS
Beryllium (Be)	NA	36.39	0.025	0.05	µg/dry g	37.78	0.138	96	75 - 125%	PASS
Cadmium (Cd)	NA	38.5587	0.0025	0.005	µg/dry g	37.78	0.031	102	75 - 125%	PASS
Chromium (Cr)	NA	51.5454	0.0025	0.005	µg/dry g	37.78	12.0667	104	75 - 125%	PASS
Copper (Cu)	NA	54.3083	0.0025	0.005	µg/dry g	37.78	19.366	92	75 - 125%	PASS
Iron (Fe)	NA	10794.4	1	5	µg/dry g	756	9860.3	124	75 - 125%	PASS
Lead (Pb)	NA	44.0715	0.0025	0.005	µg/dry g	37.78	9.0894	93	75 - 125%	PASS
Nickel (Ni)	NA	38.98	0.01	0.02	µg/dry g	37.78	3.2	95	75 - 125%	PASS
Selenium (Se)	NA	41.133	0.025	0.05	µg/dry g	37.78	0.072	109	75 - 125%	PASS
Silver (Ag)	NA	3.8	0.01	0.02	µg/dry g	3.78	0.07	99	75 - 125%	PASS
Zinc (Zn)	NA	79.496	0.025	0.05	µg/dry g	37.78	44.11	94	75 - 125%	PASS

Sample ID: 22556-MS2

B13-8087 Grab

Matrix: Sediment

Sampled: 29-Aug-13 15:16

Received: 29-Aug-13

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.24746	0.00001	0.00002	µg/dry g	0.1889	0.0764	91	75 - 125%	PASS
Method: EPA 6020 Batch ID: E-7007 Prepared: 12-Oct-13 Analyzed: 22-Oct-13 21:29										
Aluminum (Al)	NA	8183.6	1	5	µg/dry g	756	7287.8	118	75 - 125%	PASS
Antimony (Sb)	NA	36.71	0.025	0.05	µg/dry g	37.78	0.142	97	75 - 125%	PASS



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Arsenic (As)	NA	44.598	0.025	0.05	µg/dry g	37.78	5.363	104	75 - 125% PASS	1	25	PASS
Barium (Ba)	NA	57.173	0.025	0.05	µg/dry g	37.78	19.105	101	75 - 125% PASS	0	25	PASS
Beryllium (Be)	NA	36.161	0.025	0.05	µg/dry g	37.78	0.138	95	75 - 125% PASS	1	25	PASS
Cadmium (Cd)	NA	38.5553	0.0025	0.005	µg/dry g	37.78	0.031	102	75 - 125% PASS	0	25	PASS
Chromium (Cr)	NA	51.8812	0.0025	0.005	µg/dry g	37.78	12.0667	105	75 - 125% PASS	1	25	PASS
Copper (Cu)	NA	54.782	0.0025	0.005	µg/dry g	37.78	19.366	94	75 - 125% PASS	2	25	PASS
Iron (Fe)	NA	10825.6	1	5	µg/dry g	756	9860.3	128	75 - 125% FAIL	3	25	PASS SH
Lead (Pb)	NA	44.4368	0.0025	0.005	µg/dry g	37.78	9.0894	94	75 - 125% PASS	1	25	PASS
Nickel (Ni)	NA	39.38	0.01	0.02	µg/dry g	37.78	3.2	96	75 - 125% PASS	1	25	PASS
Selenium (Se)	NA	41.503	0.025	0.05	µg/dry g	37.78	0.072	110	75 - 125% PASS	1	25	PASS
Silver (Ag)	NA	3.79	0.01	0.02	µg/dry g	3.78	0.07	98	75 - 125% PASS	1	25	PASS
Zinc (Zn)	NA	79.637	0.025	0.05	µg/dry g	37.78	44.11	94	75 - 125% PASS	0	25	PASS

Sample ID: 22556-R2**B13-8087 Grab****Matrix: Sediment****Sampled: 29-Aug-13 15:16****Received: 29-Aug-13**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.0846	0.00001	0.00002	µg/dry g					21	25	PASS
Method: EPA 6020												
Batch ID: E-7007												
Prepared: 12-Oct-13												
Analyzed: 22-Oct-13 20:05												
Aluminum (Al)	NA	7185.2	1	5	µg/dry g					3	25	PASS
Antimony (Sb)	NA	0.128	0.025	0.05	µg/dry g					20	25	PASS
Arsenic (As)	NA	5.427	0.025	0.05	µg/dry g					2	25	PASS
Barium (Ba)	NA	18.427	0.025	0.05	µg/dry g					7	25	PASS
Beryllium (Be)	NA	0.135	0.025	0.05	µg/dry g					4	25	PASS
Cadmium (Cd)	NA	0.032	0.0025	0.005	µg/dry g					6	25	PASS
Chromium (Cr)	NA	11.9103	0.0025	0.005	µg/dry g					3	25	PASS
Copper (Cu)	NA	19.3132	0.0025	0.005	µg/dry g					1	25	PASS
Iron (Fe)	NA	9820.3	1	5	µg/dry g					1	25	PASS
Lead (Pb)	NA	9.2162	0.0025	0.005	µg/dry g					3	25	PASS
Nickel (Ni)	NA	3.1	0.01	0.02	µg/dry g					6	25	PASS
Selenium (Se)	NA	0.079	0.025	0.05	µg/dry g					19	25	PASS
Silver (Ag)	NA	0.07	0.01	0.02	µg/dry g					13	25	PASS
Zinc (Zn)	NA	43.376	0.025	0.05	µg/dry g					3	25	PASS



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Sample ID: 22559-CRM1		QAQC CRM - RTC 016-050			Matrix: Sediment		Sampled:			Received:
		Method: EPA 245.7			Batch ID: E-6038		Prepared: 22-Oct-13			Analyzed: 22-Oct-13 0:00
Mercury (Hg)	NA	0.1422	0.00001	0.00002	µg/dry g	0.158	90	80 - 120%	PASS	
		Method: EPA 6020			Batch ID: E-7006		Prepared: 12-Oct-13			Analyzed: 22-Oct-13 18:54
Aluminum (Al)	NA	27210.4	1	5	µg/dry g	8920	305	80 - 120%	FAIL	*
Arsenic (As)	NA	9.481	0.025	0.05	µg/dry g	7.76	122	80 - 120%	FAIL	*
Beryllium (Be)	NA	0.881	0.025	0.05	µg/dry g	0.49	180	80 - 120%	FAIL	*
Cadmium (Cd)	NA	0.2796	0.0025	0.005	µg/dry g	0.47	59	80 - 120%	FAIL	R
Chromium (Cr)	NA	40.8542	0.0025	0.005	µg/dry g	14.5	282	80 - 120%	FAIL	*
Copper (Cu)	NA	14.8277	0.0025	0.005	µg/dry g	15.5	96	80 - 120%	PASS	
Iron (Fe)	NA	20517.9	1	5	µg/dry g	16800	122	80 - 120%	FAIL	*
Lead (Pb)	NA	15.0445	0.0025	0.005	µg/dry g	14.01	107	80 - 120%	PASS	
Nickel (Ni)	NA	20.26	0.01	0.02	µg/dry g	16.7	121	80 - 120%	FAIL	*
Zinc (Zn)	NA	78.263	0.025	0.05	µg/dry g	69.7	112	80 - 120%	PASS	
Sample ID: 22559-CRM2		QAQC CRM - RTC 016-050			Matrix: Sediment		Sampled:			Received:
		Method: EPA 245.7			Batch ID: E-6038		Prepared: 22-Oct-13			Analyzed: 22-Oct-13 0:00
Mercury (Hg)	NA	0.1453	0.00001	0.00002	µg/dry g	0.158	92	80 - 120%	PASS	2 25 PASS
Sample ID: 22560-CRM1		QAQC CRM - RTC 016-050			Matrix: Sediment		Sampled:			Received:
		Method: EPA 6020			Batch ID: E-7007		Prepared: 12-Oct-13			Analyzed: 22-Oct-13 20:42
Aluminum (Al)	NA	24039.7	1	5	µg/dry g	8920	270	80 - 120%	FAIL	*
Arsenic (As)	NA	8.789	0.025	0.05	µg/dry g	7.76	113	80 - 120%	PASS	
Beryllium (Be)	NA	0.785	0.025	0.05	µg/dry g	0.49	160	80 - 120%	FAIL	*
Cadmium (Cd)	NA	0.2721	0.0025	0.005	µg/dry g	0.47	58	80 - 120%	FAIL	R
Chromium (Cr)	NA	35.9891	0.0025	0.005	µg/dry g	14.5	248	80 - 120%	FAIL	*
Copper (Cu)	NA	14.0242	0.0025	0.005	µg/dry g	15.5	90	80 - 120%	PASS	
Iron (Fe)	NA	19693.8	1	5	µg/dry g	16800	117	80 - 120%	PASS	
Lead (Pb)	NA	14.6779	0.0025	0.005	µg/dry g	14.01	105	80 - 120%	PASS	
Nickel (Ni)	NA	19.18	0.01	0.02	µg/dry g	16.7	115	80 - 120%	PASS	
Zinc (Zn)	NA	72.095	0.025	0.05	µg/dry g	69.7	103	80 - 120%	PASS	



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION LIMITS	QA CODE
<div><div>Sample ID: 22561-CRM1</div><div>QAQC CRM - ERA 540</div><div>Method: EPA 245.7</div><div>Matrix: Sediment</div><div>Batch ID: E-6038</div><div>Sampled: Prepared: 22-Oct-13</div><div>Received: Analyzed: 22-Oct-13 0:00</div></div>										
Mercury (Hg)	NA	8.223	0.00001	0.00002	µg/dry g	9.25	89	80 - 120%	PASS	
<div><div>Method: EPA 6020</div><div>Batch ID: E-7006</div><div>Sampled: Prepared: 12-Oct-13</div><div>Received: Analyzed: 22-Oct-13 18:58</div></div>										
Aluminum (Al)	NA	13525.4	1	5	µg/dry g	9060	149	80 - 120%	FAIL	*
Antimony (Sb)	NA	179.648	0.025	0.05	µg/dry g	106	169	80 - 120%	FAIL	*
Arsenic (As)	NA	182.13	0.025	0.05	µg/dry g	182	100	80 - 120%	PASS	
Beryllium (Be)	NA	89.107	0.025	0.05	µg/dry g	98.3	91	80 - 120%	PASS	
Cadmium (Cd)	NA	56.2548	0.0025	0.005	µg/dry g	60.4	93	80 - 120%	PASS	
Chromium (Cr)	NA	134.6213	0.0025	0.005	µg/dry g	125	108	80 - 120%	PASS	
Copper (Cu)	NA	75.7329	0.0025	0.005	µg/dry g	80.1	95	80 - 120%	PASS	
Iron (Fe)	NA	17142	1	5	µg/dry g	12900	133	80 - 120%	FAIL	*
Lead (Pb)	NA	123.3085	0.0025	0.005	µg/dry g	136	91	80 - 120%	PASS	
Nickel (Ni)	NA	123.21	0.01	0.02	µg/dry g	128	96	80 - 120%	PASS	
Selenium (Se)	NA	89.702	0.025	0.05	µg/dry g	85.9	104	80 - 120%	PASS	
Silver (Ag)	NA	58.38	0.01	0.02	µg/dry g	61.3	95	80 - 120%	PASS	
Zinc (Zn)	NA	200.443	0.025	0.05	µg/dry g	204	98	80 - 120%	PASS	

Sample ID: 22561-CRM2 QAQC CRM - ERA 540 Method: EPA 245.7 Matrix: Sediment Batch ID: E-6038 Sampled: Prepared: 22-Oct-13 Received: Analyzed: 22-Oct-13 0:00										
Mercury (Hg)	NA	7.1713	0.00001	0.00002	µg/dry g	9.25	78	80 - 120%	FAIL	14 25 PASS R

Sample ID: 22562-CRM1 QAQC CRM - ERA 540 Method: EPA 6020 Matrix: Sediment Batch ID: E-7007 Sampled: Prepared: 12-Oct-13 Received: Analyzed: 22-Oct-13 20:47										
Aluminum (Al)	NA	9887.3	1	5	µg/dry g	9060	109	80 - 120%	PASS	
Antimony (Sb)	NA	152.007	0.025	0.05	µg/dry g	106	143	80 - 120%	FAIL	*
Arsenic (As)	NA	158.942	0.025	0.05	µg/dry g	182	87	80 - 120%	PASS	
Beryllium (Be)	NA	81.283	0.025	0.05	µg/dry g	98.3	83	80 - 120%	PASS	
Cadmium (Cd)	NA	51.5203	0.0025	0.005	µg/dry g	60.4	85	80 - 120%	PASS	
Chromium (Cr)	NA	112.2602	0.0025	0.005	µg/dry g	125	90	80 - 120%	PASS	
Copper (Cu)	NA	64.7235	0.0025	0.005	µg/dry g	80.1	81	80 - 120%	PASS	



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Iron (Fe)	NA	13130.2	1	5	µg/dry g	12900		102 80 - 120% PASS		
Lead (Pb)	NA	110.7675	0.0025	0.005	µg/dry g	136		81 80 - 120% PASS		
Nickel (Ni)	NA	107.1	0.01	0.02	µg/dry g	128		84 80 - 120% PASS		
Selenium (Se)	NA	79.084	0.025	0.05	µg/dry g	85.9		92 80 - 120% PASS		
Silver (Ag)	NA	52.13	0.01	0.02	µg/dry g	61.3		85 80 - 120% PASS		
Zinc (Zn)	NA	171.38	0.025	0.05	µg/dry g	204		84 80 - 120% PASS		



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Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22544-B1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 200.8

Batch ID: E-7010

Prepared: 18-Oct-13

Analyzed: 18-Oct-13 18:18

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g					
Copper (Cu) - SEM	NA	ND	0.0062	0.0124	µmol/dry g					
Lead (Pb) - SEM	NA	ND	0.0002	0.0004	µmol/dry g					
Nickel (Ni) - SEM	NA	ND	0.0033	0.0066	µmol/dry g					
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g					
Zinc (Zn) - SEM	NA	ND	0.0015	0.003	µmol/dry g					

Sample ID: 22544-BS1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 200.8

Batch ID: E-7010

Prepared: 18-Oct-13

Analyzed: 18-Oct-13 19:15

Cadmium (Cd) - SEM	NA	0.0187	0.0018	0.0036	µmol/dry g	0.0178	0	105	75 - 130%	PASS
Copper (Cu) - SEM	NA	0.032	0.0062	0.0124	µmol/dry g	0.0315	0	102	70 - 130%	PASS
Lead (Pb) - SEM	NA	0.0098	0.0002	0.0004	µmol/dry g	0.0097	0	101	65 - 135%	PASS
Nickel (Ni) - SEM	NA	0.0343	0.0033	0.0066	µmol/dry g	0.0341	0	101	70 - 130%	PASS
Silver (Ag) - SEM	NA	0.0019	0.0047	0.0094	µmol/dry g	0.0019	0	100	50 - 155%	PASS
Zinc (Zn) - SEM	NA	0.0355	0.0015	0.003	µmol/dry g	0.0306	0	116	50 - 150%	PASS

Sample ID: 22544-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 200.8

Batch ID: E-7010

Prepared: 18-Oct-13

Analyzed: 18-Oct-13 19:20

Cadmium (Cd) - SEM	NA	0.0187	0.0018	0.0036	µmol/dry g	0.0178	0	105	75 - 130%	PASS	0	25	PASS
Copper (Cu) - SEM	NA	0.0317	0.0062	0.0124	µmol/dry g	0.0315	0	101	70 - 130%	PASS	1	25	PASS
Lead (Pb) - SEM	NA	0.0097	0.0002	0.0004	µmol/dry g	0.0097	0	100	65 - 135%	PASS	1	25	PASS
Nickel (Ni) - SEM	NA	0.0339	0.0033	0.0066	µmol/dry g	0.0341	0	99	70 - 130%	PASS	2	25	PASS
Silver (Ag) - SEM	NA	0.0018	0.0047	0.0094	µmol/dry g	0.0019	0	95	50 - 155%	PASS	5	25	PASS
Zinc (Zn) - SEM	NA	0.0356	0.0015	0.003	µmol/dry g	0.0306	0	116	50 - 150%	PASS	0	25	PASS

Sample ID: 22545-B1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 200.8

Batch ID: E-7011

Prepared: 18-Oct-13

Analyzed: 18-Oct-13 20:13

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g					
Copper (Cu) - SEM	NA	ND	0.0062	0.0124	µmol/dry g					
Lead (Pb) - SEM	NA	ND	0.0002	0.0004	µmol/dry g					



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Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Nickel (Ni) - SEM	NA	ND	0.0033	0.0066	µmol/dry g					
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g					
Zinc (Zn) - SEM	NA	ND	0.0015	0.003	µmol/dry g					

Sample ID: 22545-BS1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 200.8

Batch ID: E-7011

Prepared: 18-Oct-13

Analyzed: 18-Oct-13 21:05

Cadmium (Cd) - SEM	NA	0.0188	0.0018	0.0036	µmol/dry g	0.0178	0	106	75 - 130%	PASS
Copper (Cu) - SEM	NA	0.0319	0.0062	0.0124	µmol/dry g	0.0315	0	101	70 - 130%	PASS
Lead (Pb) - SEM	NA	0.0098	0.0002	0.0004	µmol/dry g	0.0097	0	101	65 - 135%	PASS
Nickel (Ni) - SEM	NA	0.0341	0.0033	0.0066	µmol/dry g	0.0341	0	100	70 - 130%	PASS
Silver (Ag) - SEM	NA	0.0019	0.0047	0.0094	µmol/dry g	0.0019	0	100	50 - 155%	PASS
Zinc (Zn) - SEM	NA	0.0353	0.0015	0.003	µmol/dry g	0.0306	0	115	50 - 150%	PASS

Sample ID: 22545-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 200.8

Batch ID: E-7011

Prepared: 18-Oct-13

Analyzed: 18-Oct-13 21:09

Cadmium (Cd) - SEM	NA	0.0189	0.0018	0.0036	µmol/dry g	0.0178	0	106	75 - 130%	PASS	0	25	PASS
Copper (Cu) - SEM	NA	0.032	0.0062	0.0124	µmol/dry g	0.0315	0	102	70 - 130%	PASS	1	25	PASS
Lead (Pb) - SEM	NA	0.0098	0.0002	0.0004	µmol/dry g	0.0097	0	101	65 - 135%	PASS	0	25	PASS
Nickel (Ni) - SEM	NA	0.0342	0.0033	0.0066	µmol/dry g	0.0341	0	100	70 - 130%	PASS	0	25	PASS
Silver (Ag) - SEM	NA	0.0019	0.0047	0.0094	µmol/dry g	0.0019	0	100	50 - 155%	PASS	0	25	PASS
Zinc (Zn) - SEM	NA	0.0356	0.0015	0.003	µmol/dry g	0.0306	0	116	50 - 150%	PASS	1	25	PASS

Sample ID: 22546-MS1**B13-8109 Grab****Matrix: Sediment****Sampled: 28-Aug-13 7:43****Received: 29-Aug-13**

Method: EPA 200.8

Batch ID: E-7010

Prepared: 18-Oct-13

Analyzed: 18-Oct-13 19:25

Cadmium (Cd) - SEM	NA	0.3477	0.0018	0.0036	µmol/dry g	0.3338	0	104	75 - 130%	PASS
Copper (Cu) - SEM	NA	0.8767	0.0062	0.0124	µmol/dry g	0.5905	0.2729	102	70 - 130%	PASS
Lead (Pb) - SEM	NA	0.2265	0.0002	0.0004	µmol/dry g	0.1811	0.052	96	65 - 135%	PASS
Nickel (Ni) - SEM	NA	0.6563	0.0033	0.0066	µmol/dry g	0.6393	0.0078	101	70 - 130%	PASS
Silver (Ag) - SEM	NA	0.0332	0.0047	0.0094	µmol/dry g	0.0348	0	95	50 - 155%	PASS
Zinc (Zn) - SEM	NA	1.3555	0.0015	0.003	µmol/dry g	0.5739	0.6884	116	50 - 150%	PASS

Sample ID: 22546-MS2**B13-8109 Grab****Matrix: Sediment****Sampled: 28-Aug-13 7:43****Received: 29-Aug-13**

Method: EPA 200.8

Batch ID: E-7010

Prepared: 18-Oct-13

Analyzed: 18-Oct-13 19:29



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Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Cadmium (Cd) - SEM	NA	0.3479	0.0018	0.0036	µmol/dry g	0.3338	0	104	75 - 130% PASS	0	25 PASS	
Copper (Cu) - SEM	NA	0.8797	0.0062	0.0124	µmol/dry g	0.5905	0.2729	103	70 - 130% PASS	1	25 PASS	
Lead (Pb) - SEM	NA	0.2257	0.0002	0.0004	µmol/dry g	0.1811	0.052	96	65 - 135% PASS	0	25 PASS	
Nickel (Ni) - SEM	NA	0.6634	0.0033	0.0066	µmol/dry g	0.6393	0.0078	103	70 - 130% PASS	2	25 PASS	
Silver (Ag) - SEM	NA	0.0332	0.0047	0.0094	µmol/dry g	0.0348	0	95	50 - 155% PASS	0	25 PASS	
Zinc (Zn) - SEM	NA	1.3601	0.0015	0.003	µmol/dry g	0.5739	0.6884	117	50 - 150% PASS	1	25 PASS	

Sample ID: 22546-R2**B13-8109 Grab****Matrix: Sediment****Sampled: 28-Aug-13 7:43****Received: 29-Aug-13**

Method: EPA 200.8

Batch ID: E-7010

Prepared: 18-Oct-13

Analyzed: 18-Oct-13 18:28

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g					0	25 PASS	
Copper (Cu) - SEM	NA	0.268	0.0062	0.0124	µmol/dry g					4	25 PASS	
Lead (Pb) - SEM	NA	0.0509	0.0002	0.0004	µmol/dry g					4	25 PASS	
Nickel (Ni) - SEM	NA	0.0076	0.0033	0.0066	µmol/dry g					4	25 PASS	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g					0	25 PASS	
Zinc (Zn) - SEM	NA	0.6602	0.0015	0.003	µmol/dry g					8	25 PASS	



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Fipronil & Degradates

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22544-B1

QAQC Procedural Blank

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5034

Sampled:

Prepared: 06-Nov-13

Received:

Analyzed: 09-Nov-13 12:57

Fipronil	NA	ND	0.25	0.5	ng/dry g					
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g					
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g					
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g					

Sample ID: 22544-BS1

QAQC Procedural Blank

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5034

Sampled:

Prepared: 06-Nov-13

Received:

Analyzed: 09-Nov-14 14:01

Fipronil	NA	1109.2	0.25	0.5	ng/dry g	1000	0	111	50 - 150%	PASS
Fipronil Desulfinyl	NA	866.25	0.25	0.5	ng/dry g	1000	0	87	50 - 150%	PASS
Fipronil Sulfide	NA	1117.54	0.25	0.5	ng/dry g	1000	0	112	50 - 150%	PASS
Fipronil Sulfone	NA	1215.67	0.25	0.5	ng/dry g	1000	0	122	50 - 150%	PASS

Sample ID: 22544-BS2

QAQC Procedural Blank

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5034

Sampled:

Prepared: 06-Nov-13

Received:

Analyzed: 09-Nov-14 15:05

Fipronil	NA	1055	0.25	0.5	ng/dry g	1000	0	105	50 - 150%	PASS	6	25	PASS
Fipronil Desulfinyl	NA	1216.78	0.25	0.5	ng/dry g	1000	0	122	50 - 150%	PASS	33	25	FAIL R
Fipronil Sulfide	NA	1256.14	0.25	0.5	ng/dry g	1000	0	126	50 - 150%	PASS	12	25	PASS
Fipronil Sulfone	NA	1443.58	0.25	0.5	ng/dry g	1000	0	144	50 - 150%	PASS	17	25	PASS

Sample ID: 22545-B1

QAQC Procedural Blank

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5039

Sampled:

Prepared: 12-Nov-13

Received:

Analyzed: 15-Nov-13 7:42

Fipronil	NA	ND	0.25	0.5	ng/dry g					
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g					
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g					
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g					

Sample ID: 22545-BS1

QAQC Procedural Blank

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5039

Sampled:

Prepared: 12-Nov-13

Received:

Analyzed: 15-Nov-13 8:46

Fipronil	NA	1009	0.25	0.5	ng/dry g	1000	0	101	50 - 150%	PASS
Fipronil Desulfinyl	NA	955	0.25	0.5	ng/dry g	1000	0	95	50 - 150%	PASS



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Fipronil & Degradates

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Fipronil Sulfide	NA	1014	0.25	0.5	ng/dry g	1000	0	101 50 - 150%	PASS	
Fipronil Sulfone	NA	1077	0.25	0.5	ng/dry g	1000	0	108 50 - 150%	PASS	

Sample ID: 22545-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13 9:50

Fipronil	NA	1022	0.25	0.5	ng/dry g	1000	0	102 50 - 150%	PASS	1 25 PASS
Fipronil Desulfinyl	NA	1050	0.25	0.5	ng/dry g	1000	0	105 50 - 150%	PASS	9 25 PASS
Fipronil Sulfide	NA	1093	0.25	0.5	ng/dry g	1000	0	109 50 - 150%	PASS	8 25 PASS
Fipronil Sulfone	NA	1073	0.25	0.5	ng/dry g	1000	0	107 50 - 150%	PASS	1 25 PASS



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22544-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-5136		Prepared: 22-Apr-14		Analyzed: 09-May-14 13:44		
PCB003	NA	ND	0.05	0.1	ng/dry g					
PCB005	NA	ND	0.05	0.1	ng/dry g					
PCB008	NA	ND	0.05	0.1	ng/dry g					
PCB015	NA	ND	0.05	0.1	ng/dry g					
PCB018	NA	ND	0.05	0.1	ng/dry g					
PCB027	NA	ND	0.05	0.1	ng/dry g					
PCB028	NA	ND	0.05	0.1	ng/dry g					
PCB029	NA	ND	0.05	0.1	ng/dry g					
PCB031	NA	ND	0.05	0.1	ng/dry g					
PCB033	NA	ND	0.05	0.1	ng/dry g					
PCB037	NA	ND	0.05	0.1	ng/dry g					
PCB044	NA	ND	0.05	0.1	ng/dry g					
PCB049	NA	ND	0.05	0.1	ng/dry g					
PCB052	NA	ND	0.05	0.1	ng/dry g					
PCB056(060)	NA	ND	0.1	0.2	ng/dry g					
PCB066	NA	ND	0.05	0.1	ng/dry g					
PCB070	NA	ND	0.05	0.1	ng/dry g					
PCB074	NA	ND	0.05	0.1	ng/dry g					
PCB077	NA	ND	0.05	0.1	ng/dry g					
PCB081	NA	ND	0.05	0.1	ng/dry g					
PCB087	NA	ND	0.05	0.1	ng/dry g					
PCB095	NA	ND	0.05	0.1	ng/dry g					
PCB097	NA	ND	0.05	0.1	ng/dry g					
PCB099	NA	ND	0.05	0.1	ng/dry g					
PCB101	NA	ND	0.05	0.1	ng/dry g					
PCB105	NA	ND	0.05	0.1	ng/dry g					
PCB110	NA	ND	0.05	0.1	ng/dry g					
PCB114	NA	ND	0.05	0.1	ng/dry g					
PCB118	NA	ND	0.05	0.1	ng/dry g					



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB119	NA	ND	0.05	0.1	ng/dry g					
PCB123	NA	ND	0.05	0.1	ng/dry g					
PCB126	NA	ND	0.05	0.1	ng/dry g					
PCB128	NA	ND	0.05	0.1	ng/dry g					
PCB137	NA	ND	0.05	0.1	ng/dry g					
PCB138	NA	ND	0.05	0.1	ng/dry g					
PCB141	NA	ND	0.05	0.1	ng/dry g					
PCB149	NA	ND	0.05	0.1	ng/dry g					
PCB151	NA	ND	0.05	0.1	ng/dry g					
PCB153	NA	ND	0.05	0.1	ng/dry g					
PCB156	NA	ND	0.05	0.1	ng/dry g					
PCB157	NA	ND	0.05	0.1	ng/dry g					
PCB158	NA	ND	0.05	0.1	ng/dry g					
PCB167	NA	ND	0.05	0.1	ng/dry g					
PCB168+132	NA	ND	0.1	0.2	ng/dry g					
PCB169	NA	ND	0.05	0.1	ng/dry g					
PCB170	NA	ND	0.05	0.1	ng/dry g					
PCB174	NA	ND	0.05	0.1	ng/dry g					
PCB177	NA	ND	0.05	0.1	ng/dry g					
PCB180	NA	ND	0.05	0.1	ng/dry g					
PCB183	NA	ND	0.05	0.1	ng/dry g					
PCB187	NA	ND	0.05	0.1	ng/dry g					
PCB189	NA	ND	0.05	0.1	ng/dry g					
PCB194	NA	ND	0.05	0.1	ng/dry g					
PCB195	NA	ND	0.05	0.1	ng/dry g					
PCB199(200)	NA	ND	0.1	0.2	ng/dry g					
PCB201	NA	ND	0.05	0.1	ng/dry g					
PCB203	NA	ND	0.05	0.1	ng/dry g					
PCB206	NA	ND	0.05	0.1	ng/dry g					
PCB209	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 22544-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13

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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
		LIMITS						LIMITS		
Method: EPA 8270C			Batch ID: O-5136			Prepared: 22-Apr-14			Analyzed: 09-May-14 15:23	
PCB003	NA	200.25	0.05	0.1	ng/dry g	200	0	100	70 - 130%	PASS
PCB005	NA	199.67	0.05	0.1	ng/dry g	200	0	100	70 - 130%	PASS
PCB008	NA	163.17	0.05	0.1	ng/dry g	200	0	82	70 - 130%	PASS
PCB015	NA	211.67	0.05	0.1	ng/dry g	200	0	106	70 - 130%	PASS
PCB018	NA	171.62	0.05	0.1	ng/dry g	200	0	86	70 - 130%	PASS
PCB027	NA	165.75	0.05	0.1	ng/dry g	200	0	83	70 - 130%	PASS
PCB028	NA	176.32	0.05	0.1	ng/dry g	200	0	88	70 - 130%	PASS
PCB029	NA	195.51	0.05	0.1	ng/dry g	200	0	98	70 - 130%	PASS
PCB031	NA	249	0.05	0.1	ng/dry g	200	0	125	70 - 130%	PASS
PCB033	NA	206.79	0.05	0.1	ng/dry g	200	0	103	70 - 130%	PASS
PCB037	NA	249.22	0.05	0.1	ng/dry g	200	0	125	70 - 130%	PASS
PCB044	NA	187.38	0.05	0.1	ng/dry g	200	0	94	70 - 130%	PASS
PCB049	NA	189.49	0.05	0.1	ng/dry g	200	0	95	70 - 130%	PASS
PCB052	NA	176.57	0.05	0.1	ng/dry g	200	0	88	70 - 130%	PASS
PCB056(060)	NA	233.8	0.1	0.2	ng/dry g	200	0	117	70 - 130%	PASS
PCB066	NA	215.34	0.05	0.1	ng/dry g	200	0	108	70 - 130%	PASS
PCB070	NA	212.52	0.05	0.1	ng/dry g	200	0	106	70 - 130%	PASS
PCB074	NA	223.17	0.05	0.1	ng/dry g	200	0	112	70 - 130%	PASS
PCB077	NA	256.7	0.05	0.1	ng/dry g	200	0	128	70 - 130%	PASS
PCB081	NA	249.3	0.05	0.1	ng/dry g	200	0	125	70 - 130%	PASS
PCB087	NA	209.53	0.05	0.1	ng/dry g	200	0	105	70 - 130%	PASS
PCB095	NA	172.11	0.05	0.1	ng/dry g	200	0	86	70 - 130%	PASS
PCB097	NA	221.8	0.05	0.1	ng/dry g	200	0	111	70 - 130%	PASS
PCB099	NA	205.87	0.05	0.1	ng/dry g	200	0	103	70 - 130%	PASS
PCB101	NA	200.1	0.05	0.1	ng/dry g	200	0	100	70 - 130%	PASS
PCB105	NA	216.89	0.05	0.1	ng/dry g	200	0	108	70 - 130%	PASS
PCB110	NA	208.57	0.05	0.1	ng/dry g	200	0	104	70 - 130%	PASS
PCB114	NA	247.51	0.05	0.1	ng/dry g	200	0	124	70 - 130%	PASS
PCB118	NA	226.7	0.05	0.1	ng/dry g	200	0	113	70 - 130%	PASS
PCB119	NA	230.12	0.05	0.1	ng/dry g	200	0	115	70 - 130%	PASS



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB123	NA	242.84	0.05	0.1	ng/dry g	200	0	121	70 - 130% PASS	
PCB126	NA	257.98	0.05	0.1	ng/dry g	200	0	129	70 - 130% PASS	
PCB128	NA	237.93	0.05	0.1	ng/dry g	200	0	119	70 - 130% PASS	
PCB137	NA	220.02	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	
PCB138	NA	216.48	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	
PCB141	NA	194.02	0.05	0.1	ng/dry g	200	0	97	70 - 130% PASS	
PCB149	NA	186.39	0.05	0.1	ng/dry g	200	0	93	70 - 130% PASS	
PCB151	NA	195.44	0.05	0.1	ng/dry g	200	0	98	70 - 130% PASS	
PCB153	NA	223.58	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	
PCB156	NA	248.4	0.05	0.1	ng/dry g	200	0	124	70 - 130% PASS	
PCB157	NA	229.38	0.05	0.1	ng/dry g	200	0	115	70 - 130% PASS	
PCB158	NA	200.58	0.05	0.1	ng/dry g	200	0	100	70 - 130% PASS	
PCB167	NA	228.4	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	
PCB168+132	NA	384	0.1	0.2	ng/dry g	400	0	96	70 - 130% PASS	
PCB169	NA	305.94	0.05	0.1	ng/dry g	200	0	153	70 - 130% FAIL	R
PCB170	NA	234	0.05	0.1	ng/dry g	200	0	117	70 - 130% PASS	
PCB174	NA	196.37	0.05	0.1	ng/dry g	200	0	98	70 - 130% PASS	
PCB177	NA	192.66	0.05	0.1	ng/dry g	200	0	96	70 - 130% PASS	
PCB180	NA	223.85	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	
PCB183	NA	194.13	0.05	0.1	ng/dry g	200	0	97	70 - 130% PASS	
PCB187	NA	196.75	0.05	0.1	ng/dry g	200	0	98	70 - 130% PASS	
PCB189	NA	245.46	0.05	0.1	ng/dry g	200	0	123	70 - 130% PASS	
PCB194	NA	216.02	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	
PCB195	NA	192.73	0.05	0.1	ng/dry g	200	0	96	70 - 130% PASS	
PCB199(200)	NA	158	0.1	0.2	ng/dry g	200	0	79	70 - 130% PASS	
PCB201	NA	191.85	0.05	0.1	ng/dry g	200	0	96	70 - 130% PASS	
PCB203	NA	188.27	0.05	0.1	ng/dry g	200	0	94	70 - 130% PASS	
PCB206	NA	210.75	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	
PCB209	NA	168.99	0.05	0.1	ng/dry g	200	0	84	70 - 130% PASS	

Sample ID: 22544-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 09-May-14 17:01

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13

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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB003	NA	204.92	0.05	0.1	ng/dry g	200	0	102 70 - 130% PASS	2 25 PASS	
PCB005	NA	212.07	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS	6 25 PASS	
PCB008	NA	170.98	0.05	0.1	ng/dry g	200	0	85 70 - 130% PASS	4 25 PASS	
PCB015	NA	217.54	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS	3 25 PASS	
PCB018	NA	175.64	0.05	0.1	ng/dry g	200	0	88 70 - 130% PASS	2 25 PASS	
PCB027	NA	167.58	0.05	0.1	ng/dry g	200	0	84 70 - 130% PASS	1 25 PASS	
PCB028	NA	189.3	0.05	0.1	ng/dry g	200	0	95 70 - 130% PASS	8 25 PASS	
PCB029	NA	201.91	0.05	0.1	ng/dry g	200	0	101 70 - 130% PASS	3 25 PASS	
PCB031	NA	245.68	0.05	0.1	ng/dry g	200	0	123 70 - 130% PASS	1 25 PASS	
PCB033	NA	213.56	0.05	0.1	ng/dry g	200	0	107 70 - 130% PASS	4 25 PASS	
PCB037	NA	255.68	0.05	0.1	ng/dry g	200	0	128 70 - 130% PASS	2 25 PASS	
PCB044	NA	197.99	0.05	0.1	ng/dry g	200	0	99 70 - 130% PASS	5 25 PASS	
PCB049	NA	196.57	0.05	0.1	ng/dry g	200	0	98 70 - 130% PASS	3 25 PASS	
PCB052	NA	182.43	0.05	0.1	ng/dry g	200	0	91 70 - 130% PASS	3 25 PASS	
PCB056(060)	NA	240.5	0.1	0.2	ng/dry g	200	0	120 70 - 130% PASS	3 25 PASS	
PCB066	NA	222.43	0.05	0.1	ng/dry g	200	0	111 70 - 130% PASS	3 25 PASS	
PCB070	NA	219.96	0.05	0.1	ng/dry g	200	0	110 70 - 130% PASS	4 25 PASS	
PCB074	NA	227.65	0.05	0.1	ng/dry g	200	0	114 70 - 130% PASS	2 25 PASS	
PCB077	NA	246.62	0.05	0.1	ng/dry g	200	0	123 70 - 130% PASS	4 25 PASS	
PCB081	NA	242.11	0.05	0.1	ng/dry g	200	0	121 70 - 130% PASS	3 25 PASS	
PCB087	NA	219.18	0.05	0.1	ng/dry g	200	0	110 70 - 130% PASS	5 25 PASS	
PCB095	NA	179.04	0.05	0.1	ng/dry g	200	0	90 70 - 130% PASS	5 25 PASS	
PCB097	NA	232.23	0.05	0.1	ng/dry g	200	0	116 70 - 130% PASS	4 25 PASS	
PCB099	NA	213.42	0.05	0.1	ng/dry g	200	0	107 70 - 130% PASS	4 25 PASS	
PCB101	NA	208.85	0.05	0.1	ng/dry g	200	0	104 70 - 130% PASS	4 25 PASS	
PCB105	NA	221.29	0.05	0.1	ng/dry g	200	0	111 70 - 130% PASS	3 25 PASS	
PCB110	NA	217.37	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS	5 25 PASS	
PCB114	NA	249.98	0.05	0.1	ng/dry g	200	0	125 70 - 130% PASS	1 25 PASS	
PCB118	NA	238.22	0.05	0.1	ng/dry g	200	0	119 70 - 130% PASS	5 25 PASS	
PCB119	NA	238.38	0.05	0.1	ng/dry g	200	0	119 70 - 130% PASS	3 25 PASS	
PCB123	NA	273.24	0.05	0.1	ng/dry g	200	0	137 70 - 130% FAIL	12 25 PASS	R



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB126	NA	261.53	0.05	0.1	ng/dry g	200	0	131 70 - 130% FAIL	2 25 PASS	R
PCB128	NA	248.99	0.05	0.1	ng/dry g	200	0	124 70 - 130% PASS	4 25 PASS	
PCB137	NA	227.92	0.05	0.1	ng/dry g	200	0	114 70 - 130% PASS	4 25 PASS	
PCB138	NA	223.52	0.05	0.1	ng/dry g	200	0	112 70 - 130% PASS	4 25 PASS	
PCB141	NA	199.03	0.05	0.1	ng/dry g	200	0	100 70 - 130% PASS	3 25 PASS	
PCB149	NA	195.95	0.05	0.1	ng/dry g	200	0	98 70 - 130% PASS	5 25 PASS	
PCB151	NA	205.31	0.05	0.1	ng/dry g	200	0	103 70 - 130% PASS	5 25 PASS	
PCB153	NA	228.5	0.05	0.1	ng/dry g	200	0	114 70 - 130% PASS	2 25 PASS	
PCB156	NA	259.88	0.05	0.1	ng/dry g	200	0	130 70 - 130% PASS	5 25 PASS	
PCB157	NA	239.94	0.05	0.1	ng/dry g	200	0	120 70 - 130% PASS	4 25 PASS	
PCB158	NA	208.42	0.05	0.1	ng/dry g	200	0	104 70 - 130% PASS	4 25 PASS	
PCB167	NA	239.86	0.05	0.1	ng/dry g	200	0	120 70 - 130% PASS	5 25 PASS	
PCB168+132	NA	393.7	0.1	0.2	ng/dry g	400	0	98 70 - 130% PASS	2 25 PASS	
PCB169	NA	315	0.05	0.1	ng/dry g	200	0	158 70 - 130% FAIL	3 25 PASS	R
PCB170	NA	230.45	0.05	0.1	ng/dry g	200	0	115 70 - 130% PASS	2 25 PASS	
PCB174	NA	201.08	0.05	0.1	ng/dry g	200	0	101 70 - 130% PASS	3 25 PASS	
PCB177	NA	200.32	0.05	0.1	ng/dry g	200	0	100 70 - 130% PASS	4 25 PASS	
PCB180	NA	234.09	0.05	0.1	ng/dry g	200	0	117 70 - 130% PASS	4 25 PASS	
PCB183	NA	202.48	0.05	0.1	ng/dry g	200	0	101 70 - 130% PASS	4 25 PASS	
PCB187	NA	204.06	0.05	0.1	ng/dry g	200	0	102 70 - 130% PASS	4 25 PASS	
PCB189	NA	251.94	0.05	0.1	ng/dry g	200	0	126 70 - 130% PASS	2 25 PASS	
PCB194	NA	225.57	0.05	0.1	ng/dry g	200	0	113 70 - 130% PASS	5 25 PASS	
PCB195	NA	204.96	0.05	0.1	ng/dry g	200	0	102 70 - 130% PASS	6 25 PASS	
PCB199(200)	NA	147.3	0.1	0.2	ng/dry g	200	0	74 70 - 130% PASS	7 25 PASS	
PCB201	NA	202.9	0.05	0.1	ng/dry g	200	0	101 70 - 130% PASS	5 25 PASS	
PCB203	NA	202.37	0.05	0.1	ng/dry g	200	0	101 70 - 130% PASS	7 25 PASS	
PCB206	NA	214.13	0.05	0.1	ng/dry g	200	0	107 70 - 130% PASS	2 25 PASS	
PCB209	NA	179.96	0.05	0.1	ng/dry g	200	0	90 70 - 130% PASS	7 25 PASS	

Sample ID: 22545-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 31-May-14 22:59

PCB003	NA	ND	0.05	0.1	ng/dry g
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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB005	NA	ND	0.05	0.1	ng/dry g					
PCB008	NA	ND	0.05	0.1	ng/dry g					
PCB015	NA	ND	0.05	0.1	ng/dry g					
PCB018	NA	ND	0.05	0.1	ng/dry g					
PCB027	NA	ND	0.05	0.1	ng/dry g					
PCB028	NA	ND	0.05	0.1	ng/dry g					
PCB029	NA	ND	0.05	0.1	ng/dry g					
PCB031	NA	ND	0.05	0.1	ng/dry g					
PCB033	NA	ND	0.05	0.1	ng/dry g					
PCB037	NA	ND	0.05	0.1	ng/dry g					
PCB044	NA	ND	0.05	0.1	ng/dry g					
PCB049	NA	ND	0.05	0.1	ng/dry g					
PCB052	NA	ND	0.05	0.1	ng/dry g					
PCB056(060)	NA	ND	0.1	0.2	ng/dry g					
PCB066	NA	ND	0.05	0.1	ng/dry g					
PCB070	NA	ND	0.05	0.1	ng/dry g					
PCB074	NA	ND	0.05	0.1	ng/dry g					
PCB077	NA	ND	0.05	0.1	ng/dry g					
PCB081	NA	ND	0.05	0.1	ng/dry g					
PCB087	NA	ND	0.05	0.1	ng/dry g					
PCB095	NA	ND	0.05	0.1	ng/dry g					
PCB097	NA	ND	0.05	0.1	ng/dry g					
PCB099	NA	ND	0.05	0.1	ng/dry g					
PCB101	NA	ND	0.05	0.1	ng/dry g					
PCB105	NA	ND	0.05	0.1	ng/dry g					
PCB110	NA	ND	0.05	0.1	ng/dry g					
PCB114	NA	ND	0.05	0.1	ng/dry g					
PCB118	NA	ND	0.05	0.1	ng/dry g					
PCB119	NA	ND	0.05	0.1	ng/dry g					
PCB123	NA	ND	0.05	0.1	ng/dry g					
PCB126	NA	ND	0.05	0.1	ng/dry g					



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB128	NA	ND	0.05	0.1	ng/dry g					
PCB137	NA	ND	0.05	0.1	ng/dry g					
PCB138	NA	ND	0.05	0.1	ng/dry g					
PCB141	NA	ND	0.05	0.1	ng/dry g					
PCB149	NA	ND	0.05	0.1	ng/dry g					
PCB151	NA	ND	0.05	0.1	ng/dry g					
PCB153	NA	ND	0.05	0.1	ng/dry g					
PCB156	NA	ND	0.05	0.1	ng/dry g					
PCB157	NA	ND	0.05	0.1	ng/dry g					
PCB158	NA	ND	0.05	0.1	ng/dry g					
PCB167	NA	ND	0.05	0.1	ng/dry g					
PCB168+132	NA	ND	0.1	0.2	ng/dry g					
PCB169	NA	ND	0.05	0.1	ng/dry g					
PCB170	NA	ND	0.05	0.1	ng/dry g					
PCB174	NA	ND	0.05	0.1	ng/dry g					
PCB177	NA	ND	0.05	0.1	ng/dry g					
PCB180	NA	ND	0.05	0.1	ng/dry g					
PCB183	NA	ND	0.05	0.1	ng/dry g					
PCB187	NA	ND	0.05	0.1	ng/dry g					
PCB189	NA	ND	0.05	0.1	ng/dry g					
PCB194	NA	ND	0.05	0.1	ng/dry g					
PCB195	NA	ND	0.05	0.1	ng/dry g					
PCB199(200)	NA	ND	0.1	0.2	ng/dry g					
PCB201	NA	ND	0.05	0.1	ng/dry g					
PCB203	NA	ND	0.05	0.1	ng/dry g					
PCB206	NA	ND	0.05	0.1	ng/dry g					
PCB209	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 22545-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 31-May-14 23:38

PCB003	NA	239.86	0.05	0.1	ng/dry g	200	0	120	70 - 130%	PASS
PCB008	NA	246.09	0.05	0.1	ng/dry g	200	0	123	70 - 130%	PASS



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PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB018	NA	246.87	0.05	0.1	ng/dry g	200	0	123	70 - 130% PASS	
PCB028	NA	239.19	0.05	0.1	ng/dry g	200	0	120	70 - 130% PASS	
PCB031	NA	234.62	0.05	0.1	ng/dry g	200	0	117	70 - 130% PASS	
PCB033	NA	237.85	0.05	0.1	ng/dry g	200	0	119	70 - 130% PASS	
PCB037	NA	225.22	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	
PCB044	NA	234.09	0.05	0.1	ng/dry g	200	0	117	70 - 130% PASS	
PCB049	NA	240.7	0.05	0.1	ng/dry g	200	0	120	70 - 130% PASS	
PCB052	NA	220.54	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	
PCB056(060)	NA	229.3	0.1	0.2	ng/dry g	200	0	115	70 - 130% PASS	
PCB066	NA	198.71	0.05	0.1	ng/dry g	200	0	99	70 - 130% PASS	
PCB070	NA	222.3	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	
PCB074	NA	215.67	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	
PCB077	NA	219.44	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	
PCB081	NA	231.88	0.05	0.1	ng/dry g	200	0	116	70 - 130% PASS	
PCB087	NA	222.51	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	
PCB095	NA	230.19	0.05	0.1	ng/dry g	200	0	115	70 - 130% PASS	
PCB097	NA	218.46	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	
PCB099	NA	217.94	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	
PCB101	NA	225.09	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	
PCB105	NA	222.64	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	
PCB110	NA	227.74	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	
PCB114	NA	225.58	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	
PCB118	NA	215.98	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	
PCB119	NA	211.28	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	
PCB123	NA	216.39	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	
PCB126	NA	216.81	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	
PCB128	NA	227.15	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	
PCB138	NA	231.76	0.05	0.1	ng/dry g	200	0	116	70 - 130% PASS	
PCB141	NA	228.18	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	
PCB149	NA	224.92	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	
PCB151	NA	227.84	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB153	NA	226.18	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	
PCB156	NA	217.14	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	
PCB157	NA	220.11	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	
PCB158	NA	223.16	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	
PCB167	NA	212.68	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	
PCB168+132	NA	471.8	0.1	0.2	ng/dry g	400	0	118	70 - 130% PASS	
PCB169	NA	194.72	0.05	0.1	ng/dry g	200	0	97	70 - 130% PASS	
PCB170	NA	222.22	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	
PCB174	NA	230.31	0.05	0.1	ng/dry g	200	0	115	70 - 130% PASS	
PCB177	NA	221.95	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	
PCB180	NA	221.86	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	
PCB183	NA	224.94	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	
PCB187	NA	225.72	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	
PCB189	NA	195.53	0.05	0.1	ng/dry g	200	0	98	70 - 130% PASS	
PCB194	NA	213.39	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	
PCB195	NA	209.88	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	
PCB199(200)	NA	240.3	0.1	0.2	ng/dry g	200	0	120	70 - 130% PASS	
PCB201	NA	241.37	0.05	0.1	ng/dry g	200	0	121	70 - 130% PASS	
PCB206	NA	202.61	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS	
PCB209	NA	202.26	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS	

Sample ID: 22545-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14 1:17

PCB003	NA	215.21	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	11	25	PASS
PCB008	NA	233.59	0.05	0.1	ng/dry g	200	0	117	70 - 130% PASS	5	25	PASS
PCB018	NA	223.5	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	9	25	PASS
PCB028	NA	257.7	0.05	0.1	ng/dry g	200	0	129	70 - 130% PASS	7	25	PASS
PCB031	NA	184.71	0.05	0.1	ng/dry g	200	0	92	70 - 130% PASS	24	25	PASS
PCB033	NA	216.19	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	10	25	PASS
PCB037	NA	202.1	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS	11	25	PASS
PCB044	NA	216.17	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	8	25	PASS
PCB049	NA	223.33	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	7	25	PASS



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PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY		PRECISION		QA CODE
								%	LIMITS	%	LIMITS	
PCB052	NA	200.83	0.05	0.1	ng/dry g	200	0	100	70 - 130% PASS	10	25	PASS
PCB056(060)	NA	211.9	0.1	0.2	ng/dry g	200	0	106	70 - 130% PASS	8	25	PASS
PCB066	NA	194.24	0.05	0.1	ng/dry g	200	0	97	70 - 130% PASS	2	25	PASS
PCB070	NA	206.27	0.05	0.1	ng/dry g	200	0	103	70 - 130% PASS	7	25	PASS
PCB074	NA	202.27	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS	7	25	PASS
PCB077	NA	212.94	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	4	25	PASS
PCB081	NA	222.64	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	4	25	PASS
PCB087	NA	222.44	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	0	25	PASS
PCB095	NA	218.44	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	5	25	PASS
PCB097	NA	209.62	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	4	25	PASS
PCB099	NA	217.9	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	0	25	PASS
PCB101	NA	216.35	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	5	25	PASS
PCB105	NA	201.2	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS	9	25	PASS
PCB110	NA	219.61	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	4	25	PASS
PCB114	NA	216.61	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	5	25	PASS
PCB118	NA	209.91	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	3	25	PASS
PCB119	NA	192.9	0.05	0.1	ng/dry g	200	0	96	70 - 130% PASS	10	25	PASS
PCB123	NA	207.77	0.05	0.1	ng/dry g	200	0	104	70 - 130% PASS	4	25	PASS
PCB126	NA	193.47	0.05	0.1	ng/dry g	200	0	97	70 - 130% PASS	11	25	PASS
PCB128	NA	202.06	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS	12	25	PASS
PCB138	NA	210.41	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	10	25	PASS
PCB141	NA	210.39	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	8	25	PASS
PCB149	NA	224.76	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	0	25	PASS
PCB151	NA	226.07	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	1	25	PASS
PCB153	NA	198.57	0.05	0.1	ng/dry g	200	0	99	70 - 130% PASS	13	25	PASS
PCB156	NA	203.16	0.05	0.1	ng/dry g	200	0	102	70 - 130% PASS	7	25	PASS
PCB157	NA	211.63	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	4	25	PASS
PCB158	NA	211.94	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	6	25	PASS
PCB167	NA	203.28	0.05	0.1	ng/dry g	200	0	102	70 - 130% PASS	4	25	PASS
PCB168+132	NA	438	0.1	0.2	ng/dry g	400	0	110	70 - 130% PASS	7	25	PASS
PCB169	NA	193.43	0.05	0.1	ng/dry g	200	0	97	70 - 130% PASS	0	25	PASS



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB170	NA	213.76	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	4
PCB174	NA	215.93	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	6
PCB177	NA	220.7	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	1
PCB180	NA	211.07	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	5
PCB183	NA	211.44	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	6
PCB187	NA	215.17	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	5
PCB189	NA	187.54	0.05	0.1	ng/dry g	200	0	94	70 - 130% PASS	4
PCB194	NA	212.64	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	1
PCB195	NA	207.02	0.05	0.1	ng/dry g	200	0	104	70 - 130% PASS	1
PCB199(200)	NA	230.9	0.1	0.2	ng/dry g	200	0	115	70 - 130% PASS	4
PCB201	NA	241.04	0.05	0.1	ng/dry g	200	0	121	70 - 130% PASS	0
PCB206	NA	202.03	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS	0
PCB209	NA	214.25	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	6

Sample ID: 22558-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14 6:37

PCB008	NA	21.14	0.05	0.1	ng/dry g	22.3	95	60 - 140% PASS
PCB018	NA	49.31	0.05	0.1	ng/dry g	51	97	60 - 140% PASS
PCB028	NA	78.72	0.05	0.1	ng/dry g	80.8	97	60 - 140% PASS
PCB031	NA	80.02	0.05	0.1	ng/dry g	78.7	102	60 - 140% PASS
PCB044	NA	52.12	0.05	0.1	ng/dry g	60.2	87	60 - 140% PASS
PCB049	NA	59.24	0.05	0.1	ng/dry g	53	112	60 - 140% PASS
PCB052	NA	79.92	0.05	0.1	ng/dry g	79.4	101	60 - 140% PASS
PCB066	NA	47.66	0.05	0.1	ng/dry g	71.9	66	60 - 140% PASS
PCB087	NA	24.14	0.05	0.1	ng/dry g	29.9	81	60 - 140% PASS
PCB095	NA	55.69	0.05	0.1	ng/dry g	65	86	60 - 140% PASS
PCB099	NA	35	0.05	0.1	ng/dry g	37.5	93	60 - 140% PASS
PCB101	NA	70.45	0.05	0.1	ng/dry g	73.4	96	60 - 140% PASS
PCB105	NA	23.2	0.05	0.1	ng/dry g	24.5	95	60 - 140% PASS
PCB110	NA	57.41	0.05	0.1	ng/dry g	63.5	90	60 - 140% PASS
PCB118	NA	43.9	0.05	0.1	ng/dry g	58	76	60 - 140% PASS
PCB128	NA	7.65	0.05	0.1	ng/dry g	8.5	90	60 - 140% PASS



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB138	NA	67.61	0.05	0.1	ng/dry g	62.1		109 60 - 140% PASS		
PCB149	NA	47.37	0.05	0.1	ng/dry g	49.7		95 60 - 140% PASS		
PCB151	NA	17.61	0.05	0.1	ng/dry g	16.9		104 60 - 140% PASS		
PCB153	NA	63.09	0.05	0.1	ng/dry g	74		85 60 - 140% PASS		
PCB156	NA	5.34	0.05	0.1	ng/dry g	6.5		82 60 - 140% PASS		
PCB170	NA	24.6	0.05	0.1	ng/dry g	22.6		109 60 - 140% PASS		
PCB180	NA	43.2	0.05	0.1	ng/dry g	44.3		98 60 - 140% PASS		
PCB183	NA	10.26	0.05	0.1	ng/dry g	12.2		84 60 - 140% PASS		
PCB187	NA	26.83	0.05	0.1	ng/dry g	25.1		107 60 - 140% PASS		
PCB194	NA	8.45	0.05	0.1	ng/dry g	11.2		75 60 - 140% PASS		
PCB195	NA	3.86	0.05	0.1	ng/dry g	3.8		102 60 - 140% PASS		
PCB206	NA	10.84	0.05	0.1	ng/dry g	9.2		118 60 - 140% PASS		
PCB209	NA	6.26	0.05	0.1	ng/dry g	6.8		92 60 - 140% PASS		



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22544-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 19-Nov-13 19:30

(DFPBDE)	NA	97			% Recovery	100		97	50 - 150%	PASS
(FTBDE)	NA	91			% Recovery	100		91	50 - 150%	PASS
PBDE017	NA	ND	0.05	0.1	ng/dry g					
PBDE028	NA	ND	0.05	0.1	ng/dry g					
PBDE047	NA	ND	0.05	0.1	ng/dry g					
PBDE049	NA	ND	0.05	0.1	ng/dry g					
PBDE066	NA	ND	0.05	0.1	ng/dry g					
PBDE071	NA	ND	0.05	0.1	ng/dry g					
PBDE085	NA	ND	0.05	0.1	ng/dry g					
PBDE099	NA	ND	0.05	0.1	ng/dry g					
PBDE100	NA	ND	0.05	0.1	ng/dry g					
PBDE138	NA	ND	0.05	0.1	ng/dry g					
PBDE153	NA	ND	0.05	0.1	ng/dry g					
PBDE154	NA	ND	0.05	0.1	ng/dry g					
PBDE183	NA	ND	0.05	0.1	ng/dry g					
PBDE190	NA	ND	0.05	0.1	ng/dry g					
PBDE209	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 22544-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 19-Nov-14 20:09

(DFPBDE)	NA	118			% Recovery	100	0	118	70 - 130%	PASS
(FTBDE)	NA	120			% Recovery	100	0	120	70 - 130%	PASS
PBDE017	NA	129.71	0.05	0.1	ng/dry g	100	0	130	70 - 130%	PASS
PBDE028	NA	128.09	0.05	0.1	ng/dry g	100	0	128	70 - 130%	PASS
PBDE047	NA	124.94	0.05	0.1	ng/dry g	100	0	125	70 - 130%	PASS
PBDE049	NA	84.96	0.05	0.1	ng/dry g	100	0	85	70 - 130%	PASS
PBDE066	NA	127.51	0.05	0.1	ng/dry g	100	0	128	70 - 130%	PASS
PBDE071	NA	106.88	0.05	0.1	ng/dry g	100	0	107	70 - 130%	PASS
PBDE085	NA	123.37	0.05	0.1	ng/dry g	100	0	123	70 - 130%	PASS



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PBDE099	NA	124.85	0.05	0.1	ng/dry g	100	0	125 70 - 130%	PASS	
PBDE100	NA	129.77	0.05	0.1	ng/dry g	100	0	130 70 - 130%	PASS	
PBDE138	NA	99.02	0.05	0.1	ng/dry g	100	0	99 70 - 130%	PASS	
PBDE153	NA	124.34	0.05	0.1	ng/dry g	100	0	124 70 - 130%	PASS	
PBDE154	NA	125.86	0.05	0.1	ng/dry g	100	0	126 70 - 130%	PASS	
PBDE183	NA	102.56	0.05	0.1	ng/dry g	100	0	103 70 - 130%	PASS	
PBDE190	NA	72.43	0.05	0.1	ng/dry g	100	0	72 70 - 130%	PASS	
PBDE209	NA	441	0.05	0.1	ng/dry g	500	0	88 70 - 130%	PASS	

Sample ID: 22544-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 19-Nov-14 20:48

(DFPBDE)	NA	115			% Recovery	100	0	115 70 - 130%	PASS	3	25	PASS
(FTBDE)	NA	119			% Recovery	100	0	119 70 - 130%	PASS	1	25	PASS
PBDE017	NA	129.18	0.05	0.1	ng/dry g	100	0	129 70 - 130%	PASS	1	25	PASS
PBDE028	NA	128.08	0.05	0.1	ng/dry g	100	0	128 70 - 130%	PASS	0	25	PASS
PBDE047	NA	125.93	0.05	0.1	ng/dry g	100	0	126 70 - 130%	PASS	1	25	PASS
PBDE049	NA	84.53	0.05	0.1	ng/dry g	100	0	85 70 - 130%	PASS	0	25	PASS
PBDE066	NA	127.8	0.05	0.1	ng/dry g	100	0	128 70 - 130%	PASS	0	25	PASS
PBDE071	NA	103.59	0.05	0.1	ng/dry g	100	0	104 70 - 130%	PASS	3	25	PASS
PBDE085	NA	127.57	0.05	0.1	ng/dry g	100	0	128 70 - 130%	PASS	4	25	PASS
PBDE099	NA	127.97	0.05	0.1	ng/dry g	100	0	128 70 - 130%	PASS	2	25	PASS
PBDE100	NA	129.22	0.05	0.1	ng/dry g	100	0	129 70 - 130%	PASS	1	25	PASS
PBDE138	NA	109.1	0.05	0.1	ng/dry g	100	0	109 70 - 130%	PASS	10	25	PASS
PBDE153	NA	128.86	0.05	0.1	ng/dry g	100	0	129 70 - 130%	PASS	4	25	PASS
PBDE154	NA	129.9	0.05	0.1	ng/dry g	100	0	130 70 - 130%	PASS	3	25	PASS
PBDE183	NA	121.08	0.05	0.1	ng/dry g	100	0	121 70 - 130%	PASS	16	25	PASS
PBDE190	NA	86.97	0.05	0.1	ng/dry g	100	0	87 70 - 130%	PASS	19	25	PASS
PBDE209	NA	446	0.05	0.1	ng/dry g	500	0	89 70 - 130%	PASS	1	25	PASS

Sample ID: 22545-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13 12:56

(DFPBDE)	NA	73			% Recovery	100		73 50 - 150%	PASS			
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PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
(FTBDE)	NA	93			% Recovery	100		93 50 - 150%	PASS	
PBDE017	NA	ND	0.05	0.1	ng/dry g					
PBDE028	NA	ND	0.05	0.1	ng/dry g					
PBDE047	NA	ND	0.05	0.1	ng/dry g					
PBDE049	NA	ND	0.05	0.1	ng/dry g					
PBDE066	NA	ND	0.05	0.1	ng/dry g					
PBDE071	NA	ND	0.05	0.1	ng/dry g					
PBDE085	NA	ND	0.05	0.1	ng/dry g					
PBDE099	NA	ND	0.05	0.1	ng/dry g					
PBDE100	NA	ND	0.05	0.1	ng/dry g					
PBDE138	NA	ND	0.05	0.1	ng/dry g					
PBDE153	NA	ND	0.05	0.1	ng/dry g					
PBDE154	NA	ND	0.05	0.1	ng/dry g					
PBDE183	NA	ND	0.05	0.1	ng/dry g					
PBDE190	NA	ND	0.05	0.1	ng/dry g					
PBDE209	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 22545-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13 13:35

(DFPBDE)	NA	108			% Recovery	100	0	108 70 - 130%	PASS	
(FTBDE)	NA	114			% Recovery	100	0	114 70 - 130%	PASS	
PBDE017	NA	128	0.05	0.1	ng/dry g	100	0	128 70 - 130%	PASS	
PBDE028	NA	112	0.05	0.1	ng/dry g	100	0	112 70 - 130%	PASS	
PBDE047	NA	104	0.05	0.1	ng/dry g	100	0	104 70 - 130%	PASS	
PBDE049	NA	71	0.05	0.1	ng/dry g	100	0	71 70 - 130%	PASS	
PBDE066	NA	113	0.05	0.1	ng/dry g	100	0	113 70 - 130%	PASS	
PBDE071	NA	90	0.05	0.1	ng/dry g	100	0	90 70 - 130%	PASS	
PBDE085	NA	110	0.05	0.1	ng/dry g	100	0	110 70 - 130%	PASS	
PBDE099	NA	109	0.05	0.1	ng/dry g	100	0	109 70 - 130%	PASS	
PBDE100	NA	115	0.05	0.1	ng/dry g	100	0	115 70 - 130%	PASS	
PBDE138	NA	86	0.05	0.1	ng/dry g	100	0	86 70 - 130%	PASS	
PBDE153	NA	122	0.05	0.1	ng/dry g	100	0	122 70 - 130%	PASS	



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PBDE154	NA	110.18	0.05	0.1	ng/dry g	100	0	110 70 - 130% PASS		
PBDE183	NA	103	0.05	0.1	ng/dry g	100	0	103 70 - 130% PASS		
PBDE190	NA	103	0.05	0.1	ng/dry g	100	0	103 70 - 130% PASS		
PBDE209	NA	450	0.05	0.1	ng/dry g	500	0	90 70 - 130% PASS		

Sample ID: 22545-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13 14:14

(DFPBDE)	NA	116			% Recovery	100	0	116 70 - 130% PASS	7	25	PASS
(FTBDE)	NA	110			% Recovery	100	0	110 70 - 130% PASS	4	25	PASS
PBDE017	NA	125	0.05	0.1	ng/dry g	100	0	125 70 - 130% PASS	2	25	PASS
PBDE028	NA	113	0.05	0.1	ng/dry g	100	0	113 70 - 130% PASS	1	25	PASS
PBDE047	NA	109	0.05	0.1	ng/dry g	100	0	109 70 - 130% PASS	5	25	PASS
PBDE049	NA	71	0.05	0.1	ng/dry g	100	0	71 70 - 130% PASS	0	25	PASS
PBDE066	NA	121	0.05	0.1	ng/dry g	100	0	121 70 - 130% PASS	7	25	PASS
PBDE071	NA	94	0.05	0.1	ng/dry g	100	0	94 70 - 130% PASS	4	25	PASS
PBDE085	NA	120	0.05	0.1	ng/dry g	100	0	120 70 - 130% PASS	9	25	PASS
PBDE099	NA	119	0.05	0.1	ng/dry g	100	0	119 70 - 130% PASS	9	25	PASS
PBDE100	NA	119	0.05	0.1	ng/dry g	100	0	119 70 - 130% PASS	3	25	PASS
PBDE138	NA	93	0.05	0.1	ng/dry g	100	0	93 70 - 130% PASS	8	25	PASS
PBDE153	NA	110	0.05	0.1	ng/dry g	100	0	110 70 - 130% PASS	10	25	PASS
PBDE154	NA	119.45	0.05	0.1	ng/dry g	100	0	119 70 - 130% PASS	8	25	PASS
PBDE183	NA	116	0.05	0.1	ng/dry g	100	0	116 70 - 130% PASS	12	25	PASS
PBDE190	NA	83	0.05	0.1	ng/dry g	100	0	83 70 - 130% PASS	22	25	PASS
PBDE209	NA	474	0.05	0.1	ng/dry g	500	0	95 70 - 130% PASS	5	25	PASS

Sample ID: 22558-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13 16:42

PBDE047	NA	2.33	0.05	0.1	ng/dry g	1.72		135 60 - 140% PASS			
PBDE099	NA	2.02	0.05	0.1	ng/dry g	2		101 60 - 140% PASS			
PBDE100	NA	0.5	0.05	0.1	ng/dry g	0.4		125 60 - 140% PASS			
PBDE153	NA	5.41	0.05	0.1	ng/dry g	6.44		84 60 - 140% PASS			
PBDE154	NA	0.79	0.05	0.1	ng/dry g	1.06		75 60 - 140% PASS			



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PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PBDE183	NA	38.71	0.05	0.1	ng/dry g	31.8		122 60 - 140% PASS		
PBDE209	NA	127.26	0.05	0.1	ng/dry g	93.5		136 60 - 140% PASS		



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22544-B1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5136		Prepared: 22-Apr-14		Analyzed: 09-May-14 13:44	
(d10-Acenaphthene)	NA	84			% Recovery	100	84	50 - 150% PASS		
(d10-Phenanthrene)	NA	86			% Recovery	100	86	50 - 150% PASS		
(d12-Chrysene)	NA	94			% Recovery	100	94	50 - 150% PASS		
(d8-Naphthalene)	NA	80			% Recovery	100	80	25 - 125% PASS		
1-Methylnaphthalene	NA	ND	1	5	ng/dry g					
1-Methylphenanthrene	NA	ND	1	5	ng/dry g					
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g					
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g					
2-Methylnaphthalene	NA	ND	1	5	ng/dry g					
Acenaphthene	NA	ND	1	5	ng/dry g					
Acenaphthylene	NA	ND	1	5	ng/dry g					
Anthracene	NA	ND	1	5	ng/dry g					
Benz[a]anthracene	NA	ND	1	5	ng/dry g					
Benzo[a]pyrene	NA	ND	1	5	ng/dry g					
Benzo[b]fluoranthene	NA	ND	1	5	ng/dry g					
Benzo[e]pyrene	NA	ND	1	5	ng/dry g					
Benzo[g,h,i]perylene	NA	ND	1	5	ng/dry g					
Benzo[k]fluoranthene	NA	ND	1	5	ng/dry g					
Biphenyl	NA	ND	1	5	ng/dry g					
Chrysene	NA	ND	1	5	ng/dry g					
Dibenz[a,h]anthracene	NA	ND	1	5	ng/dry g					
Dibenzothiophene	NA	ND	1	5	ng/dry g					
Fluoranthene	NA	ND	1	5	ng/dry g					
Fluorene	NA	ND	1	5	ng/dry g					
Indeno[1,2,3-c,d]pyrene	NA	ND	1	5	ng/dry g					
Naphthalene	NA	ND	1	5	ng/dry g					
Perylene	NA	ND	1	5	ng/dry g					
Phenanthrene	NA	ND	1	5	ng/dry g					
Pyrene	NA	ND	1	5	ng/dry g					



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Sample ID: 22544-BS1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5136		Prepared: 22-Apr-14		Analyzed: 09-May-14 15:23	
(d10-Acenaphthene)	NA	88			% Recovery	100	0	88	70 - 130% PASS	
(d10-Phenanthrene)	NA	93			% Recovery	100	0	93	70 - 130% PASS	
(d12-Chrysene)	NA	92			% Recovery	100	0	92	70 - 130% PASS	
(d8-Naphthalene)	NA	84			% Recovery	100	0	84	70 - 130% PASS	
1-Methylnaphthalene	NA	767.4	1	5	ng/dry g	1000	0	77	70 - 130% PASS	
1-Methylphenanthrene	NA	1057.7	1	5	ng/dry g	1000	0	106	70 - 130% PASS	
2,3,5-Trimethylnaphthalene	NA	1029.4	1	5	ng/dry g	1000	0	103	70 - 130% PASS	
2,6-Dimethylnaphthalene	NA	829.8	1	5	ng/dry g	1000	0	83	70 - 130% PASS	
2-Methylnaphthalene	NA	768.1	1	5	ng/dry g	1000	0	77	70 - 130% PASS	
Acenaphthene	NA	863.2	1	5	ng/dry g	1000	0	86	70 - 130% PASS	
Acenaphthylene	NA	902	1	5	ng/dry g	1000	0	90	70 - 130% PASS	
Anthracene	NA	1031.4	1	5	ng/dry g	1000	0	103	70 - 130% PASS	
Benz[a]anthracene	NA	1021.5	1	5	ng/dry g	1000	0	102	70 - 130% PASS	
Benzo[a]pyrene	NA	905.2	1	5	ng/dry g	1000	0	91	70 - 130% PASS	
Benzo[b]fluoranthene	NA	937.8	1	5	ng/dry g	1000	0	94	70 - 130% PASS	
Benzo[e]pyrene	NA	923.7	1	5	ng/dry g	1000	0	92	70 - 130% PASS	
Benzo[g,h,i]perylene	NA	1086	1	5	ng/dry g	1000	0	109	70 - 130% PASS	
Benzo[k]fluoranthene	NA	899.4	1	5	ng/dry g	1000	0	90	70 - 130% PASS	
Biphenyl	NA	795.1	1	5	ng/dry g	1000	0	80	70 - 130% PASS	
Chrysene	NA	988.7	1	5	ng/dry g	1000	0	99	70 - 130% PASS	
Dibenz[a,h]anthracene	NA	951.6	1	5	ng/dry g	1000	0	95	70 - 130% PASS	
Dibenzothiophene	NA	996.1	1	5	ng/dry g	1000	0	100	70 - 130% PASS	
Fluoranthene	NA	1035.2	1	5	ng/dry g	1000	0	104	70 - 130% PASS	
Fluorene	NA	1039.5	1	5	ng/dry g	1000	0	104	70 - 130% PASS	
Indeno[1,2,3-c,d]pyrene	NA	1044.3	1	5	ng/dry g	1000	0	104	70 - 130% PASS	
Naphthalene	NA	697.4	1	5	ng/dry g	1000	0	70	70 - 130% PASS	
Perylene	NA	918.2	1	5	ng/dry g	1000	0	92	70 - 130% PASS	
Phenanthrene	NA	1046.3	1	5	ng/dry g	1000	0	105	70 - 130% PASS	
Pyrene	NA	1053	1	5	ng/dry g	1000	0	105	70 - 130% PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Sample ID: 22544-BS2		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5136		Prepared: 22-Apr-14		Analyzed: 09-May-14 17:01	
(d10-Acenaphthene)	NA	93			% Recovery	100	0	93	70 - 130% PASS	6 25 PASS
(d10-Phenanthrene)	NA	98			% Recovery	100	0	98	70 - 130% PASS	5 25 PASS
(d12-Chrysene)	NA	104			% Recovery	100	0	104	70 - 130% PASS	12 25 PASS
(d8-Naphthalene)	NA	93			% Recovery	100	0	93	70 - 130% PASS	10 25 PASS
1-Methylnaphthalene	NA	848.3	1	5	ng/dry g	1000	0	85	70 - 130% PASS	10 25 PASS
1-Methylphenanthrene	NA	1136.8	1	5	ng/dry g	1000	0	114	70 - 130% PASS	7 25 PASS
2,3,5-Trimethylnaphthalene	NA	1100.5	1	5	ng/dry g	1000	0	110	70 - 130% PASS	7 25 PASS
2,6-Dimethylnaphthalene	NA	901.9	1	5	ng/dry g	1000	0	90	70 - 130% PASS	8 25 PASS
2-Methylnaphthalene	NA	848.9	1	5	ng/dry g	1000	0	85	70 - 130% PASS	10 25 PASS
Acenaphthene	NA	930.7	1	5	ng/dry g	1000	0	93	70 - 130% PASS	8 25 PASS
Acenaphthylene	NA	966.1	1	5	ng/dry g	1000	0	97	70 - 130% PASS	7 25 PASS
Anthracene	NA	1084	1	5	ng/dry g	1000	0	108	70 - 130% PASS	5 25 PASS
Benz[a]anthracene	NA	1174.1	1	5	ng/dry g	1000	0	117	70 - 130% PASS	14 25 PASS
Benzo[a]pyrene	NA	1068.9	1	5	ng/dry g	1000	0	107	70 - 130% PASS	16 25 PASS
Benzo[b]fluoranthene	NA	1120.6	1	5	ng/dry g	1000	0	112	70 - 130% PASS	17 25 PASS
Benzo[e]pyrene	NA	1092	1	5	ng/dry g	1000	0	109	70 - 130% PASS	17 25 PASS
Benzo[g,h,i]perylene	NA	1148.7	1	5	ng/dry g	1000	0	115	70 - 130% PASS	5 25 PASS
Benzo[k]fluoranthene	NA	1084.8	1	5	ng/dry g	1000	0	108	70 - 130% PASS	18 25 PASS
Biphenyl	NA	866.8	1	5	ng/dry g	1000	0	87	70 - 130% PASS	8 25 PASS
Chrysene	NA	1140.7	1	5	ng/dry g	1000	0	114	70 - 130% PASS	14 25 PASS
Dibenz[a,h]anthracene	NA	1154.6	1	5	ng/dry g	1000	0	115	70 - 130% PASS	19 25 PASS
Dibenzothiophene	NA	1072.5	1	5	ng/dry g	1000	0	107	70 - 130% PASS	7 25 PASS
Fluoranthene	NA	1132.2	1	5	ng/dry g	1000	0	113	70 - 130% PASS	8 25 PASS
Fluorene	NA	1113.5	1	5	ng/dry g	1000	0	111	70 - 130% PASS	7 25 PASS
Indeno[1,2,3-c,d]pyrene	NA	1154.1	1	5	ng/dry g	1000	0	115	70 - 130% PASS	10 25 PASS
Naphthalene	NA	786.1	1	5	ng/dry g	1000	0	79	70 - 130% PASS	12 25 PASS
Perylene	NA	1079	1	5	ng/dry g	1000	0	108	70 - 130% PASS	16 25 PASS
Phenanthrene	NA	1120.6	1	5	ng/dry g	1000	0	112	70 - 130% PASS	6 25 PASS
Pyrene	NA	1152.5	1	5	ng/dry g	1000	0	115	70 - 130% PASS	9 25 PASS



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22545-B1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 31-May-14 22:59	
(d10-Acenaphthene)	NA	92			% Recovery	100		92 50 - 150% PASS		
(d10-Phenanthrene)	NA	89			% Recovery	100		89 50 - 150% PASS		
(d12-Chrysene)	NA	74			% Recovery	100		74 50 - 150% PASS		
(d8-Naphthalene)	NA	88			% Recovery	100		88 25 - 125% PASS		
1-Methylnaphthalene	NA	ND	1	5	ng/dry g					
1-Methylphenanthrene	NA	ND	1	5	ng/dry g					
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g					
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g					
2-Methylnaphthalene	NA	ND	1	5	ng/dry g					
Acenaphthene	NA	ND	1	5	ng/dry g					
Acenaphthylene	NA	ND	1	5	ng/dry g					
Anthracene	NA	ND	1	5	ng/dry g					
Benz[a]anthracene	NA	ND	1	5	ng/dry g					
Benzo[a]pyrene	NA	ND	1	5	ng/dry g					
Benzo[b]fluoranthene	NA	ND	1	5	ng/dry g					
Benzo[e]pyrene	NA	ND	1	5	ng/dry g					
Benzo[g,h,i]perylene	NA	ND	1	5	ng/dry g					
Benzo[k]fluoranthene	NA	ND	1	5	ng/dry g					
Biphenyl	NA	ND	1	5	ng/dry g					
Chrysene	NA	ND	1	5	ng/dry g					
Dibenz[a,h]anthracene	NA	ND	1	5	ng/dry g					
Dibenzothiophene	NA	ND	1	5	ng/dry g					
Fluoranthene	NA	ND	1	5	ng/dry g					
Fluorene	NA	ND	1	5	ng/dry g					
Indeno[1,2,3-c,d]pyrene	NA	ND	1	5	ng/dry g					
Naphthalene	NA	ND	1	5	ng/dry g					
Perylene	NA	ND	1	5	ng/dry g					
Phenanthrene	NA	ND	1	5	ng/dry g					
Pyrene	NA	ND	1	5	ng/dry g					



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22545-BS1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 31-May-14 23:38	
(d10-Acenaphthene)	NA	109			% Recovery	100	0	109 70 - 130%	PASS	
(d10-Phenanthrene)	NA	102			% Recovery	100	0	102 70 - 130%	PASS	
(d12-Chrysene)	NA	83			% Recovery	100	0	83 70 - 130%	PASS	
(d8-Naphthalene)	NA	118			% Recovery	100	0	118 70 - 130%	PASS	
1-Methylnaphthalene	NA	1211.5	1	5	ng/dry g	1000	0	121 70 - 130%	PASS	
1-Methylphenanthrene	NA	1258.8	1	5	ng/dry g	1000	0	126 70 - 130%	PASS	
2,3,5-Trimethylnaphthalene	NA	1276	1	5	ng/dry g	1000	0	128 70 - 130%	PASS	
2,6-Dimethylnaphthalene	NA	1271.5	1	5	ng/dry g	1000	0	127 70 - 130%	PASS	
2-Methylnaphthalene	NA	1228.9	1	5	ng/dry g	1000	0	123 70 - 130%	PASS	
Acenaphthene	NA	1208.7	1	5	ng/dry g	1000	0	121 70 - 130%	PASS	
Acenaphthylene	NA	1274.7	1	5	ng/dry g	1000	0	127 70 - 130%	PASS	
Anthracene	NA	1297.6	1	5	ng/dry g	1000	0	130 70 - 130%	PASS	
Benz[a]anthracene	NA	1097.2	1	5	ng/dry g	1000	0	110 70 - 130%	PASS	
Benzo[a]pyrene	NA	834.9	1	5	ng/dry g	1000	0	83 70 - 130%	PASS	
Benzo[b]fluoranthene	NA	858.2	1	5	ng/dry g	1000	0	86 70 - 130%	PASS	
Benzo[e]pyrene	NA	835.5	1	5	ng/dry g	1000	0	84 70 - 130%	PASS	
Benzo[g,h,i]perylene	NA	1284.9	1	5	ng/dry g	1000	0	128 70 - 130%	PASS	
Benzo[k]fluoranthene	NA	877.7	1	5	ng/dry g	1000	0	88 70 - 130%	PASS	
Biphenyl	NA	1229.8	1	5	ng/dry g	1000	0	123 70 - 130%	PASS	
Chrysene	NA	1105.8	1	5	ng/dry g	1000	0	111 70 - 130%	PASS	
Dibenz[a,h]anthracene	NA	1257.7	1	5	ng/dry g	1000	0	126 70 - 130%	PASS	
Dibenzothiophene	NA	1286.9	1	5	ng/dry g	1000	0	129 70 - 130%	PASS	
Fluoranthene	NA	1293.3	1	5	ng/dry g	1000	0	129 70 - 130%	PASS	
Fluorene	NA	1272.6	1	5	ng/dry g	1000	0	127 70 - 130%	PASS	
Indeno[1,2,3-c,d]pyrene	NA	1288.7	1	5	ng/dry g	1000	0	129 70 - 130%	PASS	
Naphthalene	NA	1194.5	1	5	ng/dry g	1000	0	119 70 - 130%	PASS	
Perylene	NA	825.9	1	5	ng/dry g	1000	0	83 70 - 130%	PASS	
Phenanthrene	NA	1281.4	1	5	ng/dry g	1000	0	128 70 - 130%	PASS	
Pyrene	NA	1297.4	1	5	ng/dry g	1000	0	130 70 - 130%	PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
		LIMITS								LIMITS
Sample ID: 22545-BS2		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 01-Jun-14		1:17
(d10-Acenaphthene)	NA	110			% Recovery	100	0	110	70 - 130% PASS	1 25 PASS
(d10-Phenanthrene)	NA	102			% Recovery	100	0	102	70 - 130% PASS	0 25 PASS
(d12-Chrysene)	NA	100			% Recovery	100	0	100	70 - 130% PASS	19 25 PASS
(d8-Naphthalene)	NA	116			% Recovery	100	0	116	70 - 130% PASS	2 25 PASS
1-Methylnaphthalene	NA	774.3	1	5	ng/dry g	1000	0	77	70 - 130% PASS	44 25 FAIL *
1-Methylphenanthrene	NA	945.6	1	5	ng/dry g	1000	0	95	70 - 130% PASS	28 25 FAIL *
2,3,5-Trimethylnaphthalene	NA	992.6	1	5	ng/dry g	1000	0	99	70 - 130% PASS	26 25 FAIL *
2,6-Dimethylnaphthalene	NA	831	1	5	ng/dry g	1000	0	83	70 - 130% PASS	42 25 FAIL *
2-Methylnaphthalene	NA	794.4	1	5	ng/dry g	1000	0	79	70 - 130% PASS	44 25 FAIL *
Acenaphthene	NA	874.3	1	5	ng/dry g	1000	0	87	70 - 130% PASS	33 25 FAIL *
Acenaphthylene	NA	855.9	1	5	ng/dry g	1000	0	86	70 - 130% PASS	38 25 FAIL *
Anthracene	NA	922.5	1	5	ng/dry g	1000	0	92	70 - 130% PASS	34 25 FAIL *
Benz[a]anthracene	NA	853.2	1	5	ng/dry g	1000	0	85	70 - 130% PASS	26 25 FAIL *
Benzo[a]pyrene	NA	756.8	1	5	ng/dry g	1000	0	76	70 - 130% PASS	9 25 PASS
Benzo[b]fluoranthene	NA	748.9	1	5	ng/dry g	1000	0	75	70 - 130% PASS	14 25 PASS
Benzo[e]pyrene	NA	750.1	1	5	ng/dry g	1000	0	75	70 - 130% PASS	11 25 PASS
Benzo[g,h,i]perylene	NA	949.5	1	5	ng/dry g	1000	0	95	70 - 130% PASS	30 25 FAIL *
Benzo[k]fluoranthene	NA	788.9	1	5	ng/dry g	1000	0	79	70 - 130% PASS	11 25 PASS
Biphenyl	NA	804.7	1	5	ng/dry g	1000	0	80	70 - 130% PASS	42 25 FAIL *
Chrysene	NA	893.3	1	5	ng/dry g	1000	0	89	70 - 130% PASS	22 25 PASS
Dibenz[a,h]anthracene	NA	896.7	1	5	ng/dry g	1000	0	90	70 - 130% PASS	33 25 FAIL *
Dibenzothiophene	NA	921.9	1	5	ng/dry g	1000	0	92	70 - 130% PASS	33 25 FAIL *
Fluoranthene	NA	922.5	1	5	ng/dry g	1000	0	92	70 - 130% PASS	33 25 FAIL *
Fluorene	NA	951.3	1	5	ng/dry g	1000	0	95	70 - 130% PASS	29 25 FAIL *
Indeno[1,2,3-c,d]pyrene	NA	847.2	1	5	ng/dry g	1000	0	85	70 - 130% PASS	41 25 FAIL *
Naphthalene	NA	781.8	1	5	ng/dry g	1000	0	78	70 - 130% PASS	42 25 FAIL *
Perylene	NA	768	1	5	ng/dry g	1000	0	77	70 - 130% PASS	8 25 PASS
Phenanthrene	NA	931.3	1	5	ng/dry g	1000	0	93	70 - 130% PASS	32 25 FAIL *
Pyrene	NA	951.2	1	5	ng/dry g	1000	0	95	70 - 130% PASS	31 25 FAIL *



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22558-CRM1		QAQC CRM - SRM 1944			Matrix: Sediment		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 01-Jun-14 6:37	
(d10-Acenaphthene)	NA	127			% Recovery	100	127	60 - 140%	PASS	
(d10-Phenanthrene)	NA	116			% Recovery	100	116	60 - 140%	PASS	
(d12-Chrysene)	NA	82			% Recovery	100	82	60 - 140%	PASS	
(d8-Naphthalene)	NA	127			% Recovery	100	127	60 - 140%	PASS	
1-Methylnaphthalene	NA	450.3	1	5	ng/dry g	470	96	60 - 140%	PASS	
1-Methylphenanthrene	NA	1473.3	1	5	ng/dry g	1700	87	60 - 140%	PASS	
2,6-Dimethylnaphthalene	NA	666.7	1	5	ng/dry g	790	84	60 - 140%	PASS	
2-Methylnaphthalene	NA	616	1	5	ng/dry g	740	83	60 - 140%	PASS	
Acenaphthene	NA	329.8	1	5	ng/dry g	390	85	60 - 140%	PASS	
Anthracene	NA	1174	1	5	ng/dry g	1130	104	60 - 140%	PASS	
Benz[a]anthracene	NA	3557	1	5	ng/dry g	4720	75	60 - 140%	PASS	
Benzo[a]pyrene	NA	3320	1	5	ng/dry g	4300	77	60 - 140%	PASS	
Benzo[b]fluoranthene	NA	2485.6	1	5	ng/dry g	3870	64	60 - 140%	PASS	
Benzo[e]pyrene	NA	2138.1	1	5	ng/dry g	3280	65	60 - 140%	PASS	
Benzo[g,h,i]perylene	NA	2884.9	1	5	ng/dry g	2840	102	60 - 140%	PASS	
Benzo[k]fluoranthene	NA	1494.6	1	5	ng/dry g	2300	65	60 - 140%	PASS	
Biphenyl	NA	199.5	1	5	ng/dry g	250	80	60 - 140%	PASS	
Chrysene	NA	4767.1	1	5	ng/dry g	4860	98	60 - 140%	PASS	
Dibenz[a,h]anthracene	NA	402	1	5	ng/dry g	424	95	60 - 140%	PASS	
Dibenzothiophene	NA	658.5	1	5	ng/dry g	500	132	60 - 140%	PASS	
Fluoranthene	NA	8522.7	1	5	ng/dry g	8920	96	60 - 140%	PASS	
Fluorene	NA	369.5	1	5	ng/dry g	480	77	60 - 140%	PASS	
Indeno[1,2,3-c,d]pyrene	NA	2868.1	1	5	ng/dry g	2780	103	60 - 140%	PASS	
Naphthalene	NA	1156.6	1	5	ng/dry g	1280	90	60 - 140%	PASS	
Perylene	NA	1072	1	5	ng/dry g	1170	92	60 - 140%	PASS	
Phenanthrene	NA	5460.9	1	5	ng/dry g	5270	104	60 - 140%	PASS	
Pyrene	NA	8761	1	5	ng/dry g	9700	90	60 - 140%	PASS	



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CA ELAP #2769

Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22544-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 29-Apr-14 0:53

Allethrin	NA	ND	0.25	0.5	ng/dry g					
Bifenthrin	NA	ND	0.25	0.5	ng/dry g					
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g					
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g					
Cypermethrin	NA	ND	0.25	0.5	ng/dry g					
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g					
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g					
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g					
Fenvalerate	NA	ND	0.25	0.5	ng/dry g					
Fluvalinate	NA	ND	0.25	0.5	ng/dry g					
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g					
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g					
Prallethrin	NA	ND	0.25	0.5	ng/dry g					
Resmethrin	NA	ND	0.25	0.5	ng/dry g					

Sample ID: 22544-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 29-Apr-14 1:57

Allethrin	NA	940.12	0.25	0.5	ng/dry g	1000	0	94	70 - 130%	PASS	
Bifenthrin	NA	1069.36	0.25	0.5	ng/dry g	1000	0	107	70 - 130%	PASS	
Cyfluthrin	NA	829.21	0.25	0.5	ng/dry g	1000	0	83	70 - 130%	PASS	
Cyhalothrin, Total Lambda	NA	1127.68	0.25	0.5	ng/dry g	1000	0	113	70 - 130%	PASS	
Cypermethrin	NA	815.21	0.25	0.5	ng/dry g	1000	0	82	70 - 130%	PASS	
Danitol (Fenpropathrin)	NA	1026.7	0.25	0.5	ng/dry g	1000	0	103	70 - 130%	PASS	
Deltamethrin/Tralomethrin	NA	1418.94	0.25	0.5	ng/dry g	2000	0	71	70 - 130%	PASS	
Esfenvalerate	NA	866.06	0.25	0.5	ng/dry g	1000	0	87	70 - 130%	PASS	
Fenvalerate	NA	781.16	0.25	0.5	ng/dry g	1000	0	78	70 - 130%	PASS	
Fluvalinate	NA	906.21	0.25	0.5	ng/dry g	1000	0	91	70 - 130%	PASS	
Permethrin, cis-	NA	186.12	0.25	0.5	ng/dry g	267	0	70	70 - 130%	PASS	
Permethrin, trans-	NA	489.36	0.25	0.5	ng/dry g	716	0	68	70 - 130%	FAIL	R



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Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Prallethrin	NA	1147.74	0.25	0.5	ng/dry g	1000	0	115 70 - 130%	PASS	
Resmethrin	NA	1192.95	0.25	0.5	ng/dry g	1000	0	119 70 - 130%	PASS	

Sample ID: 22544-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 29-Apr-14 3:02

Allethrin	NA	1187.68	0.25	0.5	ng/dry g	1000	0	119 70 - 130%	PASS	23 25 PASS
Bifenthrin	NA	1109.76	0.25	0.5	ng/dry g	1000	0	111 70 - 130%	PASS	4 25 PASS
Cyfluthrin	NA	854.85	0.25	0.5	ng/dry g	1000	0	85 70 - 130%	PASS	2 25 PASS
Cyhalothrin, Total Lambda	NA	1175.98	0.25	0.5	ng/dry g	1000	0	118 70 - 130%	PASS	4 25 PASS
Cypermethrin	NA	848.83	0.25	0.5	ng/dry g	1000	0	85 70 - 130%	PASS	4 25 PASS
Danitol (Fenpropathrin)	NA	1080.16	0.25	0.5	ng/dry g	1000	0	108 70 - 130%	PASS	5 25 PASS
Deltamethrin/Tralomethrin	NA	1484.15	0.25	0.5	ng/dry g	2000	0	74 70 - 130%	PASS	4 25 PASS
Esfenvalerate	NA	895.58	0.25	0.5	ng/dry g	1000	0	90 70 - 130%	PASS	3 25 PASS
Fenvalerate	NA	801.01	0.25	0.5	ng/dry g	1000	0	80 70 - 130%	PASS	3 25 PASS
Fluvalinate	NA	925.83	0.25	0.5	ng/dry g	1000	0	93 70 - 130%	PASS	2 25 PASS
Permethrin, cis-	NA	191.67	0.25	0.5	ng/dry g	267	0	72 70 - 130%	PASS	3 25 PASS
Permethrin, trans-	NA	507.22	0.25	0.5	ng/dry g	716	0	71 70 - 130%	PASS	4 25 PASS
Prallethrin	NA	1139.51	0.25	0.5	ng/dry g	1000	0	114 70 - 130%	PASS	1 25 PASS
Resmethrin	NA	1217.85	0.25	0.5	ng/dry g	1000	0	122 70 - 130%	PASS	2 25 PASS

Sample ID: 22545-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 1:56

Allethrin	NA	ND	0.25	0.5	ng/dry g					
Bifenthrin	NA	ND	0.25	0.5	ng/dry g					
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g					
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g					
Cypermethrin	NA	ND	0.25	0.5	ng/dry g					
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g					
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g					
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g					
Fenvalerate	NA	ND	0.25	0.5	ng/dry g					
Fluvalinate	NA	ND	0.25	0.5	ng/dry g					



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Pyrethroids**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g					
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g					
Prallethrin	NA	ND	0.25	0.5	ng/dry g					
Resmethrin	NA	ND	0.25	0.5	ng/dry g					

Sample ID: 22545-BS1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 3:35

Allethrin	NA	975	0.25	0.5	ng/dry g	1000	0	98	70 - 130%	PASS	
Bifenthrin	NA	912	0.25	0.5	ng/dry g	1000	0	91	70 - 130%	PASS	
Cyfluthrin	NA	823	0.25	0.5	ng/dry g	1000	0	82	70 - 130%	PASS	
Cyhalothrin, Total Lambda	NA	710	0.25	0.5	ng/dry g	1000	0	71	70 - 130%	PASS	
Cypermethrin	NA	716	0.25	0.5	ng/dry g	1000	0	72	70 - 130%	PASS	
Danitol (Fenpropathrin)	NA	629	0.25	0.5	ng/dry g	1000	0	63	70 - 130%	FAIL	R
Deltamethrin/Tralomethrin	NA	798	0.25	0.5	ng/dry g	1000	0	80	70 - 130%	PASS	
Esfenvalerate	NA	988	0.25	0.5	ng/dry g	1000	0	99	70 - 130%	PASS	
Fenvalerate	NA	822	0.25	0.5	ng/dry g	1000	0	82	70 - 130%	PASS	
Fluvalinate	NA	892	0.25	0.5	ng/dry g	1000	0	89	70 - 130%	PASS	
Permethrin, cis-	NA	210	0.25	0.5	ng/dry g	267	0	79	70 - 130%	PASS	
Permethrin, trans-	NA	611	0.25	0.5	ng/dry g	716	0	85	70 - 130%	PASS	
Prallethrin	NA	802	0.25	0.5	ng/dry g	1000	0	80	70 - 130%	PASS	
Resmethrin	NA	263	0.25	0.5	ng/dry g	1000	0	26	70 - 130%	FAIL	

Sample ID: 22545-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 5:14

Allethrin	NA	1016	0.25	0.5	ng/dry g	1000	0	102	70 - 130%	PASS	4	25	PASS
Bifenthrin	NA	970	0.25	0.5	ng/dry g	1000	0	97	70 - 130%	PASS	6	25	PASS
Cyfluthrin	NA	855	0.25	0.5	ng/dry g	1000	0	86	70 - 130%	PASS	5	25	PASS
Cyhalothrin, Total Lambda	NA	773	0.25	0.5	ng/dry g	1000	0	77	70 - 130%	PASS	8	25	PASS
Cypermethrin	NA	748	0.25	0.5	ng/dry g	1000	0	75	70 - 130%	PASS	4	25	PASS
Danitol (Fenpropathrin)	NA	715	0.25	0.5	ng/dry g	1000	0	71	70 - 130%	PASS	13	25	PASS
Deltamethrin/Tralomethrin	NA	702	0.25	0.5	ng/dry g	1000	0	70	70 - 130%	PASS	13	25	PASS
Esfenvalerate	NA	964	0.25	0.5	ng/dry g	1000	0	96	70 - 130%	PASS	3	25	PASS



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Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Fenvalerate	NA	901	0.25	0.5	ng/dry g	1000	0	90	70 - 130% PASS	9	25 PASS	
Fluvalinate	NA	903	0.25	0.5	ng/dry g	1000	0	90	70 - 130% PASS	1	25 PASS	
Permethrin, cis-	NA	222	0.25	0.5	ng/dry g	267	0	83	70 - 130% PASS	5	25 PASS	
Permethrin, trans-	NA	650	0.25	0.5	ng/dry g	716	0	91	70 - 130% PASS	7	25 PASS	
Prallethrin	NA	872	0.25	0.5	ng/dry g	1000	0	87	70 - 130% PASS	8	25 PASS	
Resmethrin	NA	311	0.25	0.5	ng/dry g	1000	0	31	70 - 130% FAIL	18	25 PASS	*

PHYSIS

CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

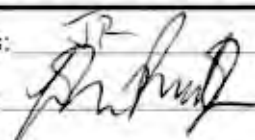
AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8109	8/28/13	0743	General Chemistry	Grab	8 oz Glass	None	1
B13-8109	8/28/13	0743	Metals	Grab	8 oz Glass	None	1
B13-8109	8/28/13	0743	PBDE	Grab	8 oz Glass	None	1
B13-8109	8/28/13	0743	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8109	8/28/13	0743	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

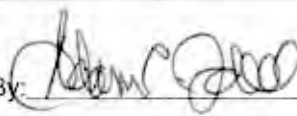
Sampler's Initials: 

Relinquished By: 

Relinquished By: _____

Date/Time: 8/29/13 1910

Date/Time: _____

Received By: 

Received By: _____

Date/Time: 8/29/13 1910

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8118	8/28/13	1036	General Chemistry	Grab	8 oz Glass	None	1
B13-8118	8/28/13	1036	Metals	Grab	8 oz Glass	None	1
B13-8118	8/28/13	1036	PBDE	Grab	8 oz Glass	None	1
B13-8118	8/28/13	1036	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8118	8/28/13	1036	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JS

Relinquished By: [Signature]

Date/Time: 8/29/13 1910

Received By: [Signature]

Date/Time: 8/29/13

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8122	8/28/13	1348	General Chemistry	Grab	8 oz Glass	None	1
B13-8122	8/28/13	1348	Metals	Grab	8 oz Glass	None	1
B13-8122	8/28/13	1348	PBDE	Grab	8 oz Glass	None	1
B13-8122	8/28/13	1348	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8122	8/28/13	1348	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JSR

Relinquished By: [Signature]

Date/Time: 8/29/13 1910

Received By: [Signature]

Date/Time: 8/29/13 1910

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

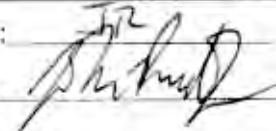
AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

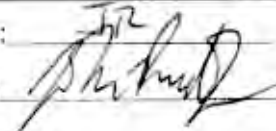
To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8033	8/28/13	1658	General Chemistry	Grab	8 oz Glass	None	1
B13-8033	8/28/13	1658	Metals	Grab	8 oz Glass	None	1
B13-8033	8/28/13	1658	PBDE	Grab	8 oz Glass	None	1
B13-8033	8/28/13	1658	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8033	8/28/13	1658	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

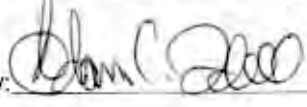
Sampler's Initials: 

Relinquished By: 

Relinquished By: _____

Date/Time: 8/29/13 1910

Date/Time: _____

Received By: 

Received By: _____

Date/Time: 8/29/13 1910

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8093	8/29/13	0734	General Chemistry	Grab	8 oz Glass	None	1
B13-8093			Metals	Grab	8 oz Glass	None	1
B13-8093			PBDE	Grab	8 oz Glass	None	1
B13-8093			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8093			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JB

Relinquished By: [Signature]

Date/Time: 8/29/13 1910

Received By: [Signature]

Date/Time: 8/29/13 1910

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8100	8/29/13	0844	General Chemistry	Grab	8 oz Glass	None	1
B13-8100			Metals	Grab	8 oz Glass	None	1
B13-8100			PBDE	Grab	8 oz Glass	None	1
B13-8100			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8100			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JS

Relinquished By: [Signature]

Date/Time: 8/29/13 1510

Received By: [Signature]

Date/Time: 8/29/13 1910

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

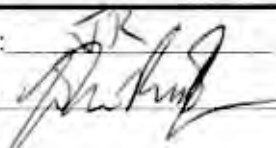
AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

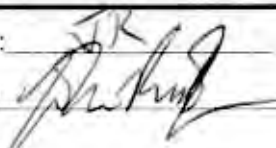
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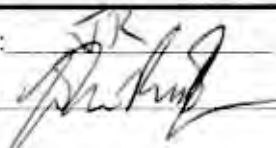
Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8099	8/29/13	0955	General Chemistry	Grab	8 oz Glass	None	1
B13-8099			Metals	Grab	8 oz Glass	None	1
B13-8099			PBDE	Grab	8 oz Glass	None	1
B13-8099			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8099			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

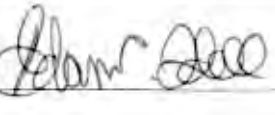
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Relinquished By: 

Date/Time: 8/29/13 1910

Date/Time: _____

Received By: 

Received By: _____

Date/Time: 8/29/13 1910

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

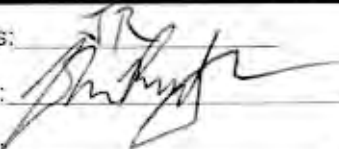
AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

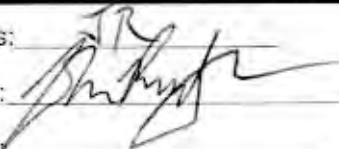
To:

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 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
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SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8098	8/29/13	1106	General Chemistry	Grab	8 oz Glass	None	1
B13-8098			Metals	Grab	8 oz Glass	None	1
B13-8098			PBDE	Grab	8 oz Glass	None	1
B13-8098			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8098			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: 

Relinquished By: 

Date/Time: 8/29/13 1910

Received By: 

Date/Time: 8/29/13 1910

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8096	8/29/13	1234	General Chemistry	Grab	8 oz Glass	None	1
B13-8096			Metals	Grab	8 oz Glass	None	1
B13-8096			PBDE	Grab	8 oz Glass	None	1
B13-8096			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8096			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JS*

Relinquished By: *[Signature]*

Date/Time: 8/29/13 1910

Received By: *[Signature]*

Date/Time: 8/29/13 1910

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

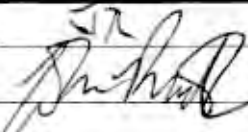
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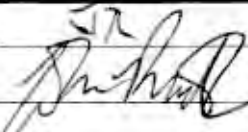
Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8095	8/29/13	1414	General Chemistry	Grab	8 oz Glass	None	1
B13-8095			Metals	Grab	8 oz Glass	None	1
B13-8095			PBDE	Grab	8 oz Glass	None	1
B13-8095			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8095			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

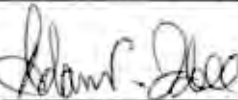
Sampler's Initials: 

Relinquished By: 

Relinquished By: 

Date/Time: 8/29/13 1910

Date/Time: _____

Received By: 

Received By: _____

Date/Time: 8/29/13 1910

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

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AMEC Environment & Infrastructure
 Attn: Chris Stransky
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 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8087	8/29/13	1516	General Chemistry	Grab	8 oz Glass	None	1
B13-8087			Metals	Grab	8 oz Glass	None	1
B13-8087			PBDE	Grab	8 oz Glass	None	1
B13-8087			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8087			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JS

Relinquished By: [Signature]

Date/Time: 8/29/13 1910

Received By: [Signature]

Date/Time: 8/29/13 1910

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

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 Attn: Chris Stransky
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To:

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 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8073	8/29/13	1638	General Chemistry	Grab	8 oz Glass	None	1
B13-8073			Metals	Grab	8 oz Glass	None	1
B13-8073			PBDE	Grab	8 oz Glass	None	1
B13-8073			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8073			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *IR*

Relinquished By: *[Signature]*

Date/Time: *8/29/13 1910*

Received By: *[Signature]*

Date/Time: *8/29/13 1910*

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Port of San Diego
Final Work Plan
Regional Harbor Monitoring Program
AMEC Project No. 1015101932
August 2013

to phys

Table 4-2.
Chemical Analyses of Sediment Samples

Analyte	Analysis Method	Sediment Target Reporting Limits ^{a,b}	Units
Total Solids	SM 2540 B ^c	0.1	%
Total Organic Carbon	9060	0.01	%
Grain Size	SM2560	0.1	%
Aluminum	6020/6010B ^d	5.0	mg/kg
Antimony	6020/6010B ^d	0.05	mg/kg
Arsenic	6020/6010B ^d	0.05	mg/kg
Barium	6020/6010B ^d	0.05	mg/kg
Beryllium	6020/6010B ^d	0.05	mg/kg
Cadmium	6020/6010B ^d	0.01	mg/kg
Chromium	6020/6010B ^d	0.05	mg/kg
Copper	6020/6010B ^d	0.01	mg/kg
Iron	6020/6010B ^d	5.0	mg/kg
Lead	6020/6010B ^d	0.01	mg/kg
Mercury	6020/6010B ^d	0.02	mg/kg
Nickel	6020/6010B ^d	0.02	mg/kg
Selenium	6020/6010B ^d	0.05	mg/kg
Silver	6020/6010B ^d	0.02	mg/kg
Zinc	6020/6010B ^d	0.05	mg/kg
Total Nitrogen	TKN / SM 4500-NO ³ E(M) / SM 4500-NO ² B(M)	4.0	mg/kg
Total Phosphorus	SM 4500-P B/E(M)	4.0	mg/kg
Ammonia	SM 4500-NH ³	0.2	mg/kg
Acid Volatile Sulfides	Plumb 1981 and TERL	0.1	mg/kg
Simultaneous Extracted Metals	EPA 200.8	0.0004-0.0124	μmol/g
PAHs ^e	EPA 8270C ^d	5.0	μg/kg
Chlorinated Pesticides ^f	EPA 8270C ^d	0.5-50	μg/kg
Pyrethroid Pesticides	EPA 8270 C NCI	0.5-10	μg/kg
PCB Congeners ^g	EPA 8270C ^d	0.2	μg/kg
PBDEs ^h	EPA 8270 C NCI	0.1	μg/kg
Alkylphenol ⁱ	GC/MS SIM	0.02-0.6	mg/kg
Perfluorinated Compounds ^{j,k}	EPA 537M	5.0	μg/kg

Notes:

^a Sediment minimum detection limits are on a dry-weight basis.

^b Reporting limits provided by Physis Environmental Laboratories.

^c Standard Methods for the Examination of Water and Wastewater, 19th Ed. American Public Health Association, 1995.

^d USEPA 1988-1996 SW-846. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 3rd Ed.

^e Includes Acenaphthene, Acenaphthylene, Anthracene, Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[e]pyrene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Biphenyl, Chrysene, Dibenzo[a,h]anthracene, Di benzo[thiophene, Fluoranthene, Fluorene, Indeno[1,2,3-c,d]pyrene, Naphthalene, Perylene, Phenanthrene, Pyrene, 2,6-Dimethylnaphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene, 1-Methylphenanthrene, 2,3,5-Trimethylnaphthalene, and 1,6,7-Trimethylnaphthalene.

^f Includes cis-chlordane, trans-chlordane, o,p'-DDT, p,p'-DDT, o,p'-DDD, p,p'-DDD, o,p'-DDE, p,p'-DDE, p,p'-DDMU, aldrin, BHC-alpha, BHC-beta, BHC-gamma, cis-nonachlor, trans-nonachlor, oxychlordane, DCPA (Dacthal), dicofol, dieldrin, toxaphene, endosulfan sulfate, endosulfan-I, endosulfan-II, endrin, endrin aldehyde, endrin ketone, heptachlor, heptachlor epoxide, methoxychlor, mirex, and perthane.

^g Includes congeners: PCB-3, 5, 8, 15, 18, 27-29, 31, 33, 37, 44, 49, 52, 56, 60, 66, 70, 74, 77, 81, 87, 95, 97, 99, 101, 105, 110, 114, 118-119, 123, 126, 128, 137-138, 141, 149, 151, 153, 156-158, 167-170, 174, 177, 180, 183, 187, 189, 194-195, 200-201, 203, 206, and 209.

^h Includes BDE-17, 28, 47, 49, 66, 85, 99, 100, 138, 153, 154, 183, and 209.

Collected only at stations B13-B163, B13-8040, B13-8077; transferred to SCCWRP for analysis.

ⁱ Includes nonylphenol, nonylphenol diethoxylate, nonylphenol monoethoxylate, 4-tert-octylphenol, and bisphenol A

^j Includes perfluorooctanoic acid and perfluorooctane sulfonate.

μg/kg - micrograms per kilogram (parts per billion)

mg/kg - milligrams per kilogram (parts per million)

N/A - not applicable

SM - Standard Methods

SOP - standard operating procedure

SAMPLE RECEIPT SUMMARY

CLIENT: AMEC Date Received: 8/29/13 Received By: AI Inspected By: AI

COURIER

☒ PHYSIS ☐ CLIENT ☐ FEDEX ☐ UPS
start 15:30 end 21:00 ☐ OTHER: _____

COOLER

☒ COOLER ☐ BOX total #
☐ OTHER: _____ 9

TEMPERATURE

3.1 °C ☒ WET ICE ☐ BLUE ICE
☐ DRY ICE ☐ NONE

SAMPLE INTEGRITY UPON RECEIPT

1. COC(s) included and completely filled out..... YES
2. All sample containers arrived intact..... YES
3. All samples listed on COC(s) are present..... YES
4. Information on containers consistent with information on COC(s)..... YES
5. Correct containers and volume for all analyses indicated..... YES
6. All samples received within method holding time..... YES
7. Correct preservation used for all analyses indicated..... YES

NOTES

Sediments

PHYSIS

LEVEL 3

DELIVERABLES

Innovative Solutions for Nature

PHYSIS

Conventionals

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS

Summary of Initial Calibration Data and

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

ICV/CCV

Innovative Solutions for Nature

1307002-012 AMEC RHMP General Chemistry Calibration Data							
Analysis	Method	Batch ID	Co-efficient	Equation	Slope	ICV/True Value	CCV/True Value
Acid Volatile Sulfides	Plumb, 1981	C-14065	0.9998	0.196x-0.001702	NA	NA	NA
Percent Solids	SM2540 B	E-7004	NA	NA	NA	NA	NA
Ammonia	SM 4500-NH3 D	C-14071	NA	NA	-59.26	.258/.25	.25/.25

(EPA 6020 – High Metals)

PHYSIS

Instrument Blank

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name 0MIX_2131021.D
File Path D:\data\2131022.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/21/2013 11:04
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.000	ug/g	---	10.00	2.171E-05	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	---	12.22	2.630E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	460,663.99	1.60	100.0	Analog	0.30	3

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Initial Calibration Data

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Batch Folder: D:\DATA\2131022.B\

 Analysis File: 2131022.batch.xml

 DA Date-Time: 10/22/2013 9:51:01 PM

 Calibration Title:

 Calibration Method: External Calibration

 VIS Interpolation Fit:

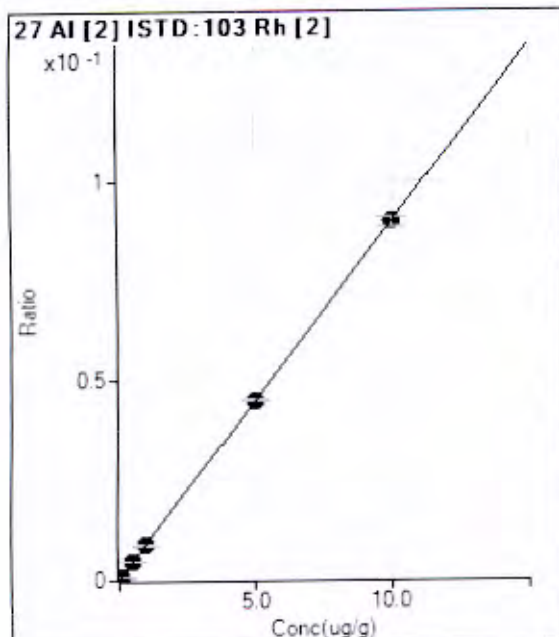
 Tune Step: #1 h2.u

 #2 he.u

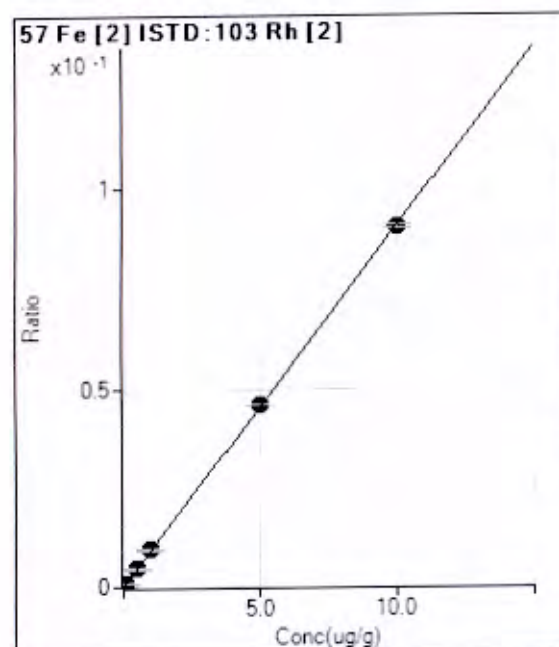
 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX_2131021.D	0 ppb mix	10/21/2013 11:04:00 AM
2	1MIX_2131021.D	1 ppb mix	10/21/2013 11:08:45 AM
3	5MIX_2131021.D	5 ppb mix	10/21/2013 11:13:28 AM
4	10MIX_2131021.D	10 ppb mix	10/21/2013 11:18:12 AM
5	50MIX_2131021.D	50 ppb mix	10/21/2013 11:22:57 AM
6	100MIX_2131021.D	100 ppb mix	10/21/2013 11:27:42 AM
7	500MIX_2131021.D	500 ppb mix	10/21/2013 11:32:25 AM
8	1000MIX_2131021.D	1000 ppb mix	10/21/2013 11:36:58 AM
9	1P_2131021.D	1 ppm P	10/21/2013 11:51:09 AM
10	2P_2131021.D	2 ppm P	10/21/2013 11:55:56 AM
11	5P_2131021.D	5 ppm P	10/21/2013 12:00:43 PM
12	10P_2131021.D	10 ppm P	10/21/2013 12:05:32 PM
13			
14			
15			
16			
17			
18			

Calibration for RINSE23.D

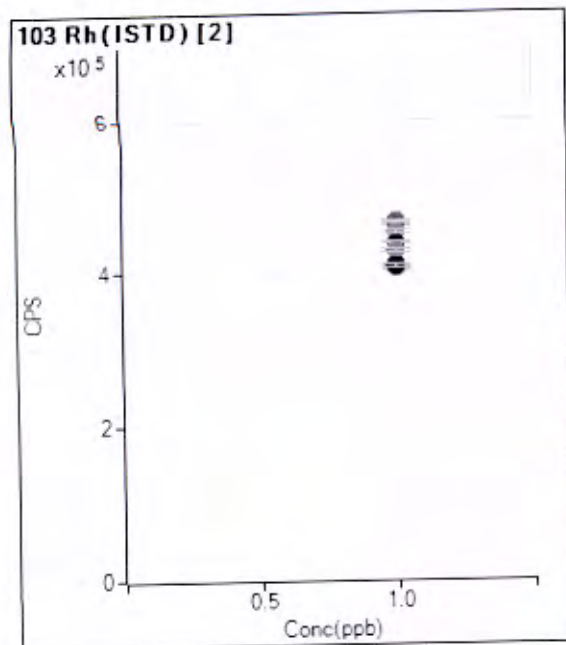


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	10.00	0.0000	P	57.8
2	<input type="checkbox"/>	0.010	0.015	72.23	0.0002	P	5.6
3	<input type="checkbox"/>	0.050	0.063	273.35	0.0006	P	13.3
4	<input type="checkbox"/>	0.100	0.104	443.36	0.0010	P	5.4
5	<input type="checkbox"/>	0.500	0.507	2067.99	0.0046	P	1.8
6	<input type="checkbox"/>	1.000	0.987	3885.03	0.0089	P	5.0
7	<input type="checkbox"/>	5.000	4.997	18347.62	0.0449	P	1.1
8	<input type="checkbox"/>	10.00	10.002	38353.25	0.0899	P	2.7
9	<input type="checkbox"/>			23.33	0.0001	P	100.
10	<input type="checkbox"/>			26.67	0.0001	P	69.1
11	<input type="checkbox"/>			18.89	0.0000	P	36.8
12	<input type="checkbox"/>			22.22	0.0001	P	48.1
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	12.22	0.0000	P	82.3
2	<input type="checkbox"/>	0.010	0.005	35.56	0.0001	P	77.3
3	<input type="checkbox"/>	0.050	0.053	236.68	0.0005	P	12.9
4	<input type="checkbox"/>	0.100	0.098	425.58	0.0009	P	2.5
5	<input type="checkbox"/>	0.500	0.500	2062.43	0.0046	P	7.4
6	<input type="checkbox"/>	1.000	1.042	4141.77	0.0095	P	3.9
7	<input type="checkbox"/>	5.000	5.074	18815.00	0.0461	P	0.3
8	<input type="checkbox"/>	10.00	9.959	38566.95	0.0904	P	1.2
9	<input type="checkbox"/>			8.89	0.0000	P	57.2
10	<input type="checkbox"/>			6.67	0.0000	P	50.5
11	<input type="checkbox"/>			16.67	0.0000	P	35.0
12	<input type="checkbox"/>			10.00	0.0000	P	58.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for RINSE23.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	Γ	1.000		460663.99		A	1.6
2	Γ	1.000		464124.60		A	1.6
3	Γ	1.000		464686.11		A	0.4
4	Γ	1.000		464132.26		A	0.7
5	Γ	1.000		451285.23		M	1.2
6	Γ	1.000		436689.54		P	0.5
7	Γ	1.000		408265.57		P	0.4
8	Γ	1.000		426483.79		M	1.0
9	Γ	1.000		403562.38		P	0.5
10	Γ	1.000		404920.21		P	0.6
11	Γ	1.000		404872.53		P	0.5
12	Γ	1.000		406024.27		P	0.9
13	Γ	1.000					
14	Γ	1.000					
15	Γ	1.000					
16	Γ	1.000					
17	Γ	1.000					
18	Γ	1.000					

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Continuing Calibration Data

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ICPMS 7700x DATA REPORT

File Name ICV1.D
File Path D:\data\2131022.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/22/2013 15:02
Sample Name 1.0 PPM
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.992	ug/g	0.28	40,454.42	8.578E-02	Pulse	0.30	3
Fe	57	103	2	1.004	ug/g	0.05	41,346.49	8.767E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	471,603.31	1.22	102.4	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV.D
File Path D:\data\2131022.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/22/2013 21:53
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.965	ug/g	0.51	32,314.99	8.345E-02	Pulse	0.30	3
Fe	57	103	2	0.997	ug/g	1.06	33,706.03	8.704E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	387,244.01	0.74	84.1	Pulse	0.30	3

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Instrument Run Log

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	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse200			1.000							
2	C:\CPMH1\METHOD S\Physis.m	Sample	1108	10V1	1.0 PPM		1.000E-01							
3	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse4			1.000							
4	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse9			1.000							
5	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse10			1.000							
6	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse11			1.000							
7	C:\CPMH1\METHOD S\Physis.m	Sample	2101	22481	QAQC Procedural Blank B1	22481.NA.B1.10/12/2013.E-6005	10.00							
8	C:\CPMH1\METHOD S\Physis.m	Sample	2102	22482	B13-8013	22482.NA.R1.10/12/2013.E-6005	655.0							
9	C:\CPMH1\METHOD S\Physis.m	Sample	2103	22482/2	B13-8013 Dup	22482.NA.R2.10/12/2013.E-6005	675.0							
10	C:\CPMH1\METHOD S\Physis.m	Sample	2104	22483	B13-8014	22483.NA.R1.10/12/2013.E-6005	441.0							
11	C:\CPMH1\METHOD S\Physis.m	Sample	2105	22484	B13-8028	22484.NA.R1.10/12/2013.E-6005	615.0							
12	C:\CPMH1\METHOD S\Physis.m	Sample	2106	22485	B13-8030	22485.NA.R1.10/12/2013.E-6005	361.0							
13	C:\CPMH1\METHOD S\Physis.m	Sample	2107	22486	B13-8038	22486.NA.R1.10/12/2013.E-6005	563.0							
14	C:\CPMH1\METHOD S\Physis.m	Sample	2108	22487	B13-8038	22487.NA.R1.10/12/2013.E-6005	588.0							
15	C:\CPMH1\METHOD S\Physis.m	Sample	2109	22488	B13-8040	22488.NA.R1.10/12/2013.E-6005	758.0							
16	C:\CPMH1\METHOD S\Physis.m	Sample	2110	22489	B13-8052	22489.NA.R1.10/12/2013.E-6005	577.0							
17	C:\CPMH1\METHOD S\Physis.m	Sample	2111	22490	B13-8060	22490.NA.R1.10/12/2013.E-6005	549.0							
18	C:\CPMH1\METHOD S\Physis.m	Sample	2112	22491	B13-8078	22491.NA.R1.10/12/2013.E-6005	549.0							
19	C:\CPMH1\METHOD S\Physis.m	Sample	2201	22493cm	QAQC CRM - RTC 015-0501	22493.NA.CRM1.10/12/2013.E-6005	1.059E+03							
20	C:\CPMH1\METHOD S\Physis.m	Sample	2202	22494cm	QAQC CRM - ERA 5401	22494.NA.CRM1.10/12/2013.E-6005	1.042E+03							
21	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse103			1.000							
22	C:\CPMH1\METHOD S\Physis.m	Sample	2203	22481bs1	QAQC Procedural Blank BS1	22481.NA.BS1.10/12/2013.E-6005	1.000							
23	C:\CPMH1\METHOD S\Physis.m	Sample	2204	22481bs2	QAQC Procedural Blank BS2	22481.NA.BS2.10/12/2013.E-6005	1.000							
24	C:\CPMH1\METHOD S\Physis.m	Sample	2205	22482ms	B13-8013 MS	22482.NA.MS1.10/12/2013.E-6005	1.000							
25	C:\CPMH1\METHOD S\Physis.m	Sample	2206	22482msd	B13-8013 MSD	22482.NA.MS2.10/12/2013.E-6005	1.000							
26	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse12			1.000							
27	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse13			1.000							
28	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse14			1.000							
29	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse15			1.000							
30	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse16			1.000							
31	C:\CPMH1\METHOD S\Physis.m	Sample	2209	22544	QAQC Procedural Blank B1	22544.NA.B1.10/12/2013.E-6005	10.00							
32	C:\CPMH1\METHOD S\Physis.m	Sample	2210	22546	B13-8109 Grab	22546.NA.R1.10/12/2013.E-6005	517.0							
33	C:\CPMH1\METHOD S\Physis.m	Sample	2211	22548/2	B13-8109 Grab Dup	22548.NA.R2.10/12/2013.E-6005	475.0							
34	C:\CPMH1\METHOD S\Physis.m	Sample	2212	22547	B13-8118 Grab	22547.NA.R1.10/12/2013.E-6005	610.0							
35	C:\CPMH1\METHOD S\Physis.m	Sample	2301	22548	B13-8122 Grab	22548.NA.R1.10/12/2013.E-6005	288.0							
36	C:\CPMH1\METHOD S\Physis.m	Sample	2302	22549	B13-8033 Grab	22549.NA.R1.10/12/2013.E-6005	673.0							
37	C:\CPMH1\METHOD S\Physis.m	Sample	2303	22550	B13-8093 Grab	22550.NA.R1.10/12/2013.E-6005	430.0							
38	C:\CPMH1\METHOD S\Physis.m	Sample	2304	22551	B13-8190 Grab	22551.NA.R1.10/12/2013.E-6005	498.0							
39	C:\CPMH1\METHOD S\Physis.m	Sample	2305	22552	B13-8099 Grab	22552.NA.R1.10/12/2013.E-6005	667.0							

	Method	Type	Vial	Data File	Sample	Comment	DivLvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
40	C:\CPM\H1\METHOD S\Physis.m	Sample	2309	22553	B13-8028 Grab	22553.NA.R1.10/12/2013.E-6006	477.0							
41	C:\CPM\H1\METHOD S\Physis.m	Sample	2307	22554	B13-8090 Grab	22554.NA.R1.10/12/2013.E-6005	460.0							
42	C:\CPM\H1\METHOD S\Physis.m	Sample	2308	22555	B13-8095 Grab	22555.NA.R1.10/12/2013.E-6006	503.0							
43	C:\CPM\H1\METHOD S\Physis.m	Sample	2309	22549cm	QAQC CRM - RTC 016-0501	22559.NA.CRM1.10/12/2013.E-6006	1.064E+03							
44	C:\CPM\H1\METHOD S\Physis.m	Sample	2310	22551cm	QAQC CRM - ERA 5401	22501.NA.CRM1.10/12/2013.E-6006	1.104E+03							
45	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse100			1.000							
46	C:\CPM\H1\METHOD S\Physis.m	Sample	2203	22544bs1	QAQC Procedural Blank BS1	22544.NA.BS1.10/12/2013.E-6006	1.000							
47	C:\CPM\H1\METHOD S\Physis.m	Sample	2204	22544bs2	QAQC Procedural Blank BS2	22544.NA.BS2.10/12/2013.E-6006	1.000							
48	C:\CPM\H1\METHOD S\Physis.m	Sample	2311	22548ms	B13-8104 Grab MS	22548.NA.MS1.10/12/2013.E-6006	1.000							
49	C:\CPM\H1\METHOD S\Physis.m	Sample	2312	22548msd	B13-8109 Grab MSD	22548.NA.MS2.10/12/2013.E-6006	1.000							
50	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse17			1.000							
51	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse18			1.000							
52	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse19			1.000							
53	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse20			1.000							
54	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse21			1.000							
55	C:\CPM\H1\METHOD S\Physis.m	Sample	2403	22545	QAQC Procedural Blank B1	22545.NA.B1.10/12/2013.E-6007	16.00							
56	C:\CPM\H1\METHOD S\Physis.m	Sample	2403	22570	QAQC Procedural Blank B1	22570.NA.B1.10/12/2013.E-6007	10.00							
57	C:\CPM\H1\METHOD S\Physis.m	Sample	2404	22536	B13-8087 Grab	22556.NA.R1.10/12/2013.E-6007	375.0							
58	C:\CPM\H1\METHOD S\Physis.m	Sample	2405	22556r2	B13-8087 Grab Dup	22556.NA.R2.10/12/2013.E-6007	348.0							
59	C:\CPM\H1\METHOD S\Physis.m	Sample	2406	22557	B13-8073 Grab	22557.NA.R1.10/12/2013.E-6007	453.0							
60	C:\CPM\H1\METHOD S\Physis.m	Sample	2407	22571	B13-8058 Grab	22571.NA.R1.10/12/2013.E-6007	357.0							
61	C:\CPM\H1\METHOD S\Physis.m	Sample	2408	22571r2	B13-8058 Grab Dup	22571.NA.R2.10/12/2013.E-6007	399.0							
62	C:\CPM\H1\METHOD S\Physis.m	Sample	2409	22572	B13-8058 Grab	22572.NA.R1.10/12/2013.E-6007	481.0							
63	C:\CPM\H1\METHOD S\Physis.m	Sample	2410	22573	B13-8090 Grab	22573.NA.R1.10/12/2013.E-6007	761.0							
64	C:\CPM\H1\METHOD S\Physis.m	Sample	2411	22574	B13-8045 Grab	22574.NA.R1.10/12/2013.E-6007	457.0							
65	C:\CPM\H1\METHOD S\Physis.m	Sample	2412	22575	B13-8031 Grab	22575.NA.R1.10/12/2013.E-6007	460.0							
66	C:\CPM\H1\METHOD S\Physis.m	Sample	2501	22560cm	QAQC CRM - RTC 016-0501	22560.NA.CRM1.10/12/2013.E-6007	821.0							
67	C:\CPM\H1\METHOD S\Physis.m	Sample	2502	22562cm	QAQC CRM - FRA 5401	22562.NA.CRM1.10/12/2013.E-6007	926.0							
68	C:\CPM\H1\METHOD S\Physis.m	Sample	2501	22577cm	QAQC CRM - RTC 016-0501	22577.NA.CRM1.10/12/2013.E-6007	621.0							
69	C:\CPM\H1\METHOD S\Physis.m	Sample	2502	22579cm	QAQC CRM - ERA 5401	22573.NA.CRM1.10/12/2013.E-6007	998.0							
70	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse101			1.000							
71	C:\CPM\H1\METHOD S\Physis.m	Sample	2203	22545bs1	QAQC Procedural Blank BS1	22545.NA.BS1.10/12/2013.E-6007	1.000							
72	C:\CPM\H1\METHOD S\Physis.m	Sample	2204	22545bs2	QAQC Procedural Blank BS2	22545.NA.BS2.10/12/2013.E-6007	1.000							
73	C:\CPM\H1\METHOD S\Physis.m	Sample	2203	22570bs1	QAQC Procedural Blank BS1	22570.NA.BS1.10/12/2013.E-6007	1.000							
74	C:\CPM\H1\METHOD S\Physis.m	Sample	2204	22570bs2	QAQC Procedural Blank BS2	22570.NA.BS2.10/12/2013.E-6007	1.000							
75	C:\CPM\H1\METHOD S\Physis.m	Sample	2303	22556ms	B13-8087 Grab MS	22556.NA.MS1.10/12/2013.E-6007	1.000							
76	C:\CPM\H1\METHOD S\Physis.m	Sample	2304	22556msd	B13-8087 Grab MSD	22556.NA.MS2.10/12/2013.E-6007	1.000							
77	C:\CPM\H1\METHOD S\Physis.m	Sample	2505	22571ms	B13-8058 Grab MS	22571.NA.MS1.10/12/2013.E-6007	1.000							
78	C:\CPM\H1\METHOD S\Physis.m	Sample	2506	22571msd	B13-8058 Grab MSD	22571.NA.MS2.10/12/2013.E-6007	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
79	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse22			1.000							
80	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse23			1.000							
81	C:\CPMH1\METHOD S\Physis.m	Sample	1108	CCV	1.0 PPM		1.000E-01							
82	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse24			1.000							
83	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse25			1.000							
84	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse26			1.000							
85	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse27			1.000							
86		Keyword		StandBy										

Elements –

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**(EPA 6020 – Low Metals &
Phosphorous)**

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Instrument Blank

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ICPMS 7700x DATA REPORT

File Name 0MIX.D
File Path D:\DATA\2131021.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/21/2013 11:04
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.000	ug/g	---	10.00	2.171E-05	Pulse	0.30	3
P	31	103	2		ug/g	---	63.34	1.374E-04	Pulse	0.30	3
Cr	52	103	2	0.000	ug/g	---	121.12	2.637E-04	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	---	12.22	2.630E-05	Pulse	0.30	3
Ni	60	103	2	0.000	ug/g	---	10.00	2.145E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	---	4,191.78	9.103E-03	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	---	24.44	5.287E-05	Pulse	0.30	3
As	75	103	2	0.000	ug/g	---	0.00		Pulse	0.30	3
Se	78	103	1	0.000	ug/g	---	4.45	6.472E-05	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	---	46.67	1.012E-04	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	---	8.89	1.926E-05	Pulse	0.30	3
Sb	121	169	2	0.000	ug/g	---	15.56	2.780E-05	Pulse	0.30	3
Ba	137	169	2	0.000	ug/g	---	0.00		Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	---	116.67	2.086E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	68,597.14	0.28	100.0	Pulse	0.30	3
2	Rh	103	460,663.99	1.60	100.0	Analog	0.30	3
3	Rh	103	1,054,252.75	1.43	100.0	Analog	0.30	3
2	Tm	169	559,172.77	1.72	100.0	Analog	0.30	3

PHYSIS

Initial Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

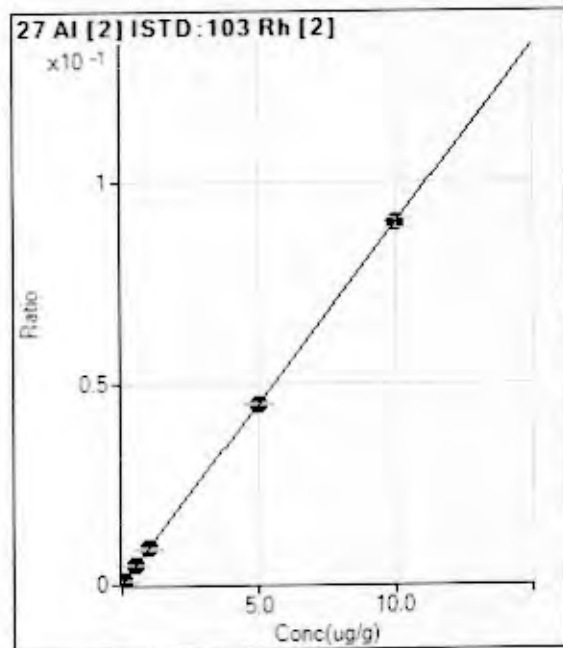
Innovative Solutions for Nature

Calibration for 10P.D

Batch Folder: D:\DATA\2131021.B\
 Analysis File: 2131021.batch.xml
 DA Date-Time: 4/8/2014 3:53:25 PM
 Calibration Title:
 Calibration Method: External Calibration
 VIS Interpolation Fit:
 Tune Step: #1 h2.u
 #2 he.u
 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX.D	0 ppb mix	10/21/2013 11:04:00 AM
2	1MIX.D	1 ppb mix	10/21/2013 11:08:45 AM
3	5MIX.D	5 ppb mix	10/21/2013 11:13:28 AM
4	10MIX.D	10 ppb mix	10/21/2013 11:18:12 AM
5	50MIX.D	50 ppb mix	10/21/2013 11:22:57 AM
6	100MIX.D	100 ppb mix	10/21/2013 11:27:42 AM
7	500MIX.D	500 ppb mix	10/21/2013 11:32:25 AM
8	1000MIX.D	1000 ppb mix	10/21/2013 11:36:58 AM
9	1P.D	1 ppm P	10/21/2013 11:51:09 AM
10	2P.D	2 ppm P	10/21/2013 11:55:56 AM
11	5P.D	5 ppm P	10/21/2013 12:00:43 PM
12	10P.D	10 ppm P	10/21/2013 12:05:32 PM
13			
14			
15			
16			
17			
18			

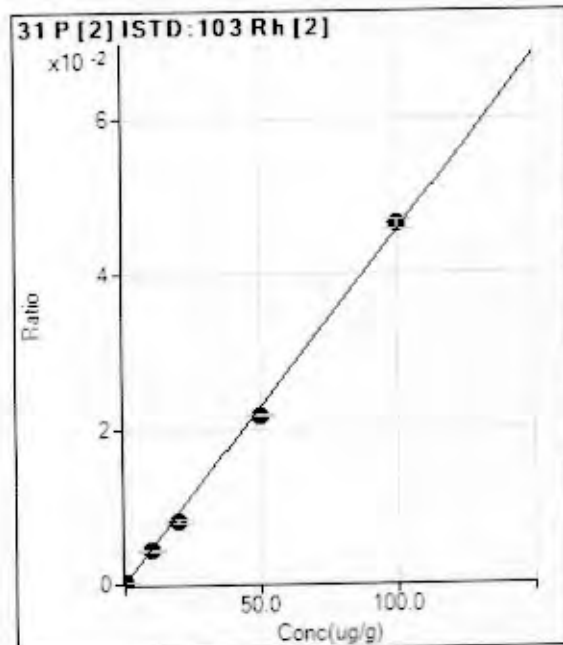
Calibration for 10P.D



Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	10.00	0.0000	P	57.8
2	<input type="checkbox"/>	0.010	0.015	72.23	0.0002	P	5.6
3	<input type="checkbox"/>	0.050	0.063	273.35	0.0006	P	13.3
4	<input type="checkbox"/>	0.100	0.104	443.36	0.0010	P	5.4
5	<input type="checkbox"/>	0.500	0.507	2067.99	0.0046	P	1.8
6	<input type="checkbox"/>	1.000	0.987	3885.03	0.0089	P	5.0
7	<input type="checkbox"/>	5.000	4.997	18347.62	0.0449	P	1.1
8	<input type="checkbox"/>	10.00	10.002	38353.25	0.0899	P	2.7
9	<input type="checkbox"/>			23.33	0.0001	P	100.
10	<input type="checkbox"/>			26.67	0.0001	P	69.1
11	<input type="checkbox"/>			18.89	0.0000	P	36.8
12	<input type="checkbox"/>			22.22	0.0001	P	48.1
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

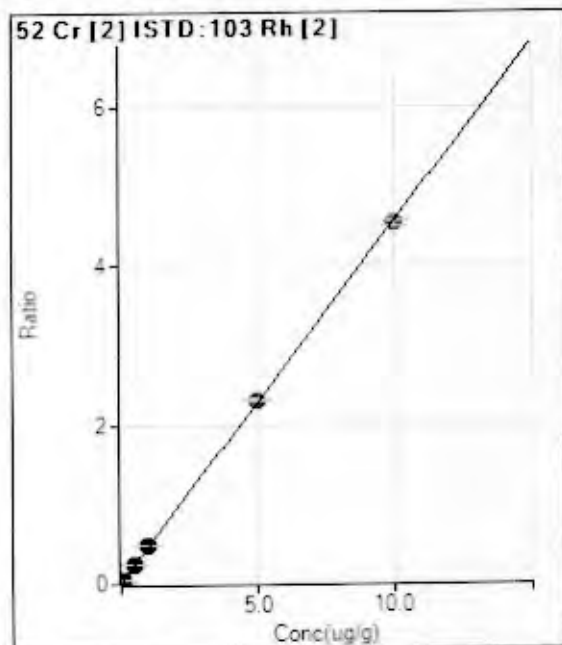


Weight: None

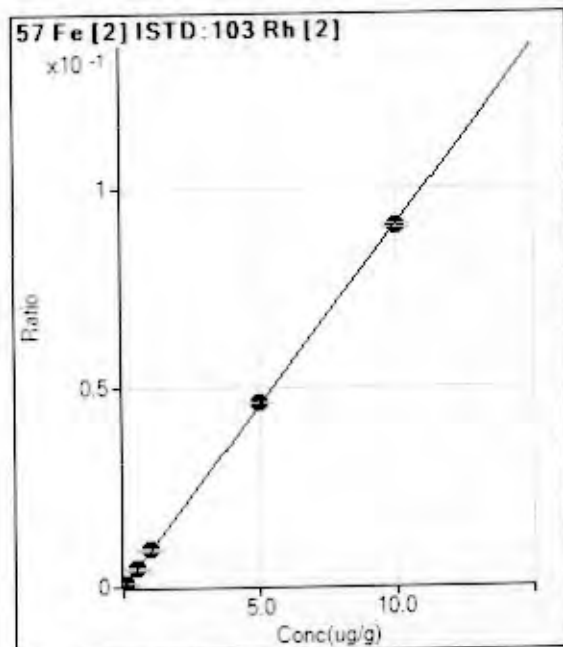
Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	63.34	0.0001	P	9.9
2	<input type="checkbox"/>			61.11	0.0001	P	28.7
3	<input type="checkbox"/>			42.22	0.0001	P	46.1
4	<input type="checkbox"/>			58.89	0.0001	P	28.7
5	<input type="checkbox"/>			56.67	0.0001	P	11.0
6	<input type="checkbox"/>			48.89	0.0001	P	21.5
7	<input type="checkbox"/>			65.56	0.0002	P	24.9
8	<input type="checkbox"/>			46.67	0.0001	P	26.2
9	<input type="checkbox"/>	10.00	9.402	1781.	0.0044	P	5.4
10	<input type="checkbox"/>	20.00	17.585	3293.	0.0081	P	4.1
11	<input type="checkbox"/>	50.00	47.491	8801.	0.0217	P	0.8
12	<input type="checkbox"/>	100.0	101.797	1885	0.0464	P	2.7
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D

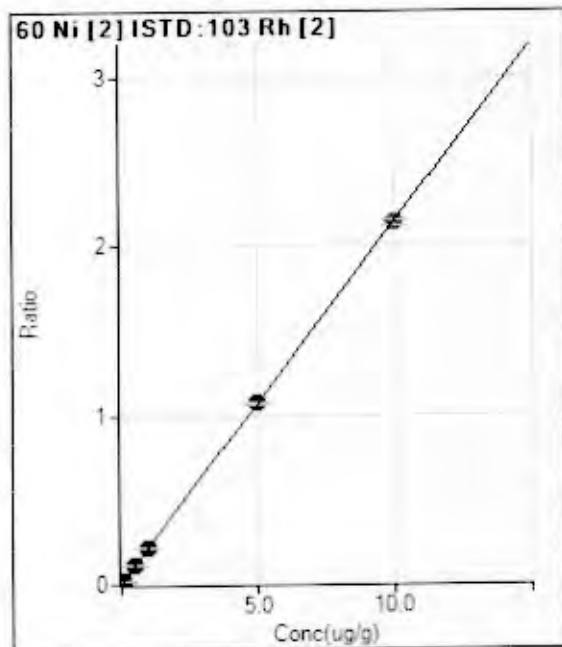


	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	121.12	0.0003	P	26.6
2	<input type="checkbox"/>	0.010	0.010	2302.47	0.0050	P	1.9
3	<input type="checkbox"/>	0.050	0.054	11476.31	0.0247	P	1.4
4	<input type="checkbox"/>	0.100	0.106	22518.13	0.0485	P	0.9
5	<input type="checkbox"/>	0.500	0.525	107887.95	0.2391	P	1.1
6	<input type="checkbox"/>	1.000	1.034	205537.53	0.4707	P	0.5
7	<input type="checkbox"/>	5.000	5.086	944317.35	2.3130	A	0.5
8	<input type="checkbox"/>	10.00	9.952	1930100.3	4.5260	A	1.6
9	<input type="checkbox"/>			184.45	0.0005	P	22.2
10	<input type="checkbox"/>			175.56	0.0004	P	7.9
11	<input type="checkbox"/>			210.01	0.0005	P	15.1
12	<input type="checkbox"/>			193.34	0.0005	P	52.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	12.22	0.0000	P	82.3
2	<input type="checkbox"/>	0.010	0.005	35.56	0.0001	P	77.3
3	<input type="checkbox"/>	0.050	0.053	236.68	0.0005	P	12.9
4	<input type="checkbox"/>	0.100	0.098	425.58	0.0009	P	2.5
5	<input type="checkbox"/>	0.500	0.500	2062.43	0.0046	P	7.4
6	<input type="checkbox"/>	1.000	1.042	4141.77	0.0095	P	3.9
7	<input type="checkbox"/>	5.000	5.074	18815.00	0.0461	P	0.3
8	<input type="checkbox"/>	10.00	9.959	38566.95	0.0904	P	1.2
9	<input type="checkbox"/>			8.89	0.0000	P	57.2
10	<input type="checkbox"/>			6.67	0.0000	P	50.5
11	<input type="checkbox"/>			16.67	0.0000	P	35.0
12	<input type="checkbox"/>			10.00	0.0000	P	58.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.2137 * x + 2.1447E-005$$

$$R = 1.0000$$

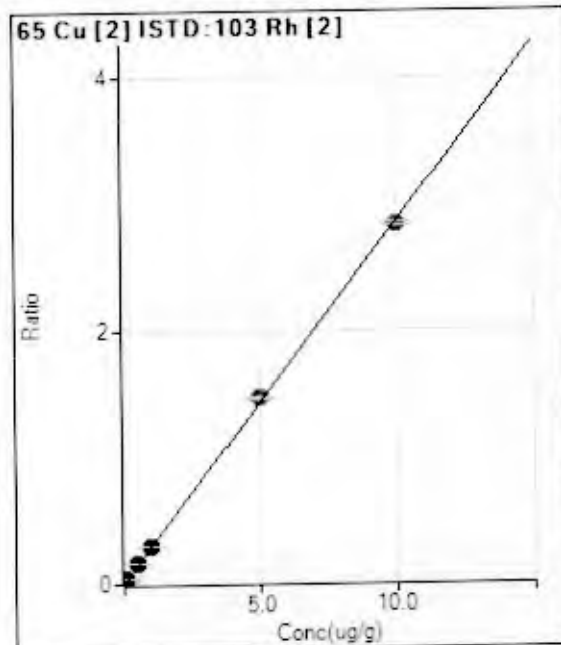
$$DL = 0.0003603$$

$$BEC = 0.0001004$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	10.00	0.0000	P	119.7
2	<input type="checkbox"/>	0.010	0.011	1061.19	0.0023	P	6.2
3	<input type="checkbox"/>	0.050	0.051	5107.62	0.0110	P	0.7
4	<input type="checkbox"/>	0.100	0.105	10406.74	0.0224	P	3.2
5	<input type="checkbox"/>	0.500	0.525	50638.22	0.1122	P	0.5
6	<input type="checkbox"/>	1.000	1.009	94177.98	0.2157	P	0.2
7	<input type="checkbox"/>	5.000	5.016	437630.06	1.0719	P	1.2
8	<input type="checkbox"/>	10.00	9.990	910439.58	2.1350	A	1.9
9	<input type="checkbox"/>			6.67	0.0000	P	86.6
10	<input type="checkbox"/>			13.33	0.0000	P	43.9
11	<input type="checkbox"/>			5.56	0.0000	P	91.9
12	<input type="checkbox"/>			15.56	0.0000	P	53.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2849 * x + 0.0091$$

$$R = 0.9999$$

$$DL = 0.003932$$

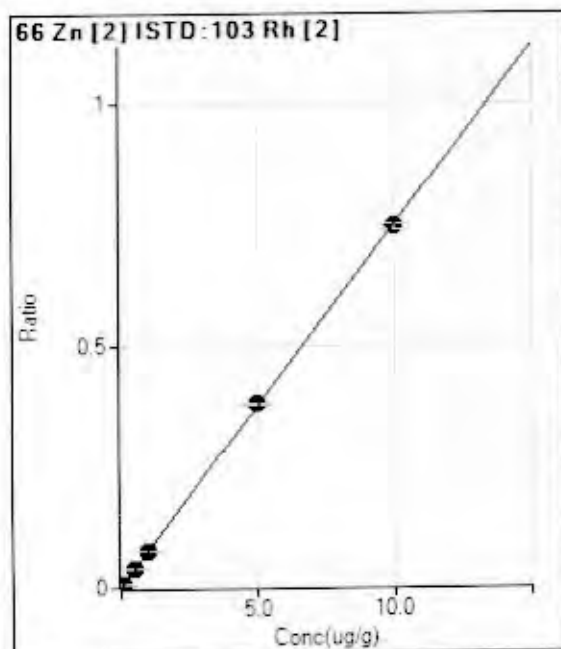
$$BEC = 0.03196$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	4191.78	0.0091	P	4.1
2	<input type="checkbox"/>	0.010	0.010	5486.62	0.0118	P	7.9
3	<input type="checkbox"/>	0.050	0.052	11128.35	0.0240	P	4.7
4	<input type="checkbox"/>	0.100	0.104	17978.63	0.0387	P	2.1
5	<input type="checkbox"/>	0.500	0.526	71703.88	0.1589	P	0.4
6	<input type="checkbox"/>	1.000	1.022	131144.15	0.3003	P	0.6
7	<input type="checkbox"/>	5.000	5.134	600761.62	1.4715	A	0.7
8	<input type="checkbox"/>	10.00	9.930	1210197.9	2.8378	A	0.9
9	<input type="checkbox"/>			2721.43	0.0067	P	12.
10	<input type="checkbox"/>			2304.68	0.0057	P	7.6
11	<input type="checkbox"/>			1435.67	0.0035	P	11.
12	<input type="checkbox"/>			307.79	0.0008	P	4.6
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.0748 * x + 5.2869E-005$$

$$R = 1.0000$$

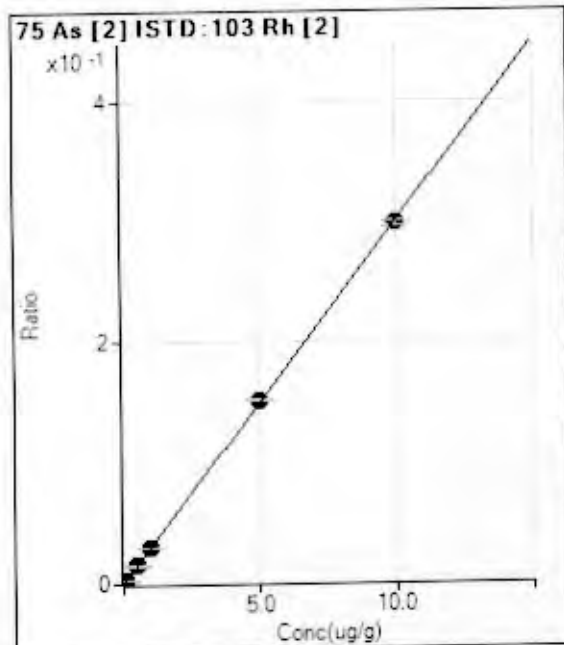
$$DL = 0.000814$$

$$BEC = 0.0007064$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	24.44	0.0001	P	38.4
2	<input type="checkbox"/>	0.010	0.011	412.24	0.0009	P	3.8
3	<input type="checkbox"/>	0.050	0.054	1902.40	0.0041	P	5.0
4	<input type="checkbox"/>	0.100	0.106	3701.65	0.0080	P	5.1
5	<input type="checkbox"/>	0.500	0.518	17509.16	0.0388	P	1.4
6	<input type="checkbox"/>	1.000	1.009	32999.27	0.0756	P	1.1
7	<input type="checkbox"/>	5.000	5.050	154336.32	0.3780	P	0.7
8	<input type="checkbox"/>	10.00	9.973	318315.29	0.7464	P	1.5
9	<input type="checkbox"/>			20.00	0.0000	P	0.5
10	<input type="checkbox"/>			25.55	0.0001	P	27.1
11	<input type="checkbox"/>			125.56	0.0003	P	23.5
12	<input type="checkbox"/>			111.12	0.0003	P	17.3
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0299 * x + 0.0000E+000$$

$$R = 1.0000$$

$$DL = 0$$

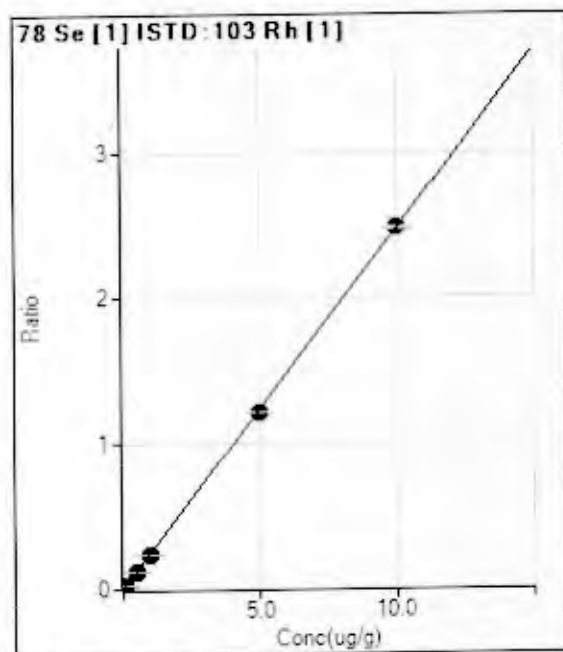
$$BEC = 0$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	0.00	0.0000	P	
2	<input type="checkbox"/>	0.010	0.010	136.67	0.0003	P	16.1
3	<input type="checkbox"/>	0.050	0.049	683.38	0.0015	P	8.1
4	<input type="checkbox"/>	0.100	0.097	1352.33	0.0029	P	3.9
5	<input type="checkbox"/>	0.500	0.508	6856.06	0.0152	P	3.4
6	<input type="checkbox"/>	1.000	0.996	13010.83	0.0298	P	1.5
7	<input type="checkbox"/>	5.000	5.081	62054.59	0.1520	P	0.5
8	<input type="checkbox"/>	10.00	9.960	127063.6	0.2980	P	1.7
9	<input type="checkbox"/>			10.00	0.0000	P	66.5
10	<input type="checkbox"/>			5.56	0.0000	P	173.
11	<input type="checkbox"/>			14.44	0.0000	P	66.5
12	<input type="checkbox"/>			5.55	0.0000	P	124.
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.2473 * x + 6.4720E-005$$

$$R = 0.9999$$

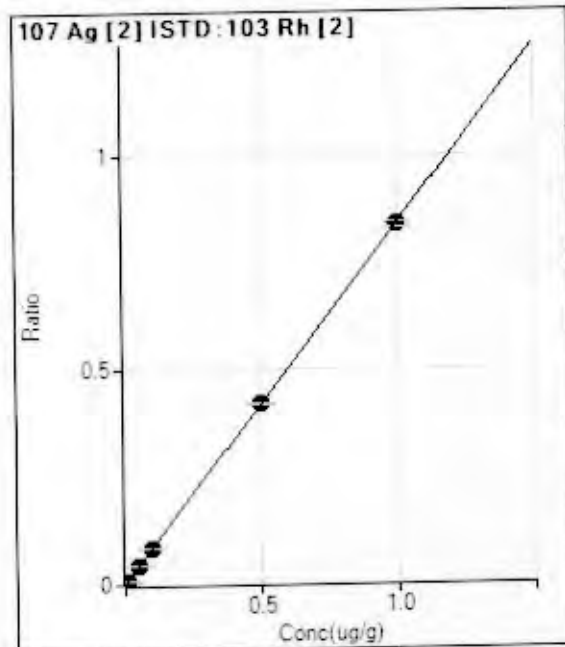
$$DL = 0.00068$$

$$BEC = 0.0002617$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	4.45	0.0001	P	86.6
2	<input type="checkbox"/>	0.010	0.009	147.79	0.0022	P	15.1
3	<input type="checkbox"/>	0.050	0.046	783.38	0.0114	P	9.2
4	<input type="checkbox"/>	0.100	0.097	1627.92	0.0242	P	8.4
5	<input type="checkbox"/>	0.500	0.483	8129.96	0.1195	P	3.1
6	<input type="checkbox"/>	1.000	0.963	15468.53	0.2382	P	2.4
7	<input type="checkbox"/>	5.000	4.897	75697.68	1.2110	P	0.8
8	<input type="checkbox"/>	10.00	10.056	157641.5	2.4866	P	0.2
9	<input type="checkbox"/>			12.22	0.0002	P	78.5
10	<input type="checkbox"/>			12.22	0.0002	P	63.0
11	<input type="checkbox"/>			4.45	0.0001	P	86.6
12	<input type="checkbox"/>			0.00	0.0000	P	
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.8384 * x + 1.0118E-004$$

$$R = 1.0000$$

$$DL = 6.395E-05$$

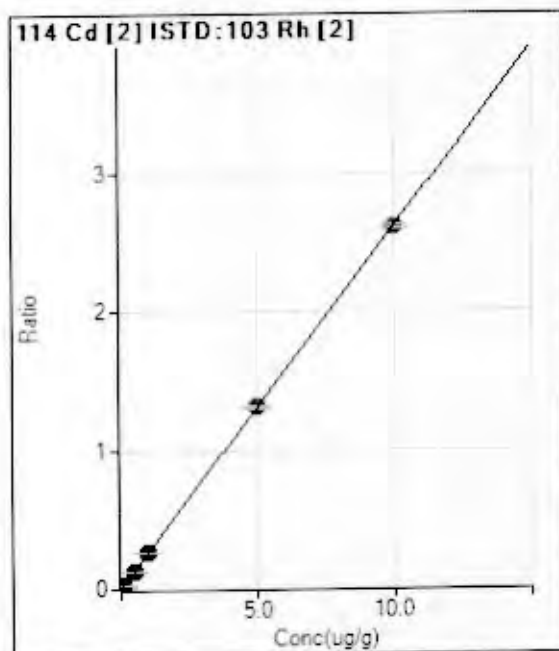
$$BEC = 0.0001207$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	46.67	0.0001	P	17.7
2	<input type="checkbox"/>	0.001	0.001	386.69	0.0008	P	13.9
3	<input type="checkbox"/>	0.005	0.005	1980.20	0.0043	P	4.6
4	<input type="checkbox"/>	0.010	0.010	4039.52	0.0087	P	1.4
5	<input type="checkbox"/>	0.050	0.051	19190.31	0.0425	P	1.3
6	<input type="checkbox"/>	0.100	0.100	36614.36	0.0838	P	0.4
7	<input type="checkbox"/>	0.500	0.501	171512.81	0.4201	P	0.1
8	<input type="checkbox"/>	1.000	1.000	357418.54	0.8381	P	1.5
9	<input type="checkbox"/>			36.67	0.0001	P	65.8
10	<input type="checkbox"/>			24.44	0.0001	P	8.5
11	<input type="checkbox"/>			27.78	0.0001	P	100.
12	<input type="checkbox"/>			6.67	0.0000	P	100.
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.2610 * x + 1.9261E-005$$

$$R = 1.0000$$

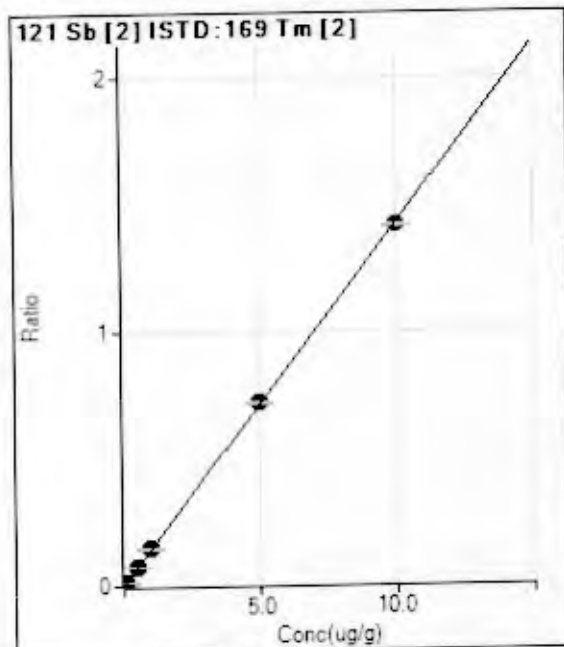
$$DL = 4.52E-05$$

$$BEC = 7.38E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	8.89	0.0000	P	20.4
2	<input type="checkbox"/>	0.010	0.010	1196.76	0.0026	P	7.1
3	<input type="checkbox"/>	0.050	0.050	6116.90	0.0132	P	2.1
4	<input type="checkbox"/>	0.100	0.099	11952.38	0.0258	P	4.3
5	<input type="checkbox"/>	0.500	0.499	58775.34	0.1303	P	1.6
6	<input type="checkbox"/>	1.000	0.991	112940.15	0.2586	P	0.5
7	<input type="checkbox"/>	5.000	5.008	533625.13	1.3070	A	1.0
8	<input type="checkbox"/>	10.00	9.997	1112776.5	2.6093	A	1.0
9	<input type="checkbox"/>			13.34	0.0000	P	43.4
10	<input type="checkbox"/>			28.89	0.0001	P	29.4
11	<input type="checkbox"/>			18.89	0.0000	P	26.5
12	<input type="checkbox"/>			16.67	0.0000	P	19.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.1424 * x + 2.7801E-005$$

$$R = 1.0000$$

$$DL = 6.723E-05$$

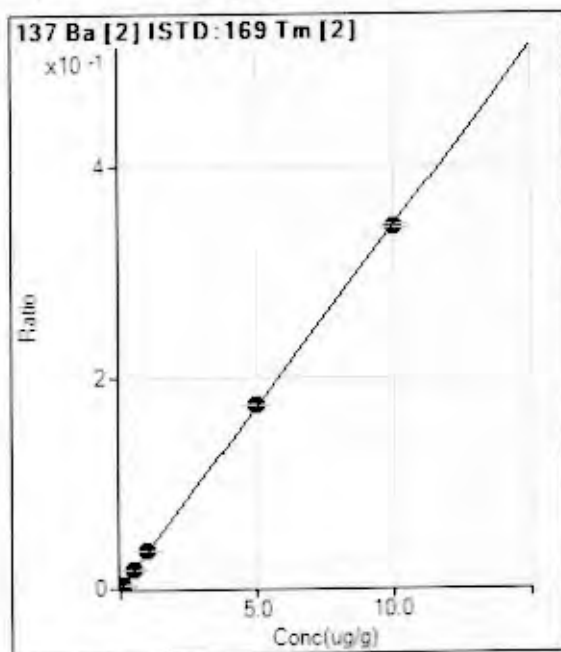
$$BEC = 0.0001952$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	15.56	0.0000	P	11.5
2	<input type="checkbox"/>	0.010	0.011	881.17	0.0016	P	3.7
3	<input type="checkbox"/>	0.050	0.054	4287.37	0.0077	P	3.0
4	<input type="checkbox"/>	0.100	0.106	8444.65	0.0152	P	0.5
5	<input type="checkbox"/>	0.500	0.536	42568.59	0.0764	P	0.4
6	<input type="checkbox"/>	1.000	1.035	80290.92	0.1474	P	2.3
7	<input type="checkbox"/>	5.000	5.051	376909.56	0.7194	P	0.8
8	<input type="checkbox"/>	10.00	9.969	789546.77	1.4198	A	0.8
9	<input type="checkbox"/>			96.67	0.0002	P	21.4
10	<input type="checkbox"/>			95.56	0.0002	P	16.3
11	<input type="checkbox"/>			83.34	0.0002	P	15.0
12	<input type="checkbox"/>			83.34	0.0002	P	17.7
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.0343 * x + 0.0000E+000$$

$$R = 1.0000$$

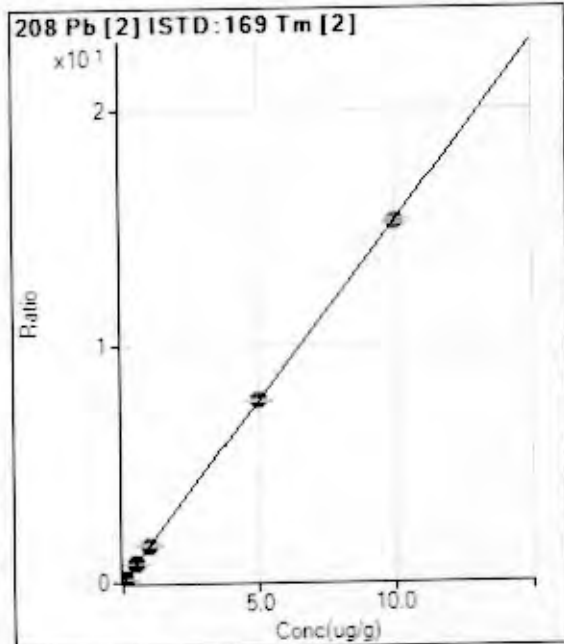
$$DL = 0$$

$$BEC = 0$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	0.00	0.0000	P	
2	<input type="checkbox"/>	0.010	0.009	174.45	0.0003	P	24.1
3	<input type="checkbox"/>	0.050	0.056	1080.08	0.0019	P	3.9
4	<input type="checkbox"/>	0.100	0.112	2140.23	0.0038	P	0.7
5	<input type="checkbox"/>	0.500	0.536	10239.09	0.0184	P	3.8
6	<input type="checkbox"/>	1.000	1.038	19401.87	0.0356	P	1.3
7	<input type="checkbox"/>	5.000	5.064	91030.92	0.1737	P	0.2
8	<input type="checkbox"/>	10.00	9.962	190079.1	0.3418	P	1.0
9	<input type="checkbox"/>			7.78	0.0000	P	65.0
10	<input type="checkbox"/>			0.00	0.0000	P	
11	<input type="checkbox"/>			4.44	0.0000	P	43.0
12	<input type="checkbox"/>			0.00	0.0000	P	
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 1.5268 * x + 2.0862E-004$$

$$R = 1.0000$$

$$DL = 5.698E-06$$

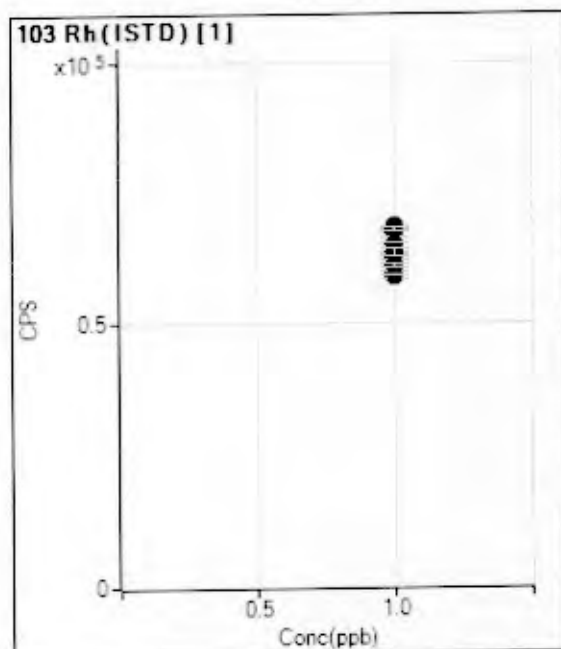
$$BEC = 0.0001366$$

Weight: None

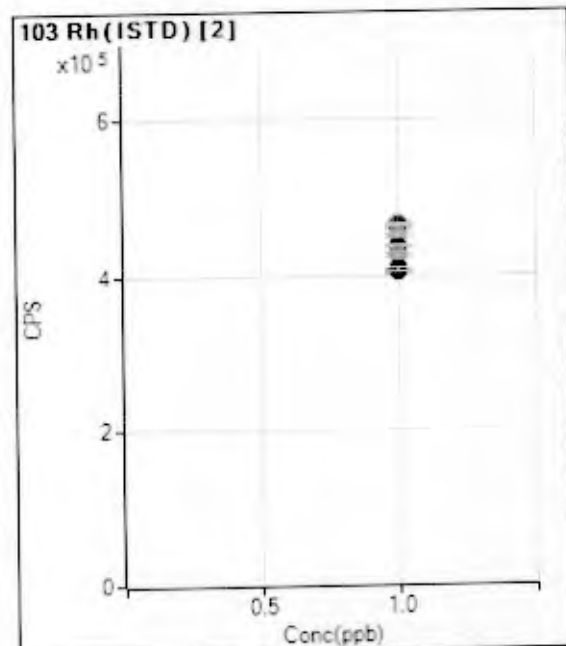
Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	116.67	0.0002	P	1.4
2	<input type="checkbox"/>	0.010	0.010	9065.85	0.0162	P	2.8
3	<input type="checkbox"/>	0.050	0.054	46507.38	0.0830	P	0.9
4	<input type="checkbox"/>	0.100	0.108	92001.20	0.1651	P	1.3
5	<input type="checkbox"/>	0.500	0.532	452305.17	0.8121	P	0.2
6	<input type="checkbox"/>	1.000	1.028	855280.66	1.5701	A	0.8
7	<input type="checkbox"/>	5.000	5.019	4014696.44	7.6630	A	0.8
8	<input type="checkbox"/>	10.00	9.986	8477970.62	15.246	A	0.9
9	<input type="checkbox"/>			232.23	0.0005	P	10.
10	<input type="checkbox"/>			177.79	0.0003	P	6.0
11	<input type="checkbox"/>			193.34	0.0004	P	8.2
12	<input type="checkbox"/>			346.68	0.0010	P	23.
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D

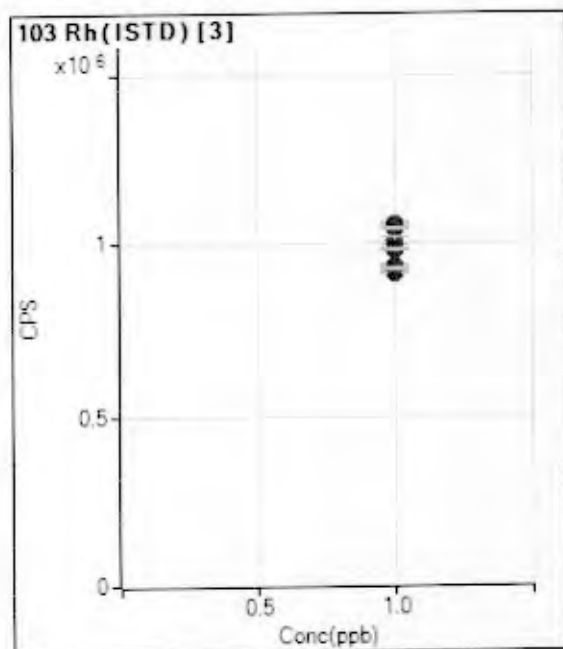


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		68597.14		P	0.3
2	<input type="checkbox"/>	1.000		68240.23		P	1.9
3	<input type="checkbox"/>	1.000		68487.91		P	1.0
4	<input type="checkbox"/>	1.000		67327.97		P	1.8
5	<input type="checkbox"/>	1.000		68067.38		P	1.2
6	<input type="checkbox"/>	1.000		64959.88		P	1.4
7	<input type="checkbox"/>	1.000		62514.20		P	1.3
8	<input type="checkbox"/>	1.000		63397.55		P	0.7
9	<input type="checkbox"/>	1.000		58911.63		P	0.9
10	<input type="checkbox"/>	1.000		59722.20		P	1.2
11	<input type="checkbox"/>	1.000		61017.91		P	1.4
12	<input type="checkbox"/>	1.000		63613.50		P	1.8
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

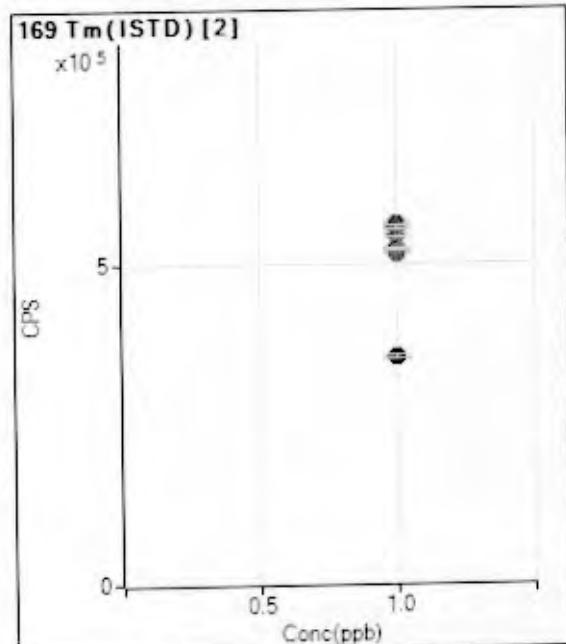


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		460663.99		A	1.6
2	<input type="checkbox"/>	1.000		464124.60		A	1.6
3	<input type="checkbox"/>	1.000		464686.11		A	0.4
4	<input type="checkbox"/>	1.000		464132.26		A	0.7
5	<input type="checkbox"/>	1.000		451285.23		M	1.2
6	<input type="checkbox"/>	1.000		436689.54		P	0.5
7	<input type="checkbox"/>	1.000		408265.57		P	0.4
8	<input type="checkbox"/>	1.000		426483.79		M	1.0
9	<input type="checkbox"/>	1.000		403562.38		P	0.5
10	<input type="checkbox"/>	1.000		404920.21		P	0.6
11	<input type="checkbox"/>	1.000		404872.53		P	0.5
12	<input type="checkbox"/>	1.000		406024.27		P	0.9
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for 10P.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	1.000		1054252.75		A	1.4
2	<input type="checkbox"/>	1.000		1050001.08		A	0.6
3	<input type="checkbox"/>	1.000		1044215.41		A	1.0
4	<input type="checkbox"/>	1.000		1041623.52		A	0.9
5	<input type="checkbox"/>	1.000		1007572.75		A	2.1
6	<input type="checkbox"/>	1.000		980063.25		A	0.9
7	<input type="checkbox"/>	1.000		934288.26		A	0.4
8	<input type="checkbox"/>	1.000		981717.54		A	0.4
9	<input type="checkbox"/>	1.000		912892.37		A	0.9
10	<input type="checkbox"/>	1.000		915892.68		A	0.2
11	<input type="checkbox"/>	1.000		915349.13		A	0.6
12	<input type="checkbox"/>	1.000		926535.60		A	0.6
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	1.000		559172.77		A	1.7
2	<input type="checkbox"/>	1.000		561310.76		A	0.8
3	<input type="checkbox"/>	1.000		560366.27		A	0.7
4	<input type="checkbox"/>	1.000		557131.52		A	0.9
5	<input type="checkbox"/>	1.000		556945.90		A	0.5
6	<input type="checkbox"/>	1.000		544753.78		A	1.0
7	<input type="checkbox"/>	1.000		523923.25		A	0.5
8	<input type="checkbox"/>	1.000		556093.35		A	0.8
9	<input type="checkbox"/>	1.000		515785.89		A	0.8
10	<input type="checkbox"/>	1.000		519724.54		A	0.3
11	<input type="checkbox"/>	1.000		520923.40		A	0.5
12	<input type="checkbox"/>	1.000		351271.23		P	1.1
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

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Continuing Calibration Data

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ICPMS 7700x DATA REPORT

File Name ICV.D
File Path D:\DATA\2131021.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/21/2013 12:17
Sample Name 100 ppb (10 ppb Ag)
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.103	ug/g	0.56	3,973.93	9.281E-03	Pulse	0.30	3
P	31	103	2		ug/g	---	71.11	1.661E-04	Pulse	0.30	3
Cr	52	103	2	0.103	ug/g	0.49	201,293.91	4.701E-01	Pulse	0.30	3
Fe	57	103	2	0.102	ug/g	4.26	3,981.72	9.299E-03	Pulse	0.30	3
Ni	60	103	2	0.102	ug/g	0.83	93,093.29	2.174E-01	Pulse	0.30	3
Cu	65	103	2	0.102	ug/g	0.56	128,586.88	3.003E-01	Pulse	0.30	3
Zn	66	103	2	0.103	ug/g	0.63	32,968.20	7.699E-02	Pulse	0.30	3
As	75	103	2	0.102	ug/g	1.70	13,004.15	3.037E-02	Pulse	0.30	3
Se	78	103	1	0.099	ug/g	0.66	15,615.30	2.444E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.54	36,008.62	8.409E-02	Pulse	0.30	3
Cd	114	103	2	0.101	ug/g	0.73	112,574.37	2.629E-01	Pulse	0.30	3
Sb	121	169	2	0.102	ug/g	1.27	78,575.93	1.451E-01	Pulse	0.30	3
Ba	137	169	2	0.105	ug/g	1.47	19,474.19	3.595E-02	Pulse	0.30	3
Pb	208	169	2	0.103	ug/g	0.66	855,706.64	1.580E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	63,886.87	0.70	93.1	Pulse	0.30	3
2	Rh	103	428,196.45	0.25	93.0	Pulse	0.30	3
3	Rh	103	970,647.03	0.23	92.1	Analog	0.30	3
2	Tm	169	541,740.08	0.60	96.9	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCVP.D
File Path D:\DATA\2131021.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/21/2013 12:22
Sample Name 5 PPM Phosphorus
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.000	ug/g	31.58	21.11	5.021E-05	Pulse	0.30	3
P	31	103	2	4.913	ug/g	0.83	9,449.49	2.248E-02	Pulse	0.30	3
Cr	52	103	2	0.000	ug/g	44.54	156.67	3.729E-04	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	291.98	13.33	3.173E-05	Pulse	0.30	3
Ni	60	103	2	0.000	ug/g	174.44	16.67	3.960E-05	Pulse	0.30	3
Cu	65	103	2	-0.002	ug/g	-5.09	1,244.54	2.962E-03	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	12.26	143.34	3.410E-04	Pulse	0.30	3
As	75	103	2	0.000	ug/g	20.34	16.67	3.967E-05	Pulse	0.30	3
Se	78	103	1	0.000	ug/g	138.78	11.11	1.721E-04	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	-111.82	26.67	6.353E-05	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	37.71	23.33	5.551E-05	Pulse	0.30	3
Sb	121	169	2	0.000	ug/g	35.00	158.89	2.958E-04	Pulse	0.30	3
Ba	137	169	2	0.000	ug/g	125.59	5.55	1.042E-05	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	16.30	215.56	4.001E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	64,268.22	0.91	93.7	Pulse	0.30	3
2	Rh	103	420,280.04	0.34	91.2	Pulse	0.30	3
3	Rh	103	959,271.40	0.46	91.0	Analog	0.30	3
2	Tm	169	538,410.67	1.19	96.3	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV.D
File Path D:\DATA\2131021.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/21/2013 19:17
Sample Name 0.10 PPM
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.095	ug/g	3.64	4,325.12	8.549E-03	Pulse	0.30	3
P	31	103	2		ug/g	---	30.00	5.926E-05	Pulse	0.30	3
Cr	52	103	2	0.097	ug/g	1.25	223,800.40	4.423E-01	Pulse	0.30	3
Fe	57	103	2	0.098	ug/g	0.50	4,491.86	8.878E-03	Pulse	0.30	3
Ni	60	103	2	0.095	ug/g	0.27	102,262.53	2.021E-01	Pulse	0.30	3
Cu	65	103	2	0.093	ug/g	0.67	138,846.04	2.744E-01	Pulse	0.30	3
Zn	66	103	2	0.095	ug/g	1.04	36,106.45	7.136E-02	Pulse	0.30	3
As	75	103	2	0.101	ug/g	3.28	15,217.16	3.008E-02	Pulse	0.30	3
Se	78	103	1	0.092	ug/g	1.45	19,405.82	2.272E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.86	41,909.83	8.283E-02	Pulse	0.30	3
Cd	114	103	2	0.099	ug/g	0.30	130,866.25	2.586E-01	Pulse	0.30	3
Sb	121	169	2	0.104	ug/g	1.02	95,098.63	1.482E-01	Pulse	0.30	3
Ba	137	169	2	0.114	ug/g	0.85	25,091.73	3.909E-02	Pulse	0.30	3
Pb	208	169	2	0.105	ug/g	0.83	1,032,964.64	1.609E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	85,430.85	0.21	124.5	Pulse	0.30	3
2	Rh	103	505,970.52	0.42	109.8	Analog	0.30	3
3	Rh	103	1,202,500.29	0.42	114.1	Analog	0.30	3
2	Tm	169	641,894.25	0.74	114.8	Analog	0.30	3

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Instrument Run Log

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	Method	Type	Vial	Data File	Sample	Comment	Dim/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1		Keyword		CALBEG	Start of CALIB									
2	C:\ICPMH1\METHODS\Physis.m	Sample	1	Rinse1			1.000							
3	C:\ICPMH1\METHODS\Physis.m	Sample	1	Rinse2			1.000							
4	C:\ICPMH1\METHODS\Physis.m	Sample	1101	Rinse			1.000							
5	C:\ICPMH1\METHODS\Physis.m	CalStd	1101	0MIX	0 ppb mix	0 ng 0 ng Ag	Level 1							
6	C:\ICPMH1\METHODS\Physis.m	CalStd	1102	1MIX	1 ppb mix	10 ng 1 ng Ag	Level 2							
7	C:\ICPMH1\METHODS\Physis.m	CalStd	1103	5MIX	5 ppb mix	50 ng 5 ng Ag	Level 3							
8	C:\ICPMH1\METHODS\Physis.m	CalStd	1104	10MIX	10 ppb mix	100 ng 10 ng Ag	Level 4							
9	C:\ICPMH1\METHODS\Physis.m	CalStd	1105	50MIX	50 ppb mix	500 ng 50 ng Ag	Level 5							
10	C:\ICPMH1\METHODS\Physis.m	CalStd	1106	100MIX	100 ppb mix	1000 ng 100 ng Ag	Level 6							
11	C:\ICPMH1\METHODS\Physis.m	CalStd	1107	500MIX	500 ppb mix	5000 ng 500 ng Ag	Level 7							
12	C:\ICPMH1\METHODS\Physis.m	CalStd	1108	1000MIX	1000 ppb mix	10000 ng 1000 ng Ag	Level 8							
13	C:\ICPMH1\METHODS\Physis.m	Sample	1	Rinse3			1.000							
14	C:\ICPMH1\METHODS\Physis.m	Sample	1	Rinse4			1.000							
15	C:\ICPMH1\METHODS\Physis.m	CalStd	1109	1P	1 ppm P	10 ug P	Level 9							
16	C:\ICPMH1\METHODS\Physis.m	CalStd	1110	2P	2 ppm P	20 ug P	Level 10							
17	C:\ICPMH1\METHODS\Physis.m	CalStd	1111	5P	5 ppm P	50 ug P	Level 11							
18	C:\ICPMH1\METHODS\Physis.m	CalStd	1112	10P	10 ppm P	100 ug P	Level 12							
19	C:\ICPMH1\METHODS\Physis.m	Sample	1	Rinse5			1.000							
20	C:\ICPMH1\METHODS\Physis.m	Sample	1201	ICV	100 ppb (10 ppb Ag)		1.000E-01							
21	C:\ICPMH1\METHODS\Physis.m	Sample	1111	CCVP	5 PPM Phosphorus		1.000E-01							
22	C:\ICPMH1\METHODS\Physis.m	Sample	1202	2ndP	CRA Phosphorus @74 PPM 9.32		1.000E-01							
23	C:\ICPMH1\METHODS\Physis.m	Sample	1	Rinse6			1.000							
24	C:\ICPMH1\METHODS\Physis.m	Sample	1	Rinse7			1.000							
25		Keyword		CALEND	End of CALIB									
26		Keyword		SAMPLEBEG	Start of SMPLE									
27	C:\ICPMH1\METHODS\Physis.m	Sample	1	Rinse8			1.000							
28	C:\ICPMH1\METHODS\Physis.m	Sample	1	Rinse9			1.000							
29	C:\ICPMH1\METHODS\Physis.m	Sample	1	Rinse10			1.000							
30	C:\ICPMH1\METHODS\Physis.m	Sample	1	Rinse11			1.000							
31	C:\ICPMH1\METHODS\Physis.m	Sample	2101	22481	QAQC Procedural Blank B1	22481.NA.R1.10/12/2013.E-6005	10.00							
32	C:\ICPMH1\METHODS\Physis.m	Sample	2102	22482	B13-8013	22482.NA.R1.10/12/2013.E-6005	32.77							
33	C:\ICPMH1\METHODS\Physis.m	Sample	2103	22482+2	B13-8013 Dup	22482.NA.R2.10/12/2013.E-6005	33.75							
34	C:\ICPMH1\METHODS\Physis.m	Sample	2104	22483	B13-8014	22483.NA.R1.10/12/2013.E-6005	22.05							
35	C:\ICPMH1\METHODS\Physis.m	Sample	2105	22484	B13-8028	22484.NA.R1.10/12/2013.E-6005	30.78							
36	C:\ICPMH1\METHODS\Physis.m	Sample	2106	22485	B13-8030	22485.NA.R1.10/12/2013.E-6005	19.53							
37	C:\ICPMH1\METHODS\Physis.m	Sample	2107	22486	B13-8038	22486.NA.R1.10/12/2013.E-6005	26.17							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
38	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2108	22487	B13-8038	22487,NA,R1,10/12/2013,E-6005,	20.38							
39	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2109	22489	B13-8040	22489,NA,R1,10/12/2013,E-6005,	39.89							
40	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2110	22499	B13-8052	22499,NA,R1,10/12/2013,E-6005,	28.63							
41	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2111	22480	B13-8060	22490,NA,R1,10/12/2013,E-6005,	27.47							
42	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2112	22491	B13-8078	22491,NA,R1,10/12/2013,E-6005,	27.45							
43	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2201	22493cm	QAQC CRM - RTC 018-0501	22493,NA,CRM1,10/12/2013,E-6005,	52.97							
44	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2202	22494cm	QAQC CRM - ERA 5401	22494,NA,CRM1,10/12/2013,E-6005,	52.08							
45	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2203	22481bs1	QAQC Procedural Blank BS1	22491,NA,BS1,10/12/2013,E-6005,	1.000							
46	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2204	22481bs2	QAQC Procedural Blank BS2	22481,NA,BS2,10/12/2013,E-6005,	1.000							
47	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2205	22482ms	B13-8013 MS	22482,NA,MS1,10/12/2013,E-6005,	1.000							
48	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2206	22482msd	B13-8013 MSD	22482,NA,MS2,10/12/2013,E-6005,	1.000							
49	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2207	22482s1P	B13-8013 MS P	22482,NA,MS1,10/12/2013,E-6005,	1.000							
50	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2208	22482s2P	B13-8013 MSD P	22482,NA,MS2,10/12/2013,E-6005,	1.000							
51	C:\VCPMH\1\METHODS\IPhysis.m	Sample	1	Rinse12			1.000							
52	C:\VCPMH\1\METHODS\IPhysis.m	Sample	1	Rinse13			1.000							
53	C:\VCPMH\1\METHODS\IPhysis.m	Sample	1	Rinse14			1.000							
54	C:\VCPMH\1\METHODS\IPhysis.m	Sample	1	Rinse15			1.000							
55	C:\VCPMH\1\METHODS\IPhysis.m	Sample	1	Rinse16			1.000							
56	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2209	22544	QAQC Procedural Blank B1	22544,NA,B1,10/12/2013,E-6006,	10.00							
57	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2210	22548	B13-8109 Grab	22548,NA,R1,10/12/2013,E-6006,	25.86							
58	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2211	22546r2	B13-8109 Grab Dup	22548,NA,R2,10/12/2013,E-6006,	23.74							
59	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2212	22547	B13-8118 Grab	22547,NA,R1,10/12/2013,E-6006,	30.52							
60	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2301	22548	B13-8122 Grab	22548,NA,R1,10/12/2013,E-6006,	14.42							
61	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2302	22549	B13-8033 Grab	22549,NA,R1,10/12/2013,E-6006,	33.67							
62	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2303	22550	B13-8093 Grab	22550,NA,R1,10/12/2013,E-6006,	21.52							
63	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2304	22551	B13-8100 Grab	22551,NA,R1,10/12/2013,E-6006,	24.81							
64	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2305	22552	B13-8096 Grab	22552,NA,R1,10/12/2013,E-6006,	33.33							
65	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2306	22553	B13-8098 Grab	22553,NA,R1,10/12/2013,E-6006,	23.88							
66	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2307	22554	B13-8098 Grab	22554,NA,R1,10/12/2013,E-6006,	23.01							
67	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2308	22555	B13-8095 Grab	22555,NA,R1,10/12/2013,E-6006,	40.13							
68	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2308	22559cm	QAQC CRM - RTC 018-0501	22559,NA,CRM1,10/12/2013,E-6006,	54.71							
69	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2310	22561cm	QAQC CRM - ERA 5401	22561,NA,CRM1,10/12/2013,E-6006,	65.19							
70	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2203	22544bs1	QAQC Procedural Blank BS1	22544,NA,BS1,10/12/2013,E-6006,	1.000							
71	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2204	22544bs2	QAQC Procedural Blank BS2	22544,NA,BS2,10/12/2013,E-6006,	1.000							
72	C:\VCPMH\1\METHODS\IPhysis.m	Sample	2311	22546ms	B13-8109 Grab MS	22543,NA,MS1,10/12/2013,E-6006,	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
73	C:\VCPMH\1\METHODS (Physis.m)	Sample	2312	22548msd	B13-8109 Grab MSD	22548.NA.MS2.10/12/2013.E-6006	1.000							
74	C:\VCPMH\1\METHODS (Physis.m)	Sample	2401	22548s1P	B13-8109 Grab MS_P	22548.NA.MS1.10/12/2013.E-6006	1.000							
75	C:\VCPMH\1\METHODS (Physis.m)	Sample	2402	22548s2P	B13-8109 Grab MSD_P	22548.NA.MS2.10/12/2013.E-6006	1.000							
76	C:\VCPMH\1\METHODS (Physis.m)	Sample	1	Rinse17			1.000							
77	C:\VCPMH\1\METHODS (Physis.m)	Sample	1	Rinse18			1.000							
78	C:\VCPMH\1\METHODS (Physis.m)	Sample	1	Rinse19			1.000							
79	C:\VCPMH\1\METHODS (Physis.m)	Sample	1	Rinse20			1.000							
80	C:\VCPMH\1\METHODS (Physis.m)	Sample	1	Rinse21			1.000							
81	C:\VCPMH\1\METHODS (Physis.m)	Sample	2403	22570	QAQC Procedural Blank B1	22570.NA.B1.10/12/2013.E-6007	10.00							
82	C:\VCPMH\1\METHODS (Physis.m)	Sample	2403	22570	QAQC Procedural Blank B1	22570.NA.B1.10/12/2013.E-6007	10.00							
83	C:\VCPMH\1\METHODS (Physis.m)	Sample	2404	22556	B13-8087 Grab	22556.NA.R1.10/12/2013.E-6007	18.89							
84	C:\VCPMH\1\METHODS (Physis.m)	Sample	2405	22558r2	B13-8087 Grab Dup	22556.NA.R2.10/12/2013.E-6007	17.44							
85	C:\VCPMH\1\METHODS (Physis.m)	Sample	2406	22557	B13-8073 Grab	22557.NA.R1.10/12/2013.E-6007	22.67							
86	C:\VCPMH\1\METHODS (Physis.m)	Sample	2407	22571	B13-8058 Grab	22571.NA.R1.10/12/2013.E-6007	19.36							
87	C:\VCPMH\1\METHODS (Physis.m)	Sample	2408	22571r2	B13-8058 Grab Dup	22571.NA.R2.10/12/2013.E-6007	19.83							
88	C:\VCPMH\1\METHODS (Physis.m)	Sample	2409	22572	B13-8068 Grab	22572.NA.R1.10/12/2013.E-6007	24.03							
89	C:\VCPMH\1\METHODS (Physis.m)	Sample	2410	22573	B13-8080 Grab	22573.NA.R1.10/12/2013.E-6007	26.05							
90	C:\VCPMH\1\METHODS (Physis.m)	Sample	2411	22574	B13-8045 Grab	22574.NA.R1.10/12/2013.E-6007	23.54							
91	C:\VCPMH\1\METHODS (Physis.m)	Sample	2412	22575	B13-8031 Grab	22575.NA.R1.10/12/2013.E-6007	23.02							
92	C:\VCPMH\1\METHODS (Physis.m)	Sample	2501	22560cm	QAQC CRM - RTC 016-0501	22560.NA.CRM1.10/12/2013.E-6007	41.05							
93	C:\VCPMH\1\METHODS (Physis.m)	Sample	2502	22562cm	QAQC CRM - ERA 5401	22562.NA.CRM1.10/12/2013.E-6007	49.80							
94	C:\VCPMH\1\METHODS (Physis.m)	Sample	2503	22577cm	QAQC CRM - RTC 016-0501	22577.NA.CRM1.10/12/2013.E-6007	41.05							
95	C:\VCPMH\1\METHODS (Physis.m)	Sample	2502	22578cm	QAQC CRM - ERA 5401	22576.NA.CRM1.10/12/2013.E-6007	49.80							
96	C:\VCPMH\1\METHODS (Physis.m)	Sample	2203	22545bs1	QAQC Procedural Blank BS1	22545.NA.BS1.10/12/2013.E-6007	1.000							
97	C:\VCPMH\1\METHODS (Physis.m)	Sample	2204	22545bs2	QAQC Procedural Blank BS2	22545.NA.BS2.10/12/2013.E-6007	1.000							
98	C:\VCPMH\1\METHODS (Physis.m)	Sample	2203	22570bs1	QAQC Procedural Blank BS1	22570.NA.BS1.10/12/2013.E-6007	1.000							
99	C:\VCPMH\1\METHODS (Physis.m)	Sample	2204	22570bs2	QAQC Procedural Blank BS2	22570.NA.BS2.10/12/2013.E-6007	1.000							
100	C:\VCPMH\1\METHODS (Physis.m)	Sample	2503	22558ms	B13-8087 Grab MS	22556.NA.MS1.10/12/2013.E-6007	1.000							
101	C:\VCPMH\1\METHODS (Physis.m)	Sample	2504	22558msd	B13-8087 Grab MSD	22556.NA.MS2.10/12/2013.E-6007	1.000							
102	C:\VCPMH\1\METHODS (Physis.m)	Sample	2505	22571ms	B13-8058 Grab MS	22571.NA.MS1.10/12/2013.E-6007	1.000							
103	C:\VCPMH\1\METHODS (Physis.m)	Sample	2506	22571msd	B13-8058 Grab MSD	22571.NA.MS2.10/12/2013.E-6007	1.000							
104	C:\VCPMH\1\METHODS (Physis.m)	Sample	2507	22558s1P	B13-8087 Grab MS_P	22556.NA.MS1.10/12/2013.E-6007	1.000							
105	C:\VCPMH\1\METHODS (Physis.m)	Sample	2508	22558s2P	B13-8087 Grab MSD_P	22556.NA.MS2.10/12/2013.E-6007	1.000							
106	C:\VCPMH\1\METHODS (Physis.m)	Sample	2509	22571s1P	B13-8058 Grab MS_P	22571.NA.MS1.10/12/2013.E-6007	1.000							
107	C:\VCPMH\1\METHODS (Physis.m)	Sample	2510	22571s2P	B13-8058 Grab MSD_P	22571.NA.MS2.10/12/2013.E-6007	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
108	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse22			1.000							
109	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse23			1.000							
110	C:\CPMH\1\METHODS (Physis.m)	Sample	1108	CCV	0.10 PPM		1.000E-01							
111	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse24			1.000							
112	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse25			1.000							
113	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse26			1.000							
114	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse27			1.000							
115		Keyword		SMPLEND	End of SMPL									
116		Keyword		End	End of Sequence									
117		Keyword		BLKBEG	Start of BLANK									
118		Keyword		BLKEND	End of BLANK									
119		Keyword		ERRBEG	Start of ERRTERM									
120		Keyword		ERREND	End of ERRTERM									

Elements -

ICP-MS

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

(EPA 200.8 - SEM)

PHYSIS

Instrument Blank

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name OMIX.D
File Path D:\data\2131018.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/18/2013 14:53
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.000	ug/g	---	15.55	3.124E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	---	1,350.11	2.704E-03	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	---	25.56	5.108E-05	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	---	3.33	6.734E-06	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	---	1.11	2.219E-06	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	---	88.90	1.469E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	71,290.21	2.19	100.0	Pulse	0.30	3
2	Rh	103	499,723.08	0.90	100.0	Analog	0.30	3
3	Rh	103	1,196,280.56	0.83	100.0	Analog	0.30	3
2	Tm	169	604,953.55	0.43	100.0	Analog	0.30	3

PHYSIS

Initial Calibration Data

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AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

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Calibration for 1000MIX.D

Batch Folder: D:\DATA\2131018.B\

 Analysis File: 2131018.batch.xml

 DA Date-Time: 4/8/2014 4:09:51 PM

 Calibration Title:

 Calibration Method: External Calibration

 VIS Interpolation Fit:

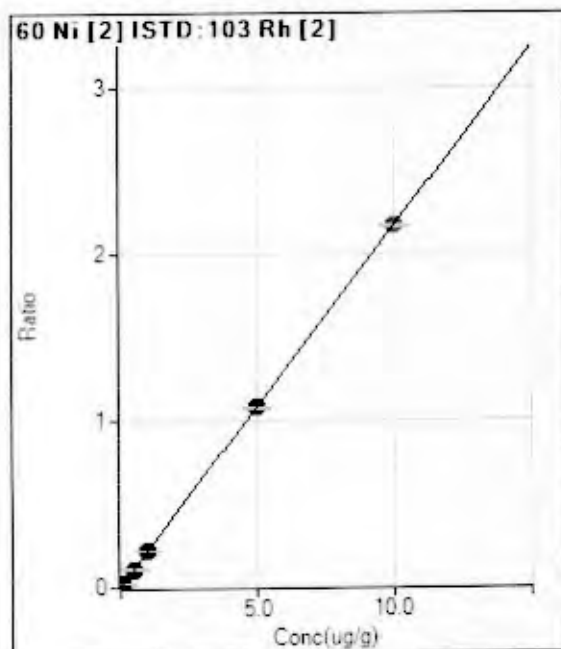
 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX.D	0 ppb mix	10/18/2013 2:53:55 PM
2	1MIX.D	1 ppb mix	10/18/2013 2:58:39 PM
3	5MIX.D	5 ppb mix	10/18/2013 3:03:21 PM
4	10MIX.D	10 ppb mix	10/18/2013 3:08:04 PM
5	50MIX.D	50 ppb mix	10/18/2013 3:12:50 PM
6	100MIX.D	100 ppb mix	10/18/2013 3:17:34 PM
7	500MIX.D	500 ppb mix	10/18/2013 3:22:17 PM
8	1000MIX.D	1000 ppb mix	10/18/2013 3:26:50 PM
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

Calibration for 1000MIX.D



$$y = 0.2165 * x + 3.1240E-005$$

$$R = 1.0000$$

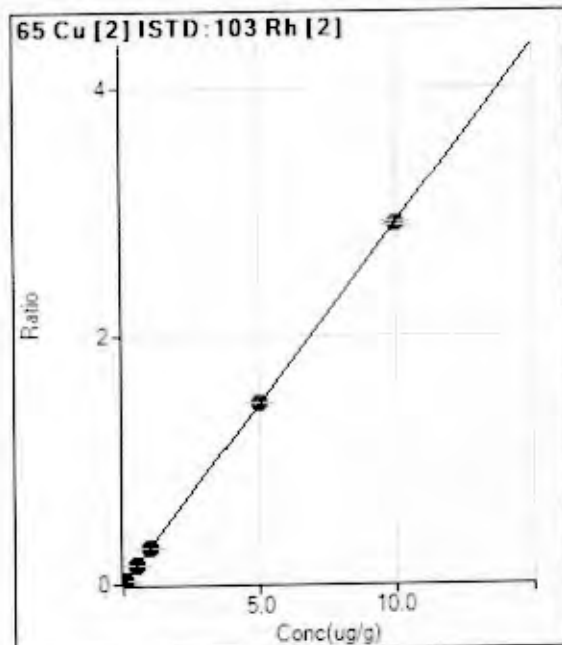
$$DL = 0.0002997$$

$$BEC = 0.0001443$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	15.55	0.0000	P	69.2
2	<input type="checkbox"/>	0.010	0.010	1137.86	0.0023	P	8.1
3	<input type="checkbox"/>	0.050	0.050	5471.07	0.0109	P	0.3
4	<input type="checkbox"/>	0.100	0.102	10813.71	0.0220	P	1.8
5	<input type="checkbox"/>	0.500	0.503	51924.34	0.1090	P	1.5
6	<input type="checkbox"/>	1.000	1.015	100631.98	0.2197	P	1.2
7	<input type="checkbox"/>	5.000	4.970	464698.70	1.0762	P	0.4
8	<input type="checkbox"/>	10.00	10.013	919218.78	2.1681	A	0.7
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2908 * x + 0.0027$$

$$R = 1.0000$$

$$DL = 0.003732$$

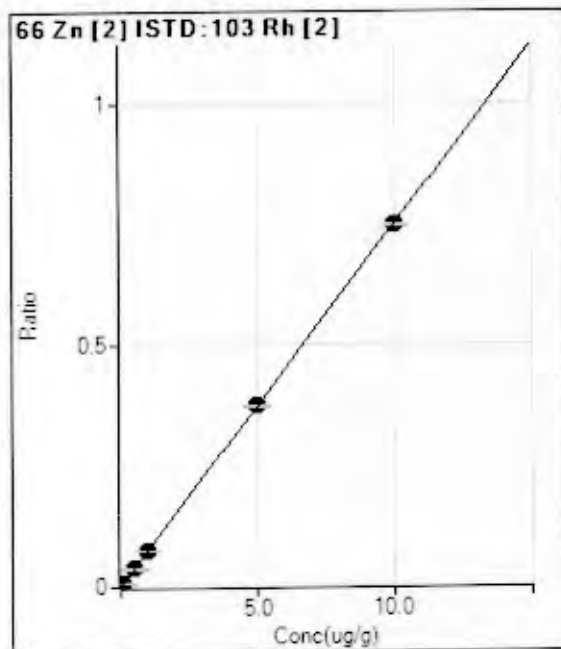
$$BEC = 0.009297$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	1350.11	0.0027	P	13.4
2	<input type="checkbox"/>	0.010	0.010	2882.58	0.0058	P	6.4
3	<input type="checkbox"/>	0.050	0.053	9023.72	0.0180	P	2.8
4	<input type="checkbox"/>	0.100	0.104	16213.50	0.0330	P	1.7
5	<input type="checkbox"/>	0.500	0.504	71020.23	0.1491	P	1.4
6	<input type="checkbox"/>	1.000	1.011	135888.25	0.2967	P	0.3
7	<input type="checkbox"/>	5.000	5.025	632149.98	1.4640	A	0.7
8	<input type="checkbox"/>	10.00	9.986	1232456.2	2.9070	A	1.1
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
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18	<input type="checkbox"/>						

Calibration for 1000MIX.D



$$y = 0.0750 * x + 5.1084E-005$$

$$R = 1.0000$$

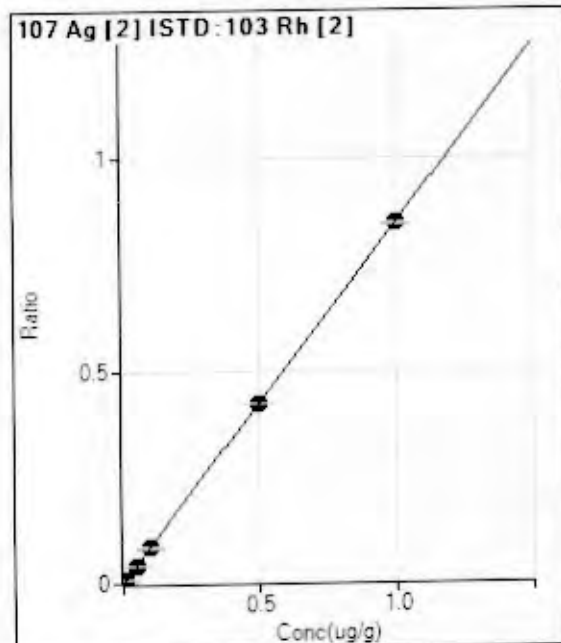
$$DL = 0.0003904$$

$$BEC = 0.0006814$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	25.56	0.0001	P	19.1
2	<input type="checkbox"/>	0.010	0.012	494.47	0.0010	P	15.0
3	<input type="checkbox"/>	0.050	0.051	1945.75	0.0039	P	4.1
4	<input type="checkbox"/>	0.100	0.098	3631.63	0.0074	P	1.9
5	<input type="checkbox"/>	0.500	0.504	18033.07	0.0379	P	1.0
6	<input type="checkbox"/>	1.000	1.023	35140.12	0.0767	P	1.3
7	<input type="checkbox"/>	5.000	5.015	162368.75	0.3760	P	1.0
8	<input type="checkbox"/>	10.00	9.990	317558.68	0.7490	P	0.7
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
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18	<input type="checkbox"/>						



$$y = 0.8462 * x + 6.7340E-006$$

$$R = 1.0000$$

$$DL = 4.135E-05$$

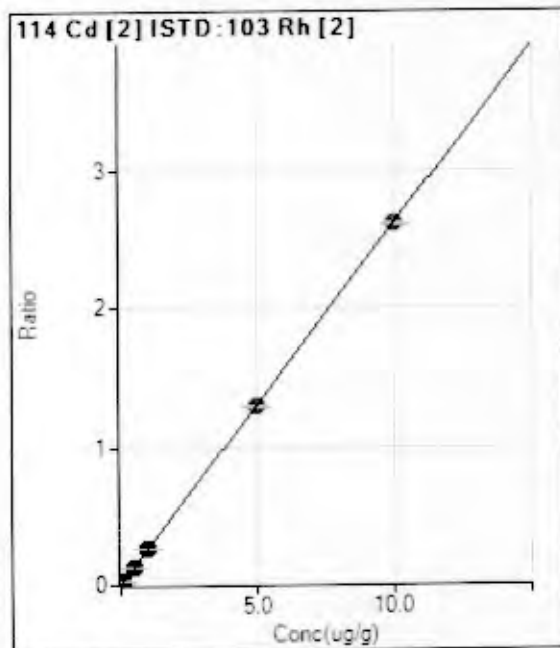
$$BEC = 7.958E-06$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	3.33	0.0000	P	173.2
2	<input type="checkbox"/>	0.001	0.001	426.69	0.0009	P	10.0
3	<input type="checkbox"/>	0.005	0.005	2110.22	0.0042	P	4.6
4	<input type="checkbox"/>	0.010	0.010	4165.13	0.0085	P	1.1
5	<input type="checkbox"/>	0.050	0.049	19838.79	0.0417	P	3.0
6	<input type="checkbox"/>	0.100	0.099	38276.08	0.0836	P	2.3
7	<input type="checkbox"/>	0.500	0.499	182284.08	0.4221	P	0.5
8	<input type="checkbox"/>	1.000	1.001	359024.89	0.8468	P	0.6
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D



$$y = 0.2603 * x + 2.2190E-006$$

$$R = 1.0000$$

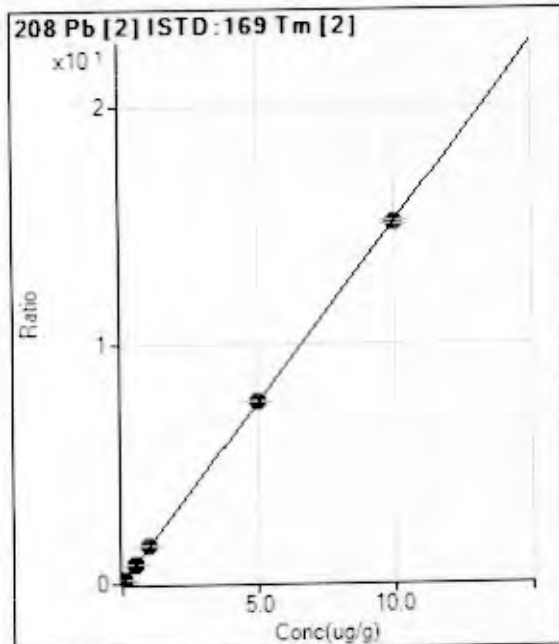
$$DL = 4.43E-05$$

$$BEC = 8.526E-06$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	1.11	0.0000	P	173.2
2	<input type="checkbox"/>	0.010	0.010	1286.77	0.0026	P	9.8
3	<input type="checkbox"/>	0.050	0.048	6284.75	0.0126	P	2.3
4	<input type="checkbox"/>	0.100	0.100	12728.52	0.0259	P	1.3
5	<input type="checkbox"/>	0.500	0.489	60569.44	0.1272	P	1.5
6	<input type="checkbox"/>	1.000	0.987	117665.22	0.2569	P	1.0
7	<input type="checkbox"/>	5.000	4.975	559056.26	1.2947	A	0.7
8	<input type="checkbox"/>	10.00	10.014	1105004.2	2.6063	A	0.5
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 1.5130 * x + 1.4688E-004$$

$$R = 1.0000$$

$$DL = 5.289E-05$$

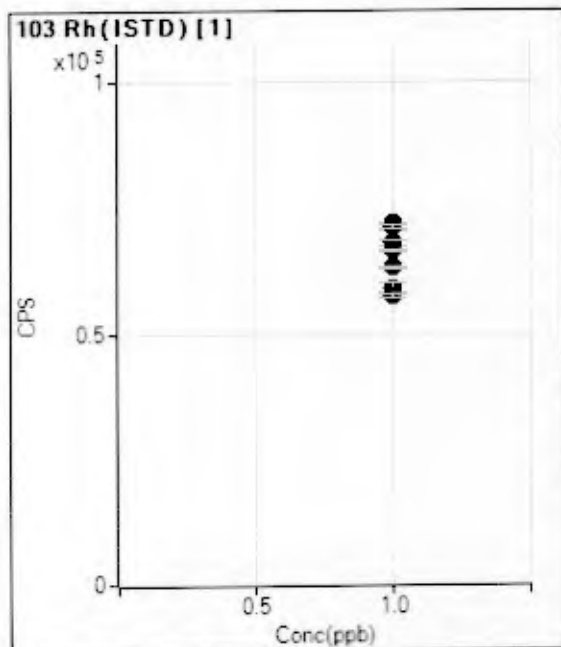
$$BEC = 9.708E-05$$

Weight: None

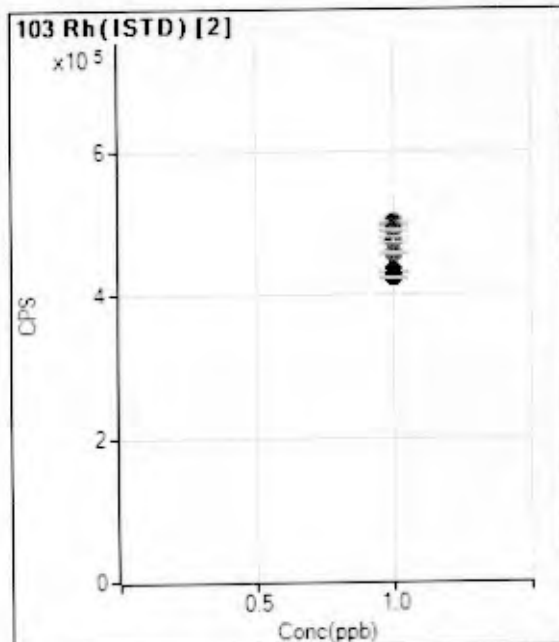
Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	88.90	0.0001	P	18.2
2	<input type="checkbox"/>	0.010	0.011	10045.02	0.0165	P	1.1
3	<input type="checkbox"/>	0.050	0.055	50305.42	0.0831	P	1.3
4	<input type="checkbox"/>	0.100	0.107	97374.72	0.1622	P	0.4
5	<input type="checkbox"/>	0.500	0.536	468928.14	0.8105	P	0.7
6	<input type="checkbox"/>	1.000	1.037	890097.53	1.5698	A	0.3
7	<input type="checkbox"/>	5.000	5.028	4223603.47	7.6074	A	0.4
8	<input type="checkbox"/>	10.00	9.980	8409949.19	15.100	A	1.1
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D

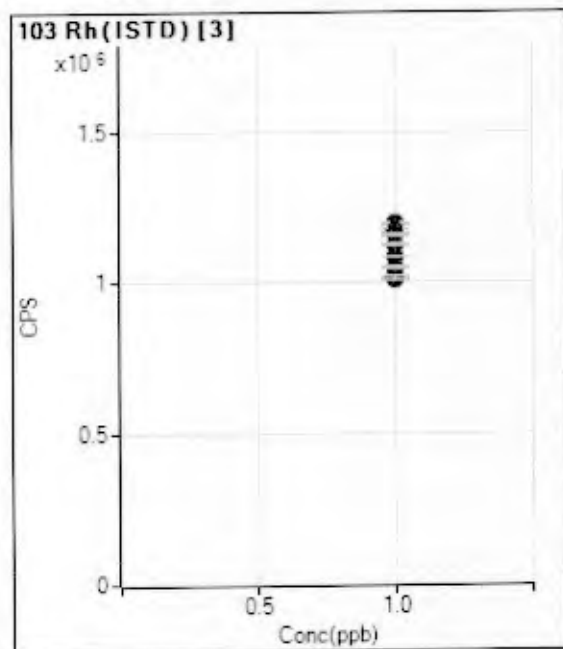


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		71290.21		P	2.2
2	<input type="checkbox"/>	1.000		71870.49		P	0.7
3	<input type="checkbox"/>	1.000		71183.10		P	0.9
4	<input type="checkbox"/>	1.000		68055.09		P	1.5
5	<input type="checkbox"/>	1.000		66484.69		P	0.9
6	<input type="checkbox"/>	1.000		63126.13		P	0.5
7	<input type="checkbox"/>	1.000		59181.44		P	2.8
8	<input type="checkbox"/>	1.000		57484.58		P	0.9
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

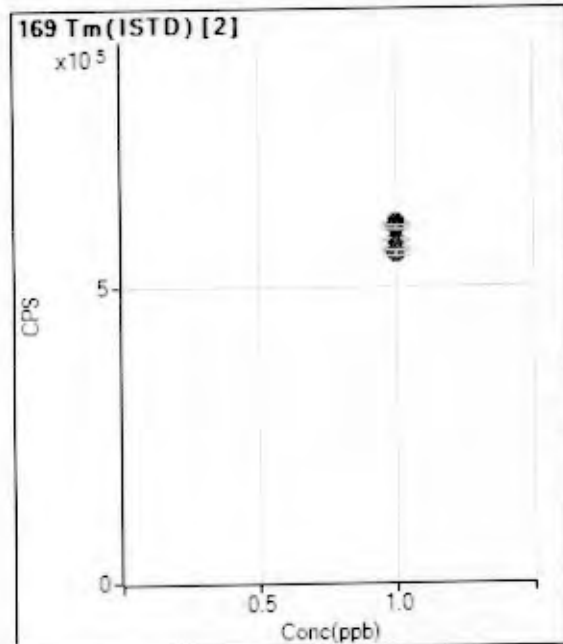


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		499723.08		A	0.9
2	<input type="checkbox"/>	1.000		501199.34		A	0.5
3	<input type="checkbox"/>	1.000		500619.82		A	0.8
4	<input type="checkbox"/>	1.000		491042.90		A	0.5
5	<input type="checkbox"/>	1.000		476251.22		A	1.5
6	<input type="checkbox"/>	1.000		457970.85		A	0.7
7	<input type="checkbox"/>	1.000		431811.10		P	0.7
8	<input type="checkbox"/>	1.000		423982.98		P	0.8
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for 1000MIX.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		1196280.56		A	0.8
2	<input type="checkbox"/>	1.000		1171207.12		A	1.0
3	<input type="checkbox"/>	1.000		1157454.03		A	0.8
4	<input type="checkbox"/>	1.000		1124168.73		A	0.7
5	<input type="checkbox"/>	1.000		1083541.83		A	0.1
6	<input type="checkbox"/>	1.000		1047535.32		A	0.8
7	<input type="checkbox"/>	1.000		1009586.48		A	0.9
8	<input type="checkbox"/>	1.000		1014556.43		A	1.0
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		604953.55		A	0.4
2	<input type="checkbox"/>	1.000		608917.33		A	0.5
3	<input type="checkbox"/>	1.000		605151.66		A	0.5
4	<input type="checkbox"/>	1.000		600172.10		A	0.8
5	<input type="checkbox"/>	1.000		578588.38		A	0.3
6	<input type="checkbox"/>	1.000		567010.03		A	0.5
7	<input type="checkbox"/>	1.000		555195.47		A	0.6
8	<input type="checkbox"/>	1.000		556979.76		A	1.4
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

PHYSIS

Continuing Calibration Data

TERRA

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FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

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PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name ICV.D
File Path D:\data\2131018.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/18/2013 15:45
Sample Name 100 ppb (10 ppb Ag)
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.100	ug/g	1.31	96,525.02	2.168E-01	Pulse	0.30	3
Cu	65	103	2	0.101	ug/g	0.59	131,393.73	2.951E-01	Pulse	0.30	3
Zn	66	103	2	0.100	ug/g	0.48	33,431.22	7.509E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.62	37,428.36	8.407E-02	Pulse	0.30	3
Cd	114	103	2	0.100	ug/g	0.09	115,602.07	2.597E-01	Pulse	0.30	3
Pb	208	169	2	0.104	ug/g	0.57	882,072.24	1.574E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	60,747.96	0.75	85.2	Pulse	0.30	3
2	Rh	103	445,200.11	0.44	89.1	Pulse	0.30	3
3	Rh	103	1,028,046.68	1.97	85.9	Analog	0.30	3
2	Tm	169	560,528.25	0.63	92.7	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV.D
File Path D:\data\2131018.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/18/2013 21:33
Sample Name 1000 PPB
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.100	ug/g	1.91	90,332.96	2.156E-01	Pulse	0.30	3
Cu	65	103	2	0.102	ug/g	1.06	125,119.35	2.987E-01	Pulse	0.30	3
Zn	66	103	2	0.100	ug/g	2.42	31,494.36	7.518E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.83	35,824.98	8.552E-02	Pulse	0.30	3
Cd	114	103	2	0.098	ug/g	0.79	107,172.22	2.558E-01	Pulse	0.30	3
Pb	208	169	2	0.104	ug/g	0.18	826,868.71	1.570E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	52,547.71	1.36	73.7	Pulse	0.30	3
2	Rh	103	418,935.13	0.26	83.8	Pulse	0.30	3
3	Rh	103	942,802.20	0.13	78.8	Analog	0.30	3
2	Tm	169	526,822.10	0.37	87.1	Analog	0.30	3

PHYSIS

Instrument Run Log

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ENVIRONMENTAL LABORATORIES, INC.

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	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1		Keyword		CALBEG	Start of CALIB									
2	C:\CPMH1\METHODS\Physis.m	Sample	1101	Rinse			1.000							
3	C:\CPMH1\METHODS\Physis.m	CalBk	1101	5MIX	0 ppb mix	0 ng	0 ng Ag							
4	C:\CPMH1\METHODS\Physis.m	CalStd	1102	1MIX	1 ppb mix	10 ng	1 ng Ag							
5	C:\CPMH1\METHODS\Physis.m	CalStd	1103	5MIX	5 ppb mix	50 ng	5 ng Ag							
6	C:\CPMH1\METHODS\Physis.m	CalStd	1104	10MIX	10 ppb mix	100 ng	10 ng Ag							
7	C:\CPMH1\METHODS\Physis.m	CalStd	1105	50MIX	50 ppb mix	500 ng	50 ng Ag							
8	C:\CPMH1\METHODS\Physis.m	CalStd	1106	100MIX	100 ppb mix	1000 ng	100 ng Ag							
9	C:\CPMH1\METHODS\Physis.m	CalStd	1107	500MIX	500 ppb mix	5000 ng	500 ng Ag							
10	C:\CPMH1\METHODS\Physis.m	CalStd	1108	1000MIX	1000 ppb mix	10000 ng	1000 ng Ag							
11	C:\CPMH1\METHODS\Physis.m	Sample	1	Rinse1			1.000							
12	C:\CPMH1\METHODS\Physis.m	Sample	1	Rinse2			1.000							
13	C:\CPMH1\METHODS\Physis.m	Sample	1	Rinse3			1.000							
14	C:\CPMH1\METHODS\Physis.m	Sample	1201	ICV	100 ppb (10 ppb Ag)		1.000E-01							
15	C:\CPMH1\METHODS\Physis.m	Sample	1	Rinse4			1.000							
16	C:\CPMH1\METHODS\Physis.m	Sample	1	Rinse5			1.000							
17	C:\CPMH1\METHODS\Physis.m	Sample	1	Rinse6			1.000							
18		Keyword		CALEND	End of CALIB									
19		Keyword		SAMPLBEG	Start of SMPL									
20	C:\CPMH1\METHODS\Physis.m	Sample	1	Rinse7			1.000							
21	C:\CPMH1\METHODS\Physis.m	Sample	1	Rinse8			1.000							
22	C:\CPMH1\METHODS\Physis.m	Sample	1	Rinse9			1.000							
23	C:\CPMH1\METHODS\Physis.m	Sample	1	Rinse10			1.000							
24	C:\CPMH1\METHODS\Physis.m	Sample	2101	22481	QAQC Procedural Blank B1	22481.NA.B1.10/18/2013.E-6009	10.00							
25	C:\CPMH1\METHODS\Physis.m	Sample	2102	22482	B13-8013	22482.NA.R1.10/18/2013.E-6009	26.75							
26	C:\CPMH1\METHODS\Physis.m	Sample	2103	22482r2	B13-6013 Dup	22482.NA.R2.10/18/2013.E-6009	23.98							
27	C:\CPMH1\METHODS\Physis.m	Sample	2104	22483	B13-8014	22483.NA.R1.10/18/2013.E-6009	22.38							
28	C:\CPMH1\METHODS\Physis.m	Sample	2105	22484	B13-8028	22484.NA.R1.10/18/2013.E-6009	21.62							
29	C:\CPMH1\METHODS\Physis.m	Sample	2106	22485	B13-8030	22485.NA.R1.10/18/2013.E-6009	15.70							
30	C:\CPMH1\METHODS\Physis.m	Sample	2107	22486	B13-8036	22486.NA.R1.10/18/2013.E-6009	16.58							
31	C:\CPMH1\METHODS\Physis.m	Sample	2108	22487	B13-8038	22487.NA.R1.10/18/2013.E-6009	19.39							
32	C:\CPMH1\METHODS\Physis.m	Sample	2109	22488	B13-8040	22488.NA.R1.10/18/2013.E-6009	26.91							
33	C:\CPMH1\METHODS\Physis.m	Sample	2110	22489	B13-8052	22489.NA.R1.10/18/2013.E-6009	21.47							
34	C:\CPMH1\METHODS\Physis.m	Sample	2111	22490	B13-8050	22490.NA.R1.10/18/2013.E-6009	20.21							
35	C:\CPMH1\METHODS\Physis.m	Sample	2112	22491	B13-8078	22491.NA.R1.10/18/2013.E-6009	13.32							
36	C:\CPMH1\METHODS\Physis.m	Sample	2201	22481bx1	QAQC Procedural Blank BS1	22481.NA.BS1.10/18/2013.E-6009	1.000							
37	C:\CPMH1\METHODS\Physis.m	Sample	2202	22481bx2	QAQC Procedural Blank BS2	22481.NA.BS2.10/18/2013.E-6009	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
38	C:\CPMH\1\METHODS (Physis.m)	Sample	2203	22482.ms	B13-8013 MS	22482.NA.MS1,10/18/2013,E-8008	1.000							
39	C:\CPMH\1\METHODS (Physis.m)	Sample	2204	22482.ms1	B13-8013 MSD	22482.NA.MS2,10/18/2013,E-8008	1.000							
40	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse11			1.000							
41	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse12			1.000							
42	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse13			1.000							
43	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse14			1.000							
44	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse15			1.000							
45	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse16			1.000							
46	C:\CPMH\1\METHODS (Physis.m)	Sample	2101	22544	QAQC Procedural Blank B1	22544.NA.B1,10/18/2013,E-6010	10.00							
47	C:\CPMH\1\METHODS (Physis.m)	Sample	2205	22546	B13-8109 Grab	22546.NA.R1,10/18/2013,E-6010	18.78							
48	C:\CPMH\1\METHODS (Physis.m)	Sample	2208	22546r2	B13-8108 Grab Dup	22546.NA.R2,10/18/2013,E-6010	19.19							
49	C:\CPMH\1\METHODS (Physis.m)	Sample	2207	22547	B13-6116 Grab	22547.NA.R1,10/18/2013,E-6010	24.19							
50	C:\CPMH\1\METHODS (Physis.m)	Sample	2206	22548	B13-8122 Grab	22548.NA.R1,10/18/2013,E-6010	17.80							
51	C:\CPMH\1\METHODS (Physis.m)	Sample	2209	22548	B13-8033 Grab	22548.NA.R1,10/18/2013,E-6010	25.88							
52	C:\CPMH\1\METHODS (Physis.m)	Sample	2210	22550	B13-8093 Grab	22550.NA.R1,10/18/2013,E-6010	15.76							
53	C:\CPMH\1\METHODS (Physis.m)	Sample	2211	22551	B13-6100 Grab	22551.NA.R1,10/18/2013,E-6010	49.55							
54	C:\CPMH\1\METHODS (Physis.m)	Sample	2212	22552	B13-8099 Grab	22552.NA.R1,10/18/2013,E-6010	23.48							
55	C:\CPMH\1\METHODS (Physis.m)	Sample	2301	22553	B13-8098 Grab	22553.NA.R1,10/18/2013,E-6010	18.03							
56	C:\CPMH\1\METHODS (Physis.m)	Sample	2302	22554	B13-8096 Grab	22554.NA.R1,10/18/2013,E-6010	18.48							
57	C:\CPMH\1\METHODS (Physis.m)	Sample	2303	22555	B13-8095 Grab	22555.NA.R1,10/18/2013,E-6010	34.33							
58	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	22544bs1	QAQC Procedural Blank BS1	22544.NA.BS1,10/18/2013,E-6010	1.000							
59	C:\CPMH\1\METHODS (Physis.m)	Sample	2202	22544bs2	QAQC Procedural Blank BS2	22544.NA.BS2,10/18/2013,E-6010	1.000							
60	C:\CPMH\1\METHODS (Physis.m)	Sample	2304	22546.ms	B13-8109 Grab MS	22546.NA.MS1,10/18/2013,E-6010	1.000							
61	C:\CPMH\1\METHODS (Physis.m)	Sample	2305	22546.ms1	B13-8103 Grab MSD	22546.NA.MS2,10/18/2013,E-6010	1.000							
62	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse17			1.000							
63	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse18			1.000							
64	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse19			1.000							
65	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse20			1.000							
66	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse21			1.000							
67	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse22			1.000							
68	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse23			1.000							
69	C:\CPMH\1\METHODS (Physis.m)	Sample	2101	22545	QAQC Procedural Blank B1	22545.NA.B1,10/18/2013,E-6011	10.00							
70	C:\CPMH\1\METHODS (Physis.m)	Sample	2101	22570	QAQC Procedural Blank B1	22570.NA.B1,10/18/2013,E-6011	10.00							
71	C:\CPMH\1\METHODS (Physis.m)	Sample	2306	22556	B13-8067 Grab	22556.NA.R1,10/18/2013,E-6011	9.067							
72	C:\CPMH\1\METHODS (Physis.m)	Sample	2307	22557	B13-8073 Grab	22557.NA.R1,10/18/2013,E-6011	18.14							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
73	C:\CPMH\1\METHODS (Physis.m)	Sample	2308	22571	B13-8058 Grab	22571,NA,R1,10/18/2013,E-6011,	17.33							
74	C:\CPMH\1\METHODS (Physis.m)	Sample	2309	22571/2	B13-8058 Grab Dup	22571,NA,R2,10/18/2013,E-6011,	21.69							
75	C:\CPMH\1\METHODS (Physis.m)	Sample	2310	22572	B13-8086 Grab	22572,NA,R1,10/18/2013,E-6011,	18.98							
76	C:\CPMH\1\METHODS (Physis.m)	Sample	2311	22573	B13-8060 Grab	22573,NA,R1,10/18/2013,E-6011,	29.35							
77	C:\CPMH\1\METHODS (Physis.m)	Sample	2312	22574	B13-8045 Grab	22574,NA,R1,10/18/2013,E-6011,	28.71							
78	C:\CPMH\1\METHODS (Physis.m)	Sample	2401	22575	B13-8031 Grab	22575,NA,R1,10/18/2013,E-6011,	19.34							
79	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	22545bs1	QAQC Procedural Blank BS1	22545,NA,BS1,10/18/2013,E-6011,	1.000							
80	C:\CPMH\1\METHODS (Physis.m)	Sample	2202	22545bs2	QAQC Procedural Blank BS2	22545,NA,BS2,10/18/2013,E-6011,	1.000							
81	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	22570bs1	QAQC Procedural Blank BS1	22570,NA,BS1,10/18/2013,E-6011,	1.000							
82	C:\CPMH\1\METHODS (Physis.m)	Sample	2202	22570bs2	QAQC Procedural Blank BS2	22570,NA,BS2,10/18/2013,E-6011,	1.000							
83	C:\CPMH\1\METHODS (Physis.m)	Sample	2402	22571ms	B13-8058 Grab MS	22571,NA,MS1,10/18/2013,E-6011,	1.000							
84	C:\CPMH\1\METHODS (Physis.m)	Sample	2403	22571msd	B13-8058 Grab MSD	22571,NA,MS2,10/18/2013,E-6011,	1.000							
85	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse24			1.000							
86	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse25			1.000							
87	C:\CPMH\1\METHODS (Physis.m)	Sample	1106	CCV	1000 PPB		1.000E-21							
88	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse26			1.000							
89	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse27			1.000							
90	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse28			1.000							
91		Keyword		SMPLEND	End of SMPL									
92		Keyword		END	End of Sequence									
93		Keyword		BLKBEG	Start of BLANK									
94		Keyword		BLKEND	End of BLANK									
95		Keyword		ERRBEG	Start of ERRTERM									
96		Keyword		ERREND	End of ERRTERM									

PHYSIS
Elements -

CVAFS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS

Initial Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method: EPA 245.7 Mercury
Calibration data 100413

Calib Level Standard Raw Counts

Std01Rep1	0	-98
Std01Rep2	0	-98
Std01Rep3	0	-101
Std02Rep1	1	-72
Std02Rep2	1	-60
Std02Rep3	1	-56
Std03Rep1	10	127
Std03Rep2	10	142
Std03Rep3	10	128
Std04Rep1	100	2213
Std04Rep2	100	2230
Std04Rep3	100	2210
Std05Rep1	1000	23365
Std05Rep2	1000	23386
Std05Rep3	1000	23711
Std06Rep1	10000	239584
Std06Rep2	10000	240381
Std06Rep3	10000	239474

Note: Above calibration data used for the following project:

1307002-002
1307002-004
1307002-006
1307002-008
1307002-010
1307002-012
1307002-014
1307002-016
1307002-018

Continuing Calibration Data / Instrument Run Log

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Sequence# 102213 for PID: 1307002-010, 012, 014

Sample ID	Date	Method
ICV	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22481BLK	22-Oct-13	2457TST
BS1	22-Oct-13	2457TST
BS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22482r1	22-Oct-13	2457TST
22482r2	22-Oct-13	2457TST
22482MS1	22-Oct-13	2457TST
22482MS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22483	22-Oct-13	2457TST
22484	22-Oct-13	2457TST
22485	22-Oct-13	2457TST
22486	22-Oct-13	2457TST
22487	22-Oct-13	2457TST
22488	22-Oct-13	2457TST
22489	22-Oct-13	2457TST
22490	22-Oct-13	2457TST
22491	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22493CRM1	22-Oct-13	2457TST
22494CRM2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22544BLK	22-Oct-13	2457TST
BS1	22-Oct-13	2457TST
BS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22546r1	22-Oct-13	2457TST
22546r2	22-Oct-13	2457TST
22546MS1	22-Oct-13	2457TST
22546MS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22547	22-Oct-13	2457TST
22548	22-Oct-13	2457TST
22549	22-Oct-13	2457TST
CCV2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22550	22-Oct-13	2457TST
22551	22-Oct-13	2457TST
22552	22-Oct-13	2457TST

22553	22-Oct-13	2457TST
22554	22-Oct-13	2457TST
22555	22-Oct-13	2457TST
22559CRM1	22-Oct-13	2457TST
22561CRM2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
Blank	22-Oct-13	2457TST
BS1	22-Oct-13	2457TST
BS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22556r1	22-Oct-13	2457TST
22556r1	22-Oct-13	2457TST
22556MS1	22-Oct-13	2457TST
CCV3	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22556MS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22557	22-Oct-13	2457TST
CRM1	22-Oct-13	2457TST
CRM2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22571r1	22-Oct-13	2457TST
22571r2	22-Oct-13	2457TST
22571MS1	22-Oct-13	2457TST
22571MS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22572	22-Oct-13	2457TST
22573	22-Oct-13	2457TST
22574	22-Oct-13	2457TST
22575	22-Oct-13	2457TST
CCV4	22-Oct-13	2457TST

QAQC	Date	Method	True Value (ppt)	Result (ppt)
ICV	22-Oct-13	2457TST	1000	1020
CCV2	22-Oct-13	2457TST	1000	938
CCV3	22-Oct-13	2457TST	1000	873
CCV4	22-Oct-13	2457TST	1000	870

PHYSIS

Organics –

(EPA 8270C)

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PHYSIS

Extraction/Preparation Log

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

NOVEMBER 12, 2013

EXTRACTION OF AMEC-RHMP SEDIMENTS FOR FIPRONIL, OCPs, PCBs, AROCLORS, PBDES, PAHs, PYRUTHAZOLES, TOXAPHENE. SAMPLES WERE RUN FOR PVR/PBDE/FIP AND THEN COLUMN CLEANED USING SILICA/ALUMINA ADSORBENTS.

METHOD: EPA 8270 C

PSID	SAMPLE DESCRIPTION	SAMPLE WT(g)	CONCENTRATION	Q/W	MULTIPLIER
BI (22570)	BLANK	—	—	—	1.0
BS1	BLANK SPIKE	—	—	—	1.0
BS2	BLANK SPIKE DUP	—	—	—	1.0
22571 MS1	8058	15.3316	—	.6283	0.1038
22571 MS2	↓	15.5824	—	.6283	0.1021
22576	CRM-SM -1944	0.9913	—	—	1.009
22551	8100	16.3669	—	.4206	0.1453
22552	8099	15.0395	—	.45176	0.1285
22553	8098	15.2679	—	.6756	0.0969
22554	8096	16.0473	—	.6747	0.0924
22555	8095	15.0132	—	.3418	0.1949
22571	8098	15.4139	—	.6283	0.1033
22571 R2	↓	15.7976	—	.6283	0.1061 0.100
22572	8068	15.0055	—	.7049	0.0945
22573	8090	15.7899	—	.3451	0.1835
22574	8045	15.4054	—	.4793	0.1354
22575	8031	15.4765	—	.6575	0.0983
22599	8018	15.1830	—	.7408	0.0889
22600	8053	15.6792	—	.76932	0.0920
22556	8087	15.6922	—	.7429	0.0858
22557	8073	15.9768	—	.6462	0.0912

A) 100ml CHC RS (4000ng/mL, p274)
 100ml PAH RS (1000ng/mL, p244)
 100ml PBDE RS (500ng/mL, p280)
 100ml CHC IS (1500ng/mL, p276)
 100ml PAH IS (200ng/mL, p268)

B) 1.0ml Fipronil Mix (1000ng/mL, p270)
 1.0ml OCP Mix (1000ng/mL, p276)
 100ml PDMU (10000ng/mL, p272)
 200ml PCB MIX (200ng/mL, p255)
 200ml PCB+6 MIX (200ng/mL, p259)
 100ml PBDE MIX (100ng/mL, p262)
 100ml DDE+49 MIX (100ng/mL, p263)

Re extraction of AMEC-RHMP sediments for FIPRONILS, OCPs, PCBs, AROCLORS, PBDES, PAHs, PYRETHROIDS, & TOXAPHENE.

Method: EPA 8270 C

PSID:	SEDWT(g):	Na_2SO_4 (g):	Leftover (g):	Net Sample wt (g):	Comments:	PLU	Multi
B1				A	A	—	10
BS1					B	—	10
BS2					B	—	10
2257MS1	15.059	33.495	1.804	6.7927	B	0.6283	02343
2257MS2	15.315	36.727	.97	7.3106	B	0.6283	02177
CRM				1.083-0.9415			18467
22551	15.138	40.519	1.480	7.1276		0.4206	03335
22552	15.101	39.969	1.467	7.1050		0.5176	02719
22553	15.526	35.963	.592	7.5371		0.6756	01963
22554	15.621	24.537	1.005	6.9301		0.6747	02138
22555	47.14.705	37.058	1.865	6.7390		0.3418	04341
22571	15.484	36.407	3.116	6.5890		0.6283	02415
22571R2	15.163	43.764	1.768	7.1128		0.6283	02237
22572	15.446	29.430	.870	7.2425		0.7044	01958
22573	15.265	53.781	1.297	7.3754		0.3451	03558
22574	15.390	45.150	1.351	7.3456	C	0.4793	02840
22575	15.168	20.613	1.684	5.2384	D, E	0.6575	02903
22599	15.809	27.702	.495	7.5755		0.7581	01788
22400	15.593	30.461	1.409	7.0674		0.6432	02044
22556	14.798	19.581	.861	6.3764		0.7425	02111
22557	15.386	20.184	1.103	5.9244	W, E	0.6862	02459

200 800ng,
A) 100 mL CHC RS (400ng, p. 334)
200 mL PBDE RS (100ng,)
200 mL PAH RS (2000ng, p. 320)

B) 2.0 mL OCP (2000ng, p. 318)
2.0 mL TOX (20,000ng, p. 242)
2.0 mL Fipronil (2000ng, p. 294)
2.0 mL PAH (2000ng, p. 331)
2.0 mL Pyrethroids (2000ng, p. 337)
400 mL PCB mix (400ng, p. 332)

e) Dried blowing down

April 22, 2014

Re-~~Ext~~raction of AMEC RHMP sediments for

method EPA 8270C

PSID	sample wt(g)	sed wt(g)	+Na ₂ SO ₄ (g)	Leftover(g)	comments	D/w	Multiplier
B1(2248)					A, I	-	1.0
BS1					B	-	1.0
BS2					B	-	1.0
22483MS1		20.995	44.716	0.738	B	0.6374	0.0711
22483MS2		20.339	44.672	0.783	B, C	0.6374	0.0797
CRM 1944							
22492	0.9987					-	1.0013
22482		20.203	56.195	1.148		0.4624	0.1185
22483R1		20.711	42.361	0.415		0.6374	0.0772
22483R2		20.246	41.062	0.853		0.6374	0.0797
22484		19.957	51.184	1.136		0.5714	0.0910
22485		20.833	45.194	0.9787		0.6609	0.0756
22486		20.638	44.328	0.990		0.6037	0.0817
22487		20.053	46.2013	1.004		0.5978	0.0824
22488		20.717	47.006	1.1245		0.4329	0.1170
22489		20.778	49.229	1.122		0.6081	0.0823
22490		20.619	48.630	0.981		0.5903	0.0851
22491		20.194	47.980	0.927		0.6134	0.0835
22546		20.670	39.426	1.010		0.6480	0.0805
22547		20.089	44.175	1.001		0.540	0.0964
22548		20.067	29.206	0.682		0.6981	0.0771
22549		20.173	43.3328	0.924		0.4778	0.1080
22550		20.408	32.625	0.659		0.6653	0.0778
22551							

0.11

A) 200ml CHC RS (800ng, p328) B) 2.0ml OCP (2000ng, p318)
 200ml PAH RS (2000ng, p320) 2.0ml PAH (2000ng, p315)
 100ml CHC IS 2.0ml pyrethroid (2000ng, p327)
 PAH IS 2.0ml tralomethrin (2000ng, p324)
 2.0ml DDM (2000ng, p321)

c) 1.0 mL (~~100~~ PAH (1000 ng, p 315) - not enough std.

1307002-010/012

November 6, 2013

A. Hoang

EXTRACTION OF AHEC RHMP - SEDIMENTS FOR FIPRONK, OCPs, PCBs, ARYLCHS, PBDS, PAHS, PYRETHROIDS, TOXAPHENE, SAMPLES WERE RUN FOR P4/PBDE/PCP AND THEN COLUMN CLEANED WITH SILICA/ALUMINA ADSORBENTS.

METHOD: 8270 C

PSID	SAMPLE DESCRIPTION	SAMPLE WT (g)	COMMENTS	P/W	MULTIPLIER
B1 (22461)	BLANK	—	A, C	—	1.0
BS1	BLANK SPIKE	—	A, B, C	—	1.0
BS2	BLANK SPIKE RUN	—	A, B, C	—	1.0
22462 MS1	8013	15.1190	A, B, C	0.4624	0.1430
22462 MS2	8013	15.3804	A, B, C	0.4624	0.1406
22492	CRM 1944	1.1469	A, C	—	0.8719
22462 R1	8013	15.1598	A, C	0.4624	0.1427
22462 R2	↓	15.3738	↓	0.4624	0.1407
22463	8014	15.2878	↓	0.6374	0.1026
22464	8028	15.0050	↓	0.5714	0.1166
22465	8030	15.9451	↓	0.6609	0.2949
22466	8036	15.1038	↓	0.6037	0.1097
22467	8038	15.1247	↓	0.5928	0.1115
22468	8040	16.6186	↓	0.4329	0.1390
22469	8052	15.3355	↓	0.6081	0.1072
22490	8060	15.2388	↓	0.5905	0.1112
22491	8078	15.3328	↓	0.6134	0.1063
22546	8109	15.1070	A, C	0.6480	0.1022
22547	8118	15.4921	↓	0.5403	0.1195
22548	8122	15.7900	↓	0.6193	0.0907
22549	8033	15.4112	↓	0.4778	0.1358
22550	8093	15.5787	↓	0.6653	0.0942
22551	8100	15.9640	↓	—	—
22552	8099	—	↓	—	—
22553	8098	—	↓	—	—
22554	8096	—	↓	—	—
22555	8095	—	↓	—	—

- A) 100 μ L CHC RS (400 ng/mL, p 274)
 100 μ L PAH RS (1000 ng/mL, p 244)
 100 μ L PBDE RS (50 ng/mL, p 261)
 100 μ L CHC IS (~~2000~~ 1000 ng, p 278) pH
 100 μ L PAH IS (2000 ng, p 230) pH

- B) 1.0 mL Furanic Mix (1000 ng/mL, p 270)
 1.0 mL OCP Mix (1000 ng/mL, p 276)
 100 μ L DDMU (10000 ng/mL, p 272)
 200 μ L PCB Mix (200 ng/mL, p 255)
 200 μ L PCB+6 Mix (200 ng/mL, p 259)
 100 μ L PBDE Mix (100 ng/mL, p 262)
 100 μ L PBDE 049 Mix (100 ng/mL, p 263)
 1.0 mL Custom PAH Mix (1000 ng/mL, p 256)
 1.0 mL Pyrethroids (1000 ng/mL, p 260)
 1.0 mL Triphenylmethine (1000 ng/mL, p 275)
 1.0 mL Toxaphene (10000 ng/mL, p 242)

- C) 100 μ L CHC IS (1000 ng, p 281)

Organics - GC-MS

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Analytical Solutions
(EPA 8270C)

PHYSIS

Instrument Run Log

TERRA

FAUNA

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AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

2014 May 30 1739 Sequence Log .LOG
 Starting sequence Fri May 30 17:39:40 2014

Instrument Name: GCMS3

Sequence File: D:\MassHunter\GCMS\1\sequence\Q3_140524 EI 0-6004.sequence.xml

Comment:

Operator:

Data Path: D:\MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\

Method Path: D:\MassHunter\GCMS\1\methods\checkout\

Line	Type	Vials	DataFile	Sample Name
Acquisition Method: EI Scan. M				
48)	Sample	111	TOX1000	TOX1000
49)	Sample	112	TOX2500	TOX2500
50)	Sample	113	TOX5000	TOX5000
51)	Sample	114	TOX7500	TOX7500
52)	Sample	115	TOX10000	TOX10000
53)	Sample	121	PYR25	PYR25
54)	Sample	122	PYR50	PYR50
55)	Sample	123	PYR100	PYR100
56)	Sample	124	PYR250	PYR250
57)	Sample	125	PYR500	PYR500
58)	Sample	131	FIP+RES25	FIP+RES25
59)	Sample	132	FIP+RES50	FIP+RES50
60)	Sample	133	FIP+RES100	FIP+RES100
Sequence Table edit performed Sat May 31 16:12:21 2014				
61)	Sample	134	FIP+RES250	FIP+RES250
62)	Sample	135	FIP+RES500	FIP+RES500
Acquisition Method: EI_HEX. M				
63)	Sample	141	HEX6	HEX6
Acquisition Method: EI Scan. M				
64)	Sample	91	OCP_PAH_PCB_SPE..._100	OCP_PAH_PCB_SPEX500_100
Acquisition Method: EI_HEX. M				
65)	Sample	141	HEX7	HEX7
Acquisition Method: EI Scan. M				
66)	Sample	1	B1_6004CC	B1_6004CC
Comment: 22544, NA, B1, 5/16/2014, 0-6004,				
67)	Sample	2	BS1_6004CC	BS1_6004CC
Comment: 22544, NA, BS1, 5/16/2014, 0-6004,				
68)	Sample	3	BS2_6004CC	BS2_6004CC
Comment: 22544, NA, BS2, 5/16/2014, 0-6004,				
69)	Sample	4	22571MS1CC	22571MS1CC
Comment: 22571, NA, MS1, 5/16/2014, 0-6004,				
70)	Sample	5	22571MS2CC	22571MS2CC
Comment: 22571, NA, MS2, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
71)	Sample	141	HEX3CC	HEX3CC
Acquisition Method: EI Scan. M				
72)	Sample	6	22576CC	22576CC
Comment: 22576, NA, CRM1, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
73)	Sample	141	HEX4CC	HEX4CC
Acquisition Method: EI Scan. M				
74)	Sample	7	22551CC	22551CC

2014 May 30 1739 Sequence Log . LOG

75)	Comment:	22551, NA, R1, 5/16/2014, 0-6004,	
	Sample	8	22552CC
	Comment:	22552, NA, R1, 5/16/2014, 0-6004,	22552CC
76)	Sample	9	22553CC
	Comment:	22553, NA, R1, 5/16/2014, 0-6004,	22553CC
77)	Sample	10	22554CC
	Comment:	22554, NA, R1, 5/16/2014, 0-6004,	22554CC
78)	Sample	103	PAH500CCV2
79)	Sample	105	OCP500_PCB100CCV2

Acqui si ti on Method: EI_HEX. M

80)	Sample	141	HEX52	HEX52
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Acqui si ti on Method: EI Scan. M

81)	Sample	11	22555CC	22555CC
	Comment:	22555, NA, R1, 5/16/2014, 0-6004,		
82)	Sample	12	22556CC	22556CC
	Comment:	22556, NA, R1, 5/16/2014, 0-6004,		
83)	Sample	21	22557CC	22557CC
	Comment:	22557, NA, R1, 5/16/2014, 0-6004,		
84)	Sample	13	22571CC	22571CC
	Comment:	22571, NA, R1, 5/16/2014, 0-6004,		
85)	Sample	14	22571R2CC	22571R2CC
	Comment:	22571, NA, R2, 5/16/2014, 0-6004,		
86)	Sample	15	22572CC	22572CC
	Comment:	22572, NA, R1, 5/16/2014, 0-6004,		
87)	Sample	16	22573CC	22573CC
	Comment:	22573, NA, R1, 5/16/2014, 0-6004,		
88)	Sample	17	22574CC	22574CC
	Comment:	22574, NA, R1, 5/16/2014, 0-6004,		
89)	Sample	22	22575CC	22575CC
	Comment:	22575, NA, R1, 5/16/2014, 0-6004,		
90)	Sample	18	22599CC	22599CC
	Comment:	22599, NA, R1, 5/16/2014, 0-6004,		
91)	Sample	19	22600CC	22600CC
	Comment:	22600, NA, R1, 5/16/2014, 0-6004,		
92)	Sample	103	PAH500FCV2	PAH500FCV2
93)	Sample	105	OCP500_PCB100FCV2	OCP500_PCB100FCV2
94)	Sample	61	PYR500CCV	PYR500CCV
95)	Sample	62	RES500CCV	RES500CCV

Acqui si ti on Method: EI_HEX. M

96)	Sample	141	HEX8	HEX8
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Acqui si ti on Method: EI Scan. M

97)	Sample	31	26212	26212
	Comment:	26212, NA, R1, 5/28/2014, 0-6016,		
98)	Sample	32	26213	26213
	Comment:	26213, NA, R1, 5/28/2014, 0-6016,		
99)	Sample	33	26214	26214
	Comment:	26214, NA, R1, 5/28/2014, 0-6016,		
100)	Sample	34	26215	26215
	Comment:	26215, NA, R1, 5/28/2014, 0-6016,		
101)	Sample	35	26781	26781
	Comment:	26781, NA, R1, 5/28/2014, 0-6016,		
102)	Sample	36	26782	26782
	Comment:	26782, NA, R1, 5/28/2014, 0-6016,		
103)	Sample	37	26783	26783
	Comment:	26783, NA, R1, 5/28/2014, 0-6016,		
104)	Sample	38	26784	26784
	Comment:	26784, NA, R1, 5/28/2014, 0-6016,		
105)	Sample	39	26785	26785
	Comment:	26785, NA, R1, 5/28/2014, 0-6016,		

2014 May 30 1739 Sequence Log .LOG
 Sequence Table edit performed Tue Jun 03 10: 46: 33 2014

106) Sample	40	26786	26786
Comment: 26786, NA, R1, 5/28/2014, 0-6016,			
107) Sample	41	26787	26787
Comment: 26787, NA, R1, 5/28/2014, 0-6016,			
108) Sample	61	PYR500FCV	PYR500FCV
109) Sample	62	RES500FCV	RES500FCV
110) Sample	121	PYR25_POST	PYR25_POST
111) Sample	122	PYR50_POST	PYR50_POST
112) Sample	123	PYR100_POST	PYR100_POST
113) Sample	124	PYR250_POST	PYR250_POST

Sequence completed Tue Jun 03 23: 55: 35 2014

D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 30 1739 Quality Log.
 D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 30 1739 Sequence Log

2014 May 06 1323 Sequence Log .LOG
 Starting sequence Tue May 06 13: 23: 38 2014

Instrument Name: GCMS3

Sequence File: D:\MassHunter\GCMS\1\sequence\Q3_140506 EI 0-5134. sequence. x
 ml

Comment:

Operator:

Data Path: D:\MassHunter\GCMS\1\data\Q3_140506 EI 0-5134\

Method Path: D:\MassHunter\GCMS\1\methods\checkout\

Line	Type	Vials	DataFile	Sample Name

Acquisition Method: EI_HEX. M				
1)	Sample	141	HEX	HEX
Acquisition Method: EI Scan. M				
2)	Sample	131	OCP500_PCB100I CV	OCP500_PCB100I CV
3)	Sample	131	OPP500I CV	OPP500I CV
4)	Sample	97	OCP500_PCB100_I CV	OCP500_PCB100_I CV
5)	Sample	142	TUNE	TUNE
Acquisition Method: EI_HEX. M				
6)	Sample	141	HEX2	HEX2
Acquisition Method: EI Scan. M				
7)	Sample	1	B_5134	B_5134
Comment: 25773, Total , B1, 3/02/2014, 0-5134				
8)	Sample	2	BS1_5139	BS1_5134
Comment: 25773, Total , BS1, 3/02/2014, 0-5134				
9)	Sample	3	BS2_5139	BS2_5134
Comment: 25773, Total , BS2, 3/02/2014, 0-5134				
10)	Sample	141	HEX3	HEX3
11)	Sample	4	25778	25778
Comment: 25779, Total , R1, 3/02/2014, 0-5134				
12)	Sample	5	25782	25782
Comment: 25782, Total , R1, 3/02/2014, 0-5134				
13)	Sample	6	25786	25786
Comment: 25786, Total , R1, 3/02/2014, 0-5134				
14)	Sample	7	25790	25790
Comment: 25790, Total , R1, 3/02/2014, 0-5134				
15)	Sample	8	25794	25794
Comment: 25794, Total , R1, 3/02/2014, 0-5134				
Sequence Table edit performed Wed May 07 11: 32: 39 2014				
16)	Sample	9	25799	25799
Comment: 25799, Total , R1, 3/02/2014, 0-5134				
17)	Sample	10	25802	25802
Comment: 25802, Total , R1, 3/02/2014, 0-5134				
18)	Sample	11	25806	25806
Comment: 25806, Total , R1, 3/02/2014, 0-5134				
19)	Sample	12	25810	25810
Comment: 25810, Total , R1, 3/02/2014, 0-5134				
20)	Sample	13	25814	25814
Comment: 25814, Total , R1, 3/02/2014, 0-5134				
21)	Sample	50	CHCTEST	CHC TEST
22)	Sample	132	OPP500CCV	OPP500CCV
23)	Sample	95	OCP500_PCB100CCV	OCP500_PCB100CCV
Acquisition Method: EI_HEX. M				
24)	Sample	141	HEX4	HEX4
Acquisition Method: EI Scan. M				
25)	Sample	14	25818	25818
Comment: 25818, Total , R1, 3/02/2014, 0-5134				

2014 May 06 1323 Sequence Log .LOG

26)	Sampl e	15	25823	25823
	Comment:	25823, Total , R1, 3/02/2014, 0-5134		
27)	Sampl e	16	25826	25826
	Comment:	25826, Total , R1, 3/02/2014, 0-5134		
28)	Sampl e	17	25830	25830
	Comment:	25830, Total , R1, 3/02/2014, 0-5134		
29)	Sampl e	18	25834	25834
	Comment:	25834, Total , R1, 3/02/2014, 0-5134		
30)	Sampl e	19	25838	25838
	Comment:	25838, Total , R1, 3/02/2014, 0-5134		
31)	Sampl e	20	25842	25842
	Comment:	25842, Total , R1, 3/02/2014, 0-5134		
32)	Sampl e	21	25846	25846
	Comment:	25846, Total , R1, 3/02/2014, 0-5134		
33)	Sampl e	22	25850	25850
	Comment:	25850, Total , R1, 3/02/2014, 0-5134		
34)	Sampl e	23	25854	25854
	Comment:	25854, Total , R1, 3/02/2014, 0-5134		
35)	Sampl e	24	25858	25858
	Comment:	25858, Total , R1, 3/02/2014, 0-5134		
36)	Sampl e	25	25862	25862
	Comment:	25862, Total , R1, 3/02/2014, 0-5134		
37)	Sampl e	26	26134	26134
	Comment:	26134, Total , R1, 3/02/2014, 0-5134		
38)	Sampl e	132	OPP500FCV	OPP500FCV
39)	Sampl e	95	OCP500_PCB100FCV	OCP500_PCB100FCV
40)	Sampl e	41	BS1_5102	BS1_5102
	Comment:	22626, NA, BS1, 2/20/2014, 0-5102		
41)	Sampl e	42	BS2_5102	BS2_5102
	Comment:	22626, NA, BS2, 2/20/2014, 0-5102		
42)	Sampl e	43	22628_MS1	22628_MS1
	Comment:	22628, NA, MS1, 2/20/2014, 0-5102		
43)	Sampl e	44	22628_MS2	22628_MS2
	Comment:	22628, NA, MS2, 2/20/2014, 0-5102		
44)	Sampl e	45	CRM_5102	CRM_5102
	Comment:	22644, NA, R1, 2/20/2014, 0-5102		
45)	Sampl e	121	PAH500I CV	PAH500I CV
46)	Sampl e	122	PAH500CCV	PAH500CCV
Acqui si ti on Method: EI_HEX. M				
47)	Sampl e	141	HEX5	HEX5
Acqui si ti on Method: EI Scan. M				
48)	Sampl e	1	B_5136	B_5136
	Comment:	22481, NA, B1, 4/22/2014, 0-5136,		
49)	Sampl e	2	BS1_5136	BS1_5136
	Comment:	22481, NA, BS1, 4/22/2014, 0-5136,		
50)	Sampl e	3	BS2_5136	BS2_5136
	Comment:	22481, NA, BS2, 4/22/2014, 0-5136,		
51)	Sampl e	4	22483MS1	22483MS1
	Comment:	22483, NA, MS1, 4/22/2014, 0-5136,		
52)	Sampl e	5	22483MS2	22483MS2
	Comment:	22483, NA, MS2, 4/22/2014, 0-5136,		
Acqui si ti on Method: EI_HEX. M				
53)	Sampl e	141	HEX6	HEX6
Acqui si ti on Method: EI Scan. M				
54)	Sampl e	6	22492	22492
	Comment:	22492, NA, CRM1, 4/22/2014, 0-5136,		
55)	Sampl e	7	22482	22482
	Comment:	22482, NA, R1, 4/22/2014, 0-5136,		
56)	Sampl e	8	22483	22483

2014 May 06 1323 Sequence Log . LOG

Comment: 22483, NA, R1, 4/22/2014, 0-5136,
 57) Sample 9 22483R2 22483R2
 Comment: 22483, NA, R2, 4/22/2014, 0-5136,
 58) Sample 10 22484 22484
 Comment: 22484, NA, R1, 4/22/2014, 0-5136,
 59) Sample 11 22485 22485
 Comment: 22485, NA, R1, 4/22/2014, 0-5136,
 60) Sample 122 PAH500CCV2 PAH500CCV2
 61) Sample 95 OCP+3_500CCV2 OCP+3_500CCV2
 62) Sample 105 PCB+6_100CCV2 PCB+6_100CCV2

 Acquisition Method: EI_HEX. M
 63) Sample 141 HEX7 HEX7

 Acquisition Method: EI Scan. M
 64) Sample 12 22486 22486
 Comment: 22486, NA, R1, 4/22/2014, 0-5136,
 65) Sample 13 22487 22487
 Comment: 22487, NA, R1, 4/22/2014, 0-5136,
 Sequence Table edit performed Sun May 11 13: 27: 59 2014
 66) Sample 14 22488 22488
 Comment: 22488, NA, R1, 4/22/2014, 0-5136,
 67) Sample 15 22489 22489
 Comment: 22489, NA, R1, 4/22/2014, 0-5136,
 68) Sample 16 22490 22490
 Comment: 22490, NA, R1, 4/22/2014, 0-5136,
 69) Sample 17 22491 22491
 Comment: 22491, NA, R1, 4/22/2014, 0-5136,
 70) Sample 18 22546 22546
 Comment: 22546, NA, R1, 4/22/2014, 0-5136,
 71) Sample 19 22547 22547
 Comment: 22547, NA, R1, 4/22/2014, 0-5136,
 72) Sample 20 22548 22548
 Comment: 22548, NA, R1, 4/22/2014, 0-5136,
 73) Sample 21 22549 22549
 Comment: 22549, NA, R1, 4/22/2014, 0-5136,
 74) Sample 22 22550 22550
 Comment: 22550, NA, R1, 4/22/2014, 0-5136,
 75) Sample 122 PAH500FCV PAH500FCV
 76) Sample 95 OCP+3_500FCV OCP+3_500FCV
 77) Sample 105 PCB+6_100FCV PCB+6_100FCV

Sequence completed Mon May 12 09: 10: 01 2014

D: \MassHunter\GCMS\1\data\Q3_140506 EI 0-5134\2014 May 06 1323 Quality Log.
 D: \MassHunter\GCMS\1\data\Q3_140506 EI 0-5134\2014 May 06 1323 Sequence Log

PHYSIS

Instrument Tune Report

TERRA

FAUNA

FLORA

AQUA

AURA

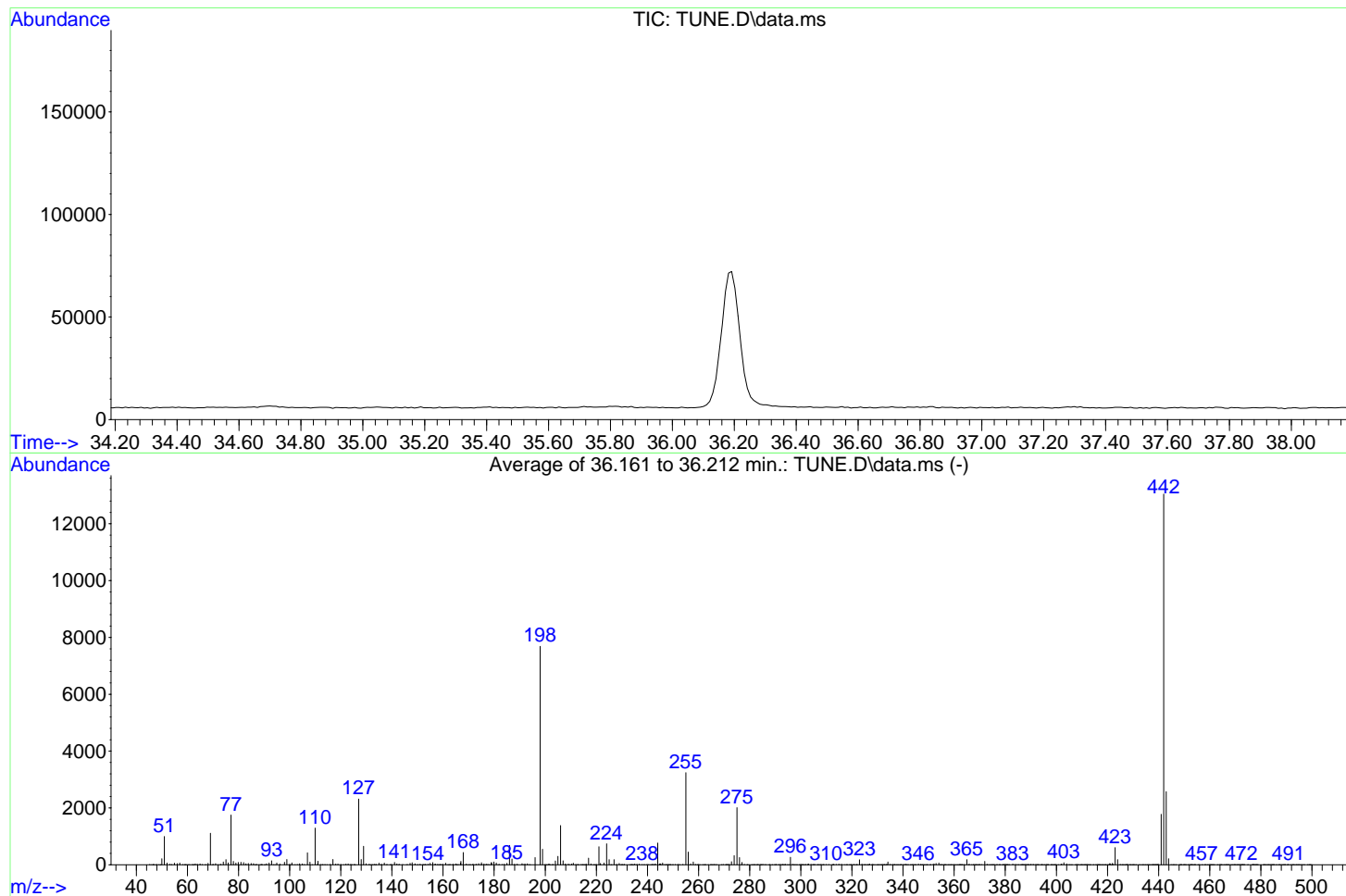
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
Data File : TUNE.D
Acq On : 27 May 2014 11:53 pm
Operator :
Sample : TUNE
Misc :
ALS Vial : 142 Sample Multiplier: 1

Integration File: events.e

Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_DDMU_140502.M
Title : CHCs
Last Update : Fri May 09 07:23:47 2014



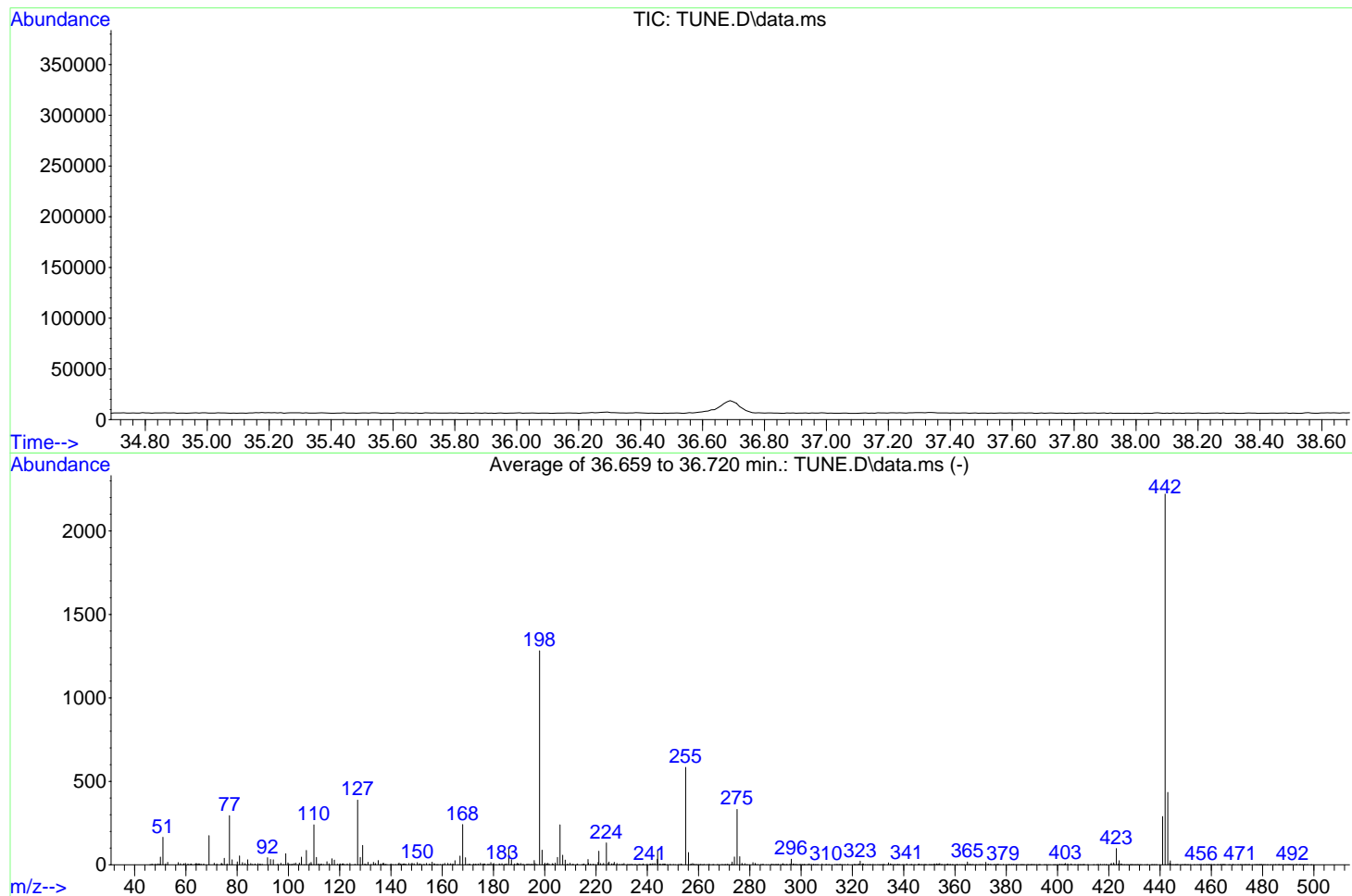
Spectrum Information: Average of 36.161 to 36.212 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	30.1	2271	PASS
68	69	0.00	2	1.9	21	PASS
69	198	0.00	100	14.4	1087	PASS
70	69	0.00	2	1.4	15	PASS
127	198	40	60	42.4	3204	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	7551	PASS
199	198	5	9	7.1	536	PASS
275	198	10	30	26.2	1978	PASS
365	198	1	100	2.4	182	PASS
441	443	0.01	100	68.9	1771	PASS
442	198	40	300	171.7	12966	PASS
443	442	17	23	19.8	2572	PASS

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
Data File : TUNE.D
Acq On : 06 May 2014 06:45 pm
Operator :
Sample : TUNE
Misc :
ALS Vial : 142 Sample Multiplier: 1

Integration File: events.e

Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_OCP+3_140502.M
Title : CHCs
Last Update : Tue May 13 10:54:40 2014



Spectrum Information: Average of 36.659 to 36.720 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	30.8	456	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	13.7	203	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	41.2	609	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	1479	PASS
199	198	5	9	6.9	102	PASS
275	198	10	30	25.9	383	PASS
365	198	1	100	1.3	19	PASS
441	443	0.01	100	66.6	333	PASS
442	198	40	300	173.2	2562	PASS
443	442	17	23	19.5	500	PASS

Chlorinated Pesticides

TERRA ENVIRONMENTAL SERVICES, INC.

Innovative Solutions for Nature

PHYSIS

Summary of Internal Standards

TERRA FACTORY AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

	4,4'-Dibromobiphenyl		2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time	Response	Retention Time
Spex_500ICV	2139944	39.837	398788	50.837
B_4006	2566879	39.837	484540	50.854
BS1_6004	4210471	39.787	821390	50.829
BS2_6004	3374261	39.8	731522	50.831
22571MS1	3698138	39.787	752403	50.829
22571MS2	3355578	39.787	680281	50.83
22576	3417449	39.791	685000	50.859
22551	4757782	39.786	954041	50.83
22552	3231269	39.792	649342	50.829
22553	3960005	39.789	794491	50.829
22554	4131966	39.794	815763	50.829
22555	4414294	39.791	889837	50.827
22556	8129760	40.407	1682327	51.407
OCP500CCV	2427255	39.822	503919	50.855
22557	3355534	39.805	668147	50.827
22571	3700406	39.817	746576	50.832
22571R2	3018299	39.811	614076	50.831
22572	3029329	39.806	603112	50.831
22573	4417174	39.783	867354	50.826
22574	3042496	39.824	622937	50.831
22575	3534292	39.809	702445	50.829
22599	3090996	39.818	605961	50.828
22600	3374247	39.815	689019	50.83
OCP500FCV	2546636	39.831	465146	50.849

	4,4'-Dibromobiphenyl		2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time	Response	Retention Time
Spex_500ICV	2497180	40.317	498342	51.414
B_5136	7185400	40.328	1554581	51.41
BS1_5136	8259019	40.326	1711061	51.408
BS2_5136	8883446	40.332	1882176	51.41
22483MS1	8123856	40.325	1647790	51.405
22483MS2	6546069	40.139	1347577	51.405
22492	7745314	40.364	1504654	51.463
22482	7067094	40.36	1488936	51.412
22483	8042264	40.326	1671379	51.408
22483R2	6546290	40.321	1328033	51.404
22484	6509191	40.339	1409296	51.406
22485	8129760	40.407	1682327	51.407
OCP500CCV	2737103	40.308	566332	51.391
22486	6872692	40.326	1499183	51.407
22487	7601623	40.328	1562132	51.4
22488	8706998	40.319	1789794	51.402
22489	7863644	40.322	1604308	51.402
22490	7753389	40.321	1584139	51.404
22491	9077428	40.326	1860743	51.406
22546	7298672	40.323	1448066	51.403
22547	7130533	40.321	1462996	51.406
22548	7342104	40.32	1480323	51.402
22549	4820057	40.317	1077146	51.397
22550	7573550	40.332	1661846	51.404
OCP500FCV	3029977	40.306	610692	51.389

PHYSIS

Initial Calibration Data

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Method File : Q_OCP+3_140502.M
 Title : CHCs
 Last Update : Fri May 09 07:23:47 2014
 Response Via : Initial Calibration

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Calibration Files

1000=OCP1000.D 500 =OCP500.D 250 =OCP250.D 100 =OCP100.D 50 =OCP50.D 25 =OCP25.D

Compound		1000	500	250	100	50	25	Avg	%RSD

1) I	4,4'-Dibromobiphenyl	-----ISTD-----							
2) S	(TCMX)	0.391	0.417	0.444	0.425	0.439	0.389	0.417	5.60
3) S	(PCB030)	1.047	1.097	1.125	1.108	1.140	1.028	1.091	4.05
4)	BHC-alpha	0.307	0.296	0.298	0.268	0.272	0.246	0.281	8.17
5)	Hexachlorobenzene	0.861	0.888	0.915	0.892	0.875	0.845	0.879	2.79
6)	BHC-beta	0.075	0.069	0.075	0.082	0.108	0.136	0.091	28.49
7)	BHC-gamma	0.188	0.175	0.173	0.151	0.143	0.131	0.160	13.60
8)	BHC-delta	0.206	0.188	0.173	0.159	0.153	0.154	0.172	12.44
9)	Heptachlor	0.207	0.171	0.152	0.120	0.108	0.094	0.142	30.03
10)	Aldrin	0.215	0.205	0.201	0.198	0.191	0.169	0.196	7.86
11)	DCPA (Dacthal)	0.803	0.770	0.731	0.728	0.681	0.697	0.735	6.17
12)	Heptachlor epo...	0.314	0.292	0.273	0.267	0.255	0.245	0.274	9.27
13)	Oxychlordane	0.152	0.153	0.143	0.158	0.133	0.154	0.149	6.14
14) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
15) S	(PCB112)	4.607	4.679	4.627	4.539	4.519	4.478	4.575	1.65
16) S	(PCB198)	1.327	1.350	1.382	1.374	1.347	1.297	1.346	2.30
17)	Chlordane-gamma	2.205	2.054	1.946	1.784	1.660	1.655	1.884	11.83
18)	2,4'-DDE	5.495	5.396	5.226	4.964	4.646	4.711	5.073	7.00
19)	Endosulfan-I	0.349	0.327	0.323	0.302	0.314	0.396	0.335	9.99
20)	Chlordane-alpha	2.123	2.016	1.876	1.718	1.579	1.642	1.826	11.83
21)	trans-Nonachlor	2.396	2.229	2.068	1.844	1.624	1.643	1.967	16.08
22)	4,4'-DDE	3.951	3.815	3.677	3.497	3.225	3.230	3.566	8.47
23)	Dieldrin	0.511	0.489	0.476	0.448	0.448	0.389	0.460	9.22
24)	2,4'-DDD	6.376	5.884	5.359	5.025	4.669	5.360	5.445	11.18
25)	Perthane	1.068	0.909	0.768	0.638	0.539	0.629	0.758	E1 26.23
26)	Endrin	0.455	0.408	0.380	0.322	0.305	0.340	0.368	15.47
27)	Endosulfan-II	0.292	0.277	0.261	0.258	0.254	0.274	0.269	5.41
28)	4,4'-DDD	6.104	5.401	4.756	4.427	3.568	4.537	4.799	18.14
29)	2,4'-DDT	4.008	3.240	2.634	1.806	1.245	0.678	2.269	55.40
30)	cis-Nonachlor	2.340	2.191	2.025	1.777	1.521	1.626	1.914	16.96
31)	Endrin aldehyde	0.590	0.453	0.411	0.423	0.387	0.238	0.417	27.23
32)	Endosulfan sul...	0.950	0.841	0.768	0.684	0.585	0.700	0.755	17.06
33)	4,4'-DDT	3.280	2.276	1.614	0.863	0.466	0.124	1.437	83.09
34)	Endrin ketone	0.908	0.768	0.663	0.532	0.449	0.465	0.631	28.99
35)	Methoxychlor	5.539	3.649	2.536	1.381	0.752	0.247	2.351	84.66
36)	Dicofol	0.686	0.416	0.226	0.066			0.348	76.55
37)	Mirex	2.720	2.489	2.370	2.095	1.841	1.912	2.238	15.44

(#) = Out of Range

Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
Method File : Q_DDMU_140502.M
Title : CHCs
Last Update : Fri May 09 07:23:47 2014
Response Via : Initial Calibration

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Calibration Files

1000=OCP1000.D 500 =OCP500.D 250 =OCP250.D 100 =OCP100.D 50 =OCP50.D 25 =OCP25.D

	Compound	1000	500	250	100	50	25	Avg	%RSD
1) I	2,2',5,5'-Tetrabro...								
2)	4,4'-DDMU	6.781	6.515	6.177	5.575	5.137	5.179	5.894	11.85

(#) = Out of Range

Method Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Method File : Q_OCP+3_140502.M
 Title : CHCs
 Last Update : Tue May 13 10:54:40 2014
 Response Via : Initial Calibration

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Calibration Files

1000=BS1_5136.D 500 =OCP500_PCB100CCV.D 250 =OCP250.D 100 =OCP100.D 50 =OCP50.D 25 =OCP25.D

Compound		1000	500	250	100	50	25	Avg	%RSD

1) I	4,4'-Dibromobiphenyl	-----ISTD-----							
2) S	(TCMX)	0.391	0.417	0.444	0.425	0.439	0.389	0.417	5.60
3) S	(PCB030)	1.047	1.100	1.125	1.108	1.140	1.028	1.091	4.06
4)	BHC-alpha	0.307	0.296	0.298	0.268	0.272	0.246	0.281	8.16
5)	Hexachlorobenzene	0.861	0.888	0.915	0.892	0.875	0.845	0.879	2.79
6)	BHC-beta	0.075	0.066	0.075	0.082	0.108	0.136	0.090	29.26
7)	BHC-gamma	0.188	0.175	0.173	0.151	0.143	0.131	0.160	13.60
8)	BHC-delta	0.206	0.188	0.173	0.159	0.153	0.154	0.172	12.43
9)	Heptachlor	0.207	0.171	0.152	0.120	0.108	0.094	0.142	30.01
10)	Aldrin	0.215	0.205	0.201	0.198	0.191	0.169	0.196	7.87
11)	DCPA (Dacthal)	0.803	0.770	0.731	0.728	0.681	0.697	0.735	6.18
12)	Heptachlor epo...	0.314	0.292	0.273	0.267	0.255	0.245	0.274	9.28
13)	Oxychlordane	0.152	0.154	0.143	0.158	0.133	0.154	0.149	6.16
14) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
15) S	(PCB112)	4.607	4.679	4.627	4.539	4.519	4.478	4.575	1.65
16) S	(PCB198)	1.327	1.350	1.382	1.374	1.347	1.297	1.346	2.30
17)	Chlordane-gamma	2.205	2.056	1.946	1.784	1.660	1.655	1.884	11.85
18)	4,4'-DDMU	6.781	6.515	6.177	5.575	5.137	5.179	5.894	11.85
19)	2,4'-DDE	5.495	5.396	5.226	4.964	4.646	4.711	5.073	7.00
20)	Endosulfan-I	0.349	0.327	0.323	0.302	0.314	0.396	0.335	9.99
21)	Chlordane-alpha	2.123	2.015	1.876	1.718	1.579	1.642	1.825	11.83
22)	trans-Nonachlor	2.396	2.227	2.068	1.844	1.624	1.643	1.967	16.07
23)	4,4'-DDE	3.951	3.819	3.677	3.497	3.225	3.230	3.567	8.49
24)	Dieldrin	0.511	0.489	0.476	0.448	0.448	0.389	0.460	9.22
25)	2,4'-DDD	6.376	5.873	5.359	5.025	4.669	5.360	5.444	11.15
26)	Perthane	1.068	0.908	0.768	0.638	0.539	0.629	0.758	E1 26.22
27)	Endrin	0.455	0.404	0.380	0.322	0.305	0.340	0.368	15.35
28)	Endosulfan-II	0.292	0.279	0.261	0.258	0.254	0.274	0.270	5.46
29)	4,4'-DDD	6.104	5.404	4.756	4.427	3.568	4.537	4.799	18.15
30)	2,4'-DDT	4.008	3.239	2.634	1.806	1.245	0.678	2.268	55.40
31)	cis-Nonachlor	2.340	2.190	2.025	1.777	1.521	1.626	1.913	16.96
32)	Endrin aldehyde	0.590	0.453	0.411	0.423	0.387	0.238	0.417	27.23
33)	Endosulfan sul...	0.950	0.841	0.768	0.684	0.585	0.700	0.755	17.06
34)	4,4'-DDT	3.280	2.278	1.614	0.863	0.466	0.124	1.438	83.09
35)	Endrin ketone	0.908	0.767	0.663	0.532	0.449	0.465	0.631	28.97
36)	Methoxychlor	5.539	3.636	2.536	1.381	0.752	0.247	2.349	84.67
37)	Dicofol	0.686	0.416	0.226	0.066			0.348	76.52
38)	Mirex	2.720	2.489	2.370	2.095	1.841	1.912	2.238	15.44

(#) = Out of Range

PHYSIS

Continuing Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP_PAH_PCB_SPEX500_100.D
 Acq On : 31 May 2014 07:56 pm
 Operator :
 Sample : OCP_PAH_PCB_SPEX500_100
 Misc :
 ALS Vial : 91 Sample Multiplier: 1

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Quant Time: Jun 04 14:06:16 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_OCP+3_140502.M
 Quant Title : CHCs
 QLast Update : Fri May 09 07:23:47 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	39.837	312	2139944	1000.00		0.03
14) 2,2',5,5'-Tetrabromobi...	50.837	391	398788	1000.00		-0.02
System Monitoring Compounds						
2) (TCMX)	25.526	244	367901	412.05		-0.02
Spiked Amount	400.000		Recovery	=	103.01%	
3) (PCB030)	30.561	256	900731	385.79		-0.02
Spiked Amount	400.000		Recovery	=	96.45%	
15) (PCB112)	45.033	326	821063	450.06		-0.03
Spiked Amount	400.000		Recovery	=	112.52%	
16) (PCB198)	59.181	358	184223m	343.18		-0.01
Spiked Amount	400.000		Recovery	=	85.80%	
Target Compounds						Qvalue
4) BHC-alpha	28.412	219	376506	578.29		97
5) Hexachlorobenzene	29.019	284	1139588	612.84		98
6) BHC-beta	30.584	219	184266	1160.81	#	90
7) BHC-gamma	30.812	219	242338m	614.20		
8) BHC-delta	32.751	219	209884m	489.14		
9) Heptachlor	36.081	272	246109	585.06		99
10) Aldrin	38.582	263	259808	572.59		97
11) DCPA (Dacthal)	39.718	301	975580	575.20		99
12) Heptachlor epoxide	41.562	353	374240	568.49		98
13) Oxychlorane	41.642	115	212252m	654.11		
17) Chlordane-gamma	43.321	373	523818	608.12		96
18) 2,4'-DDE	43.825	246	1312604	603.12		97
19) Endosulfan-I	44.153	241	79187	579.02		95
20) Chlordane-alpha	44.424	373	511438	614.60		97
21) trans-Nonachlor	44.816	409	573316	613.50		97
22) 4,4'-DDE	46.175	246	875991	562.16		97
23) Dieldrin	46.044	263	107616	535.00		97
24) 2,4'-DDD	46.735	235	1468256	591.81		99
25) Perthane	48.042	223	2093110	514.89		99
26) Endrin	47.565	263	90759	516.01	#	90
27) Endosulfan-II	48.268	241	54830	477.75		94
28) 4,4'-DDD	49.184	235	988451	420.84		98
29) 2,4'-DDT	49.316	235	883836m	650.81		
30) cis-Nonachlor	49.297	409	555867	608.37		97
31) Endrin aldehyde	49.635	345	131502	595.40		95
32) Endosulfan sulfate	51.342	272	186995	510.62		95
33) 4,4'-DDT	51.795	235	459534	515.16		96
34) Endrin ketone	54.513	317	170552	493.75		98
35) Methoxychlor	55.962	227	714830	501.80	#	96
36) Dicofol	55.872	139	27810m	265.69		
37) Mirex	58.344	272	572673	541.33		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP500_PCB100CCV.D
 Acq On : 29 May 2014 08:25 am
 Operator :
 Sample : OCP500_PCB100CCV
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Jun 04 14:10:03 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_OCP+3_140502.M
 Quant Title : CHCs
 QLast Update : Fri May 09 07:23:47 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	39.822	312	2427255	1000.00		0.02
14) 2,2',5,5'-Tetrabromobi...	50.855	391	503919	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)	25.542	244	433929	428.47		0.00
Spiked Amount	400.000		Recovery	=	107.12%	
3) (PCB030)	30.576	256	1167665	440.93		0.00
Spiked Amount	400.000		Recovery	=	110.23%	
15) (PCB112)	45.049	326	994864	431.56		-0.01
Spiked Amount	400.000		Recovery	=	107.89%	
16) (PCB198)	59.191	358	244215	360.02		0.00
Spiked Amount	400.000		Recovery	=	90.00%	
Target Compounds						
					Qvalue	
4) BHC-alpha	28.427	219	378199	512.13		98
5) Hexachlorobenzene	29.039	284	1127531	534.58		99
6) BHC-beta	30.599	219	37783m	209.85		
7) BHC-gamma	30.833	219	219865	491.28		95
8) BHC-delta	32.771	219	228708m	469.92		
9) Heptachlor	36.092	272	246204	516.01		98
10) Aldrin	38.604	263	281915	547.77		98
11) DCPA (Dacthal)	39.734	301	1007282	523.59		99
12) Heptachlor epoxide	41.582	353	403336	540.17		99
13) Oxychlorane	41.662	115	223729m	607.87		
17) Chlordane-gamma	43.344	373	555814	510.64		96
18) 2,4'-DDE	43.844	246	1297096	471.65		99
19) Endosulfan-I	44.166	241	84563	489.33		95
20) Chlordane-alpha	44.444	373	533197	507.07		99
21) trans-Nonachlor	44.836	409	604193	511.65		97
22) 4,4'-DDE	46.185	246	970252	492.75		97
23) Dieldrin	46.063	263	126854	499.07		96
24) 2,4'-DDD	46.752	235	1682546	536.70		99
25) Perthane	48.055	223	2713016	528.15		98
26) Endrin	47.585	263	120273	541.15	#	80
27) Endosulfan-II	48.300	241	69518	479.36		95
28) 4,4'-DDD	49.192	235	1410739	475.32		99
29) 2,4'-DDT	49.336	235	876524m	541.34		
30) cis-Nonachlor	49.316	409	565513	489.80		99
31) Endrin aldehyde	49.656	345	148057	530.50		98
32) Endosulfan sulfate	51.368	272	225603	487.52		98
33) 4,4'-DDT	51.812	235	581081	515.40		97
34) Endrin ketone	54.539	317	178378	408.67		94
35) Methoxychlor	55.971	227	1020685	542.50		98
36) Dicofol	55.913	139	46993	318.33	#	70
37) Mirex	58.364	272	639468	478.36		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP500_PCB100FCV.D
 Acq On : 30 May 2014 07:52 am
 Operator :
 Sample : OCP500_PCB100FCV
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Jun 04 14:13:22 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_OCP+3_140502.M
 Quant Title : CHCs
 QLast Update : Fri May 09 07:23:47 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	39.831	312	2546636	1000.00		0.03
14) 2,2',5,5'-Tetrabromobi...	50.849	391	465146	1000.00		-0.01
System Monitoring Compounds						
2) (TCMX)	25.530	244	487893	459.17		-0.02
Spiked Amount	400.000		Recovery	=	114.79%	
3) (PCB030)	30.573	256	1287667	463.45		-0.01
Spiked Amount	400.000		Recovery	=	115.86%	
15) (PCB112)	45.044	326	1033201	485.55		-0.02
Spiked Amount	400.000		Recovery	=	121.39%	
16) (PCB198)	59.181	358	234901m	375.16		-0.01
Spiked Amount	400.000		Recovery	=	93.79%	
Target Compounds						Qvalue
4) BHC-alpha	28.418	219	404396	521.94		97
5) Hexachlorobenzene	29.031	284	1255042	567.14		99
6) BHC-beta	30.609	219	35148m	186.06		
7) BHC-gamma	30.824	219	227091	483.64		98
8) BHC-delta	32.761	219	215582m	422.18		
9) Heptachlor	36.084	272	218286	436.05		100
10) Aldrin	38.590	263	299946	555.48		96
11) DCPA (Dacthal)	39.727	301	1068200	529.23		99
12) Heptachlor epoxide	41.569	353	401170	512.08		97
13) Oxychlorane	41.655	115	219729	569.01		92
17) Chlordane-gamma	43.331	373	540343	537.81		96
18) 2,4'-DDE	43.837	246	1343011	529.06		99
19) Endosulfan-I	44.163	241	86683	543.41		92
20) Chlordane-alpha	44.433	373	526703	542.65		99
21) trans-Nonachlor	44.823	409	584733	536.45		97
22) 4,4'-DDE	46.182	246	979538	538.94		97
23) Dieldrin	46.050	263	121214	516.63		92
24) 2,4'-DDD	46.745	235	1660966	573.98		99
25) Perthane	48.049	223	2493110	525.80		98
26) Endrin	47.573	263	101870	496.55	#	81
27) Endosulfan-II	48.284	241	63652	475.50		95
28) 4,4'-DDD	49.192	235	1198802	437.58		99
29) 2,4'-DDT	49.336	235	747083m	508.88		
30) cis-Nonachlor	49.308	409	535005	502.00		96
31) Endrin aldehyde	49.647	345	133240	517.20		90
32) Endosulfan sulfate	51.357	272	194302	454.88		94
33) 4,4'-DDT	51.808	235	389303	414.58		97
34) Endrin ketone	54.530	317	144316	358.19	#	60
35) Methoxychlor	55.973	227	625820	416.20		98
36) Dicofol	55.903	139	17727m	179.35		
37) Mirex	58.350	272	517272	419.20		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	OCP500 ICV			OCP500 CCV			OCP500 FCV		
	5/31/14 7:56 PM			5/29/14 8:25 AM			5/30/14 7:52 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
TCMX	400	412	3	400	428	7	400	459	15
PCB030	400	386	4	400	441	10	400	463	16
PCB112	400	450	13	400	432	8	400	486	21
PCB198	400	343	14	400	360	10	400	375	6
BHC-alpha	500	578	16	500	512	2	500	522	4
Hexachlorobenzene	500	613	23	500	535	7	500	567	13
BHC-beta	500	1161	132	500	210	58	500	186	63
BHC-gamma	500	614	23	500	491	2	500	484	3
BHC-delta	500	489	2	500	470	6	500	422	16
Heptachlor	500	585	17	500	516	3	500	436	13
Aldrin	500	573	15	500	548	10	500	555	11
DCPA (Dacthal)	500	575	15	500	524	5	500	529	6
Heptachlor Epoxide	500	568	14	500	540	8	500	512	2
Oxychlordane	500	654	31	500	608	22	500	569	14
Chlordane-gamma	500	608	22	500	511	2	500	538	8
2,4'-DDE	500	603	21	500	472	6	500	529	6
Endosulfan-I	500	579	16	500	489	2	500	543	9
Chlordane-alpha	500	615	23	500	507	1	500	543	9
trans-Nonachlor	500	614	23	500	512	2	500	536	7
4,4'-DDE	500	562	12	500	493	1	500	539	8
Dieldrin	500	535	7	500	499	0	500	517	3
2,4'-DDD	500	592	18	500	537	7	500	574	15
Perthane	500	515	3	500	528	6	500	526	5
Endrin	500	516	3	500	541	8	500	497	1
Endosulfan-II	500	478	4	500	479	4	500	476	5
4,4'-DDD	500	421	16	500	475	5	500	438	12
2,4'-DDT	500	651	30	500	541	8	500	509	2
cis-Nonachlor	500	608	22	500	490	2	500	502	0
Endrin Aldehyde	500	595	19	500	531	6	500	517	3
Endosulfan Sulfate	500	511	2	500	488	2	500	455	9
4,4'-DDT	500	515	3	500	515	3	500	415	17
Endrin Ketone	500	494	1	500	409	18	500	358	28
Methoxychlor	500	502	0	500	543	9	500	416	17
Dicofol	500	266	47	500	318	36	500	179	64
Mirex	500	541	8	500	478	4	500	419	16
Average	-	-	18	-	-	8	-	-	13

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Data File : OCP500_PCB100_ICV.D
 Acq On : 06 May 2014 05:07 pm
 Operator :
 Sample : OCP500_PCB100_ICV
 Misc :
 ALS Vial : 97 Sample Multiplier: 1

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Quant Time: May 13 11:00:30 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_OCP+3_140502.M
 Quant Title : CHCs
 QLast Update : Tue May 13 10:54:40 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	40.317	312	2497180	1000.00		0.00
14) 2,2',5,5'-Tetrabromobi...	51.414	391	498342	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)	26.002	244	415808	399.06		0.01
Spiked Amount 400.000			Recovery	=	99.77%	
3) (PCB030)	31.080	256	1114463	408.89		0.00
Spiked Amount 400.000			Recovery	=	102.22%	
15) (PCB112)	45.601	326	915275	401.47		0.00
Spiked Amount 400.000			Recovery	=	100.37%	
16) (PCB198)	59.770	358	260812	388.79		0.02
Spiked Amount 400.000			Recovery	=	97.20%	
Target Compounds						Qvalue
4) BHC-alpha	28.935	219	412259	542.71		96
5) Hexachlorobenzene	29.520	284	1219478	561.99		99
6) BHC-beta	31.101	219	297563	1619.36	#	100
7) BHC-gamma	31.356	219	316149	686.64	#	100
8) BHC-delta	33.281	219	267012	533.30	#	98
9) Heptachlor	36.660	272	301132	664.14	#	100
10) Aldrin	39.180	263	267599	505.36	#	82
11) DCPA (Dacthal)	40.275	301	1062114	536.59		98
12) Heptachlor epoxide	42.162	353	407872	530.83	#	99
13) Oxychlordane	42.248	115	224361	592.26	#	100
17) Chlordane-gamma	43.921	373	559388	519.58	#	99
18) 4,4'-DDMU	0.000		0	N.D. d		
19) 2,4'-DDE	44.402	246	1323387	486.60	#	72
20) Endosulfan-I	44.758	241	81562	477.20	#	100
21) Chlordane-alpha	45.028	373	539562	518.89	#	95
22) trans-Nonachlor	45.417	409	589234	504.63	#	98
23) 4,4'-DDE	46.733	246	943562	484.46		99
24) Dieldrin	46.655	263	114090	453.84	#	100
25) 2,4'-DDD	47.309	235	1537083	495.94		99
26) Perthane	48.604	223	2450293	482.47	#	100
27) Endrin	48.179	263	139343	635.08	#	100
28) Endosulfan-II	48.884	241	63628	443.26	#	100
29) 4,4'-DDD	49.733	235	1389668	473.41		98
30) 2,4'-DDT	49.916	235	1081466	574.87	#	1
31) cis-Nonachlor	49.911	409	591203	517.82	#	99
32) Endrin aldehyde	50.249	345	136833	495.67	#	100
33) Endosulfan sulfate	51.952	272	215759	471.50	#	99
34) 4,4'-DDT	52.371	235	788855m	634.20		
35) Endrin ketone	55.142	317	223182	517.21	#	100
36) Methoxychlor	56.517	227	1661351	739.22	#	100
37) Dicofol	56.469	139	258084	856.57	#	100
38) Mirex	58.997	272	675957	511.31		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Data File : OCP+3_500CCV2.D
 Acq On : 10 May 2014 09:52 am
 Operator :
 Sample : OCP+3_500CCV2
 Misc :
 ALS Vial : 95 Sample Multiplier: 1

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Quant Time: May 13 11:01:32 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_OCP+3_140502.M
 Quant Title : CHCs
 QLast Update : Tue May 13 10:54:40 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	40.308	312	2737103	1000.00		-0.02
14) 2,2',5,5'-Tetrabromobi...	51.391	391	566332	1000.00		-0.02
System Monitoring Compounds						
2) (TCMX)	25.993	244	460075	402.84		0.00
Spiked Amount	400.000		Recovery	=	100.71%	
3) (PCB030)	31.065	256	1205486	403.51		0.00
Spiked Amount	400.000		Recovery	=	100.88%	
15) (PCB112)	45.580	326	1040686	401.68		-0.03
Spiked Amount	400.000		Recovery	=	100.42%	
16) (PCB198)	59.748	358	297866	390.72		0.00
Spiked Amount	400.000		Recovery	=	97.68%	
Target Compounds						Qvalue
4) BHC-alpha	28.921	219	444079	533.35		93
5) Hexachlorobenzene	29.510	284	1197984	503.69		99
6) BHC-beta	31.079	219	108514	538.78	#	100
7) BHC-gamma	31.340	219	280119	555.06	#	100
8) BHC-delta	33.258	219	273252	497.92	#	99
9) Heptachlor	36.640	272	295790	609.14	#	100
10) Aldrin	39.161	263	309521	533.30	#	82
11) DCPA (Dacthal)	40.257	301	1131892	521.72		98
12) Heptachlor epoxide	42.143	353	452625	537.44	#	100
13) Oxychlorane	42.227	115	251545	605.81	#	100
17) Chlordane-gamma	43.902	373	613612	501.53	#	99
18) 4,4'-DDMU	44.087	212	1815285	479.19		99
19) 2,4'-DDE	44.383	246	1495340	483.82	#	71
20) Endosulfan-I	44.737	241	93267	480.16	#	100
21) Chlordane-alpha	45.005	373	593259	502.03	#	96
22) trans-Nonachlor	45.398	409	650389	490.14	#	99
23) 4,4'-DDE	46.710	246	1071959	484.31		97
24) Dieldrin	46.637	263	138128	483.50	#	100
25) 2,4'-DDD	47.289	235	1741501	494.44		98
26) Perthane	48.578	223	2849329	493.68	#	100
27) Endrin	48.161	263	100446	402.84	#	100
28) Endosulfan-II	48.863	241	81219	497.88	#	100
29) 4,4'-DDD	49.713	235	1620059	485.64		98
30) 2,4'-DDT	49.895	235	1176583	550.35	#	1
31) cis-Nonachlor	49.885	409	641938	494.76	#	99
32) Endrin aldehyde	50.225	345	210039	669.52	#	100
33) Endosulfan sulfate	51.934	272	265745	511.02	#	99
34) 4,4'-DDT	52.349	235	951434	658.94	#	100
35) Endrin ketone	55.116	317	269637	549.85	#	100
36) Methoxychlor	56.492	227	1509995	644.89	#	100
37) Dicofol	56.447	139	172847	638.08	#	100
38) Mirex	58.970	272	752199	500.68		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Data File : OCP+3_500FCV.D
 Acq On : 12 May 2014 05:58 am
 Operator :
 Sample : OCP+3_500FCV
 Misc :
 ALS Vial : 95 Sample Multiplier: 1

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Quant Time: May 13 15:25:04 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_OCP+3_140502.M
 Quant Title : CHCs
 QLast Update : Tue May 13 10:54:40 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	40.306	312	3029977	1000.00		-0.02
14) 2,2',5,5'-Tetrabromobi...	51.389	391	610692	1000.00		-0.02
System Monitoring Compounds						
2) (TCMX)	25.990	244	483851	382.71		0.00
Spiked Amount	400.000		Recovery	=	95.68%	
3) (PCB030)	31.060	256	1278915	386.71		-0.01
Spiked Amount	400.000		Recovery	=	96.68%	
15) (PCB112)	45.579	326	1109345	397.07		-0.03
Spiked Amount	400.000		Recovery	=	99.27%	
16) (PCB198)	59.740	358	319725	388.93		0.00
Spiked Amount	400.000		Recovery	=	97.23%	
Target Compounds						Qvalue
4) BHC-alpha	28.916	219	479779	520.53		93
5) Hexachlorobenzene	29.507	284	1272045	483.14		98
6) BHC-beta	31.076	219	109372	490.54	#	100
7) BHC-gamma	31.335	219	297955	533.33	#	100
8) BHC-delta	33.252	219	300439	494.55	#	99
9) Heptachlor	36.638	272	335948	621.65	#	100
10) Aldrin	39.156	263	330364	514.19	#	79
11) DCPA (Dacthal)	40.253	301	1199978	499.64		98
12) Heptachlor epoxide	42.138	353	488323	523.78	#	99
13) Oxychlordane	42.221	115	254799m	554.33		
17) Chlordane-gamma	43.896	373	656809	497.84	#	99
18) 4,4'-DDMU	44.081	212	1968317	481.85		98
19) 2,4'-DDE	44.381	246	1601748	480.60	#	71
20) Endosulfan-I	44.739	241	101611	485.12	#	100
21) Chlordane-alpha	45.000	373	629357	493.90	#	95
22) trans-Nonachlor	45.395	409	699858	489.11	#	97
23) 4,4'-DDE	46.710	246	1144635	479.58		98
24) Dieldrin	46.629	263	149457	485.15	#	100
25) 2,4'-DDD	47.285	235	1826670	480.95		99
26) Perthane	48.578	223	3135771	503.85	#	100
27) Endrin	48.153	263	120057	446.51	#	100
28) Endosulfan-II	48.860	241	84355	479.54	#	100
29) 4,4'-DDD	49.710	235	1706627	474.42		98
30) 2,4'-DDT	49.892	235	1326561	575.43	#	1
31) cis-Nonachlor	49.881	409	672247	480.48	#	98
32) Endrin aldehyde	50.219	345	211251m	624.46		
33) Endosulfan sulfate	51.930	272	289255	515.83	#	98
34) 4,4'-DDT	52.340	235	1096014m	687.36		
35) Endrin ketone	55.112	317	294165	556.29	#	100
36) Methoxychlor	56.481	227	1766821m	678.09		
37) Dicofol	56.441	139	216080m	693.39		
38) Mirex	58.966	272	811329	500.81		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	OCP500 ICV			OCP500 CCV			OCP500 FCV		
	5/6/14 5:07 PM			5/10/14 9:52 AM			5/12/14 5:58 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
TCMX	400	399	0	400	403	1	400	383	4
PCB030	400	409	2	400	404	1	400	387	3
PCB112	400	401	0	400	402	0	400	397	1
PCV198	400	389	3	400	391	2	400	389	3
BHC-alpha	500	543	9	500	533	7	500	521	4
Hexachlorobenzene	500	562	12	500	504	1	500	483	3
BHC-beta	500	1619	224	500	539	8	500	491	2
BHC-gamma	500	687	37	500	555	11	500	533	7
BHC-delta	500	533	7	500	498	0	500	495	1
Heptachlor	500	664	33	500	609	22	500	622	24
Aldrin	500	505	1	500	533	7	500	514	3
DCPA (Dacthal)	500	537	7	500	522	4	500	500	0
Heptachlor epoxide	500	531	6	500	537	7	500	524	5
Oxychlordane	500	592	18	500	606	21	500	554	11
Chlordane-gamma	500	520	4	500	502	0	500	498	0
4,4'-DDMU	0	0	NA	500	479	4	500	482	4
2,4'-DDE	500	487	3	500	484	3	500	481	4
Endosulfan-I	500	477	5	500	480	4	500	485	3
Chlordane-alpha	500	519	4	500	502	0	500	494	1
trans-Nonachlor	500	505	1	500	490	2	500	489	2
4,4'-DDE	500	484	3	500	484	3	500	480	4
Dieldrin	500	454	9	500	484	3	500	485	3
2,4'-DDD	500	496	1	500	494	1	500	481	4
Perthane	500	482	4	500	494	1	500	504	1
Endrin	500	635	27	500	403	19	500	467	7
Endosulfan-II	500	443	11	500	498	0	500	480	4
4,4'-DDD	500	473	5	500	486	3	500	474	5
2,4'-DDT	500	575	15	500	550	10	500	575	15
cis-Nonachlor	500	518	4	500	495	1	500	480	4
Endrin aldehyde	500	496	1	500	670	34	500	624	25
Endosulfan sulfate	500	472	6	500	511	2	500	516	3
4,4'-DDT	500	634	27	500	659	32	500	687	37
Endrin ketone	500	517	3	500	550	10	500	556	11
Methoxychlor	500	739	48	500	645	29	500	678	36
Dicofol	500	857	71	500	638	28	500	693	39
Mirex	500	511	2	500	501	0	500	501	0
Average	-	-	11	-	-	9	-	-	9

PHYSIS

PCB Congeners

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS

Initial Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Method File : Q_PCB+6_140502.M
 Title : PCBs (Richs Version)
 Last Update : Mon May 05 16:16:27 2014
 Response Via : Initial Calibration

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Calibration Files

10 =PCB10.D 25 =PCB25.D 50 =PCB50.D 75 =PCB75.D 100 =PCB100.D 200 =PCB200.D

Compound	10	25	50	75	100	200	Avg	%RSD

1) I 4,4'-Dibromobiphenyl	-----ISTD-----							
2) PCB003	1.917	1.953	1.867	1.945	1.790	1.724	1.866	4.92
3) PCB008	1.668	1.432	1.493	1.549	1.553	1.327	1.503	7.75
4) PCB018	0.721	0.759	0.724	0.774	0.718	0.657	0.726	5.57
5) I PCB031	1.145	1.125	1.128	1.153	1.121	1.069	1.124	2.61
6) PCB028	1.073	1.144	1.131	1.172	1.139	1.093	1.125	3.22
7) PCB033	1.003	1.075	1.089	1.128	1.084	1.045	1.071	3.96
8) PCB052	0.703	0.777	0.734	0.773	0.751	0.735	0.745	3.68
9) PCB049	0.787	0.807	0.774	0.819	0.782	0.756	0.788	2.88
10) PCB044	0.661	0.678	0.657	0.671	0.692	0.637	0.666	2.88
11) PCB037	1.036	1.043	1.061	1.092	1.110	1.085	1.071	2.73
12) PCB074	0.982	1.022	1.006	1.039	1.096	1.043	1.031	3.77
13) PCB070	0.993	1.040	1.023	1.089	1.114	1.060	1.053	4.19
14) PCB066	1.020	1.070	1.063	1.111	1.104	1.096	1.077	3.15
15) PCB095	0.689	0.708	0.689	0.733	0.691	0.678	0.698	2.83
16) PCB056(060)	0.887	0.909	0.939	0.951	0.992	0.969	0.941	4.07
17) PCB101	0.705	0.693	0.691	0.730	0.749	0.726	0.716	3.26
18) PCB099	0.755	0.730	0.740	0.789	0.812	0.783	0.768	4.13
19) PCB119	0.830	0.871	0.887	0.908	1.020	0.929	0.908	7.12
20) PCB097	0.600	0.595	0.604	0.633	0.668	0.637	0.623	4.52
21) PCB087	0.605	0.656	0.641	0.676	0.701	0.681	0.660	5.17
22) PCB081	0.983	1.020	1.044	1.057	1.135	1.047	1.048	4.82
23) PCB110	0.886	0.898	0.928	0.950	0.974	0.935	0.928	3.51
24) PCB077	0.908	1.006	1.048	1.056	1.084	1.053	1.026	6.14
25) PCB151	0.596	0.574	0.595	0.603	0.630	0.596	0.599	3.00
26) PCB149	0.599	0.640	0.648	0.689	0.693	0.659	0.654	5.31
27) PCB123	0.876	0.896	0.898	0.891	0.978	0.956	0.916	4.47
28) PCB118	0.938	0.925	0.933	0.988	1.049	1.022	0.976	5.32
29) PCB114	0.802	0.838	0.854	0.878	1.009	0.970	0.892	9.06

30) I 2,2',5,5'-Tetrabro...	-----ISTD-----							
31) PCB153	3.291	3.227	3.171	3.252	3.511	3.361	3.302	3.65
32) PCB168+132	3.094	3.058	3.235	3.288	3.281	3.138	3.182	3.11
33) PCB105	4.800	4.778	4.761	5.006	4.963	4.738	4.841	2.35
34) PCB141	3.182	2.978	3.039	3.081	3.068	2.896	3.041	3.20
35) PCB138	2.977	2.910	2.936	2.957	3.157	3.041	2.996	3.02
36) PCB158	3.678	3.792	3.808	3.885	4.206	4.105	3.912	5.17
37) PCB126	3.976	4.047	4.077	4.065	4.548	4.479	4.199	5.90
38) PCB187	2.432	2.515	2.527	2.587	2.753	2.599	2.569	4.22
39) PCB183	2.476	2.560	2.610	2.641	2.961	2.677	2.654	6.25
40) PCB128	2.635	2.324	2.450	2.537	2.674	2.584	2.534	5.10
41) PCB167	3.640	3.781	3.898	3.960	4.331	4.246	3.976	6.71
42) PCB174	2.396	2.434	2.409	2.512	2.529	2.504	2.464	2.34
43) PCB177	2.234	2.205	2.206	2.393	2.432	2.444	2.319	5.00
44) PCB156	3.536	3.531	3.730	3.751	4.294	4.088	3.822	8.06
45) PCB199(200)	2.725	2.934	2.757	2.980	2.911	2.845	2.859	3.55
46) PCB157	4.909	4.750	4.736	4.921	5.047	5.185	4.925	3.51
47) PCB180	2.429	2.302	2.415	2.448	2.740	2.562	2.483	6.07
48) PCB169	3.383	3.589	3.512	3.546	4.135	4.183	3.725	9.23
49) PCB170	2.378	2.159	2.248	2.357	2.475	2.282	2.316	4.78
50) PCB201	1.991	1.936	1.942	2.039		1.834	1.948	3.93
51) PCB189	2.868	3.084	3.004	3.107	3.396	3.543	3.167	7.98
52) PCB195	1.863	1.910	1.924	1.917	1.869	2.033	1.919	3.18
53) PCB194	1.906	2.101	1.974	2.078	1.981	2.175	2.036	4.86
54) PCB206	1.599	1.697	1.669	1.792	1.881	1.808	1.741	5.96
55) PCB209	1.830	1.981	1.831	2.005	1.789	2.044	1.913	5.69

(#) = Out of Range

Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Method File : Q_PCB6NEW_140502.M
 Title : PCBs (Richs Version)
 Last Update : Mon May 05 16:16:27 2014
 Response Via : Initial Calibration

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Calibration Files

10 =PCB10.D 25 =PCB25.D 50 =PCB50.D 75 =PCB75.D 100 =PCB100.D 200 =PCB200.D

Compound		10	25	50	75	100	200	Avg	%RSD

1) I	4,4'-Dibromobiphenyl	-----ISTD-----							
2)	PCB005	1.278	1.363	1.378	1.425	1.309	1.262	1.336	4.74
3)	PCB015	1.567	1.539	1.528	1.532	1.501	1.437	1.517	2.94
4)	PCB027	0.740	0.765	0.733	0.772	0.735	0.693	0.740	3.77
5)	PCB029	1.069	1.049	1.054	1.055	1.065	1.039	1.055	1.03
6) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
7)	PCB137	2.510	2.332	2.429	2.394	2.801	2.550	2.503	6.63
8)	PCB203	2.137	2.074	2.134	2.157	2.154	2.325	2.164	3.91

(#) = Out of Range

Method Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Method File : Q_PCB+6_140310.M
 Title : PCBs (Richs Version)
 Last Update : Wed May 14 10:02:07 2014
 Response Via : Initial Calibration

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Calibration Files

10 =PCB10.D 25 =PCB25.D 50 =PCB50.D 75 =PCB75.D 100 =PCB+6_100CCV2.D 200 =PCB200.D

Compound		10	25	50	75	100	200	Avg	%RSD

1) I	4,4'-Dibromobiphenyl	-----ISTD-----							
2)	PCB003	1.694	1.800	1.769	2.086	2.048	1.902	1.883	8.38
3)	PCB008	1.208	1.674	1.623	1.586	1.530	1.710	1.555	11.67
4)	PCB005	0.984	1.555	1.183	1.530	1.599	1.542	1.399	18.12
5)	PCB018	0.983	1.066	1.008	1.158	1.072	1.115	1.067	6.08
6)	PCB015	1.192	1.155	1.286	1.355	1.307	1.418	1.286	7.66
7)	PCB027	0.729	0.842	0.793	0.890	0.837	0.851	0.824	6.78
8)	PCB029	0.851	1.120	1.029	1.082	1.060	1.080	1.037	9.26
9) I	PCB031	1.344	1.205	1.091	1.155	1.211	1.273	1.213	7.29
10)	PCB028	1.377	1.369	1.166	1.415	1.406	1.368	1.350	6.84
11)	PCB033	0.979	0.940	0.925	1.120	1.125	1.108	1.033	9.17
12)	PCB052	0.897	1.082	0.915	1.132	1.061	1.074	1.027	9.42
13)	PCB049	0.876	0.956	0.943	1.097	1.081	1.055	1.001	8.90
14)	PCB044	0.878	0.835	0.790	0.959	0.817	0.897	0.863	7.13
15)	PCB037	0.889	1.149	1.061	1.120	1.164	1.220	1.101	10.54
16)	PCB074	0.805	1.114	1.013	1.229	1.215	1.250	1.104	15.54
17)	PCB070	0.920	1.197	1.032	1.251	1.241	1.318	1.160	13.10
18)	PCB066	0.826	1.074	0.981	1.112	1.225	1.270	1.081	15.05
19)	PCB095	0.621	0.726	0.784	0.825	0.852	0.871	0.780	11.99
20)	PCB056(060)	0.565	0.783	0.851	0.811	0.871	0.893	0.796	15.05
21)	PCB101	0.825	0.875	0.792	0.978	0.964	0.995	0.905	9.49
22)	PCB099	0.800	0.867	0.899	0.979	1.017	1.012	0.929	9.48
23)	PCB119	1.022	1.134	1.088	1.151	1.202	1.192	1.131	5.96
24)	PCB097	0.381	0.551	0.599	0.627	0.637	0.635	0.572	17.28
25)	PCB087	0.798	0.782	0.731	0.869	0.865	0.887	0.822	7.45
26)	PCB081	1.016	1.097	1.008	1.137	1.135	1.200	1.099	6.81
27)	PCB110	0.959	1.159	1.022	1.259	1.187	1.199	1.131	10.19
28)	PCB077	0.796	0.872	0.981	1.015	1.072	1.099	0.973	12.10
29)	PCB151	0.593	0.785	0.735	0.854	0.793	0.819	0.763	12.09
30)	PCB149	0.647	0.771	0.795	0.916	0.865	0.938	0.822	13.14
31)	PCB123	0.863	0.885	0.901	0.960	0.965	1.033	0.934	6.77
32)	PCB118	1.002	1.105	0.990	1.006	1.130	1.225	1.076	8.71
33)	PCB114	0.800	0.777	0.877	0.950	0.924	1.014	0.890	10.20
34) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
35)	PCB153	3.168	3.552	4.109	4.132	4.326	4.345	3.939	12.04
36)	PCB168+132	3.049	3.519	3.581	3.834	4.027	4.043	3.676	10.24
37)	PCB105	3.377	4.471	5.572	5.574	5.896	5.926	5.136	19.71
38)	PCB141	3.811	3.237	3.262	3.427	3.487	3.418	3.440	6.00
39)	PCB137	1.803	2.485	2.438	2.505	2.614	2.339	2.364	12.22
40)	PCB138	2.739	3.342	3.547	3.698	4.007	3.942	3.546	13.14
41)	PCB158	4.156	4.596	4.842	4.569	5.099	5.326	4.765	8.75
42)	PCB126	2.082	3.186	4.274	3.714	4.179	4.405	3.640	24.31
43)	PCB187	1.370	3.000	3.379	3.200	3.477	3.620	3.008	27.63
44)	PCB183	1.736	3.505	3.727	3.573	3.661	3.564	3.294	23.29
45)	PCB128	2.404	2.598	4.146	2.938	3.619	3.011	3.119	20.94
46)	PCB167	3.296	4.574	2.970	4.166	4.500	4.709	4.036	18.07
47)	PCB174	1.448	2.452	2.842	2.847	2.727	2.791	2.518	21.61
48)	PCB177	2.084	2.493	2.962	3.023	3.162	3.067	2.798	15.03
49)	PCB156	2.120	3.956	4.153	3.564	3.735	4.057	3.597	20.99
50)	PCB199(200)	3.998	4.775	4.592	4.544	4.553	4.863	4.554	6.62
51)	PCB157	5.811	5.144	5.264	5.272	5.755	5.940	5.531	6.18
52)	PCB180	3.099	2.592	2.793	2.591	2.789	3.224	2.848	9.19
53)	PCB169	1.838	2.538	3.460	2.767	2.955	3.427	2.831	21.45
54)	PCB170	1.781	2.163	2.501	2.322	2.499	2.755	2.337	14.41
55)	PCB201		3.138	2.253	2.450	2.453	2.329	2.525	13.98
56)	PCB203	4.084	2.388	2.561	2.506	2.430	2.454	2.737	24.21
57)	PCB189	1.988	2.602	2.873	2.523	3.032	3.358	2.729	17.31
58)	PCB195	1.827	3.578	3.050	2.552	2.256	2.317	2.597	24.09
59)	PCB194	2.431	3.353	3.487	2.595	2.730	2.645	2.873	15.18
60)	PCB206	1.152	1.785	2.463	2.386	2.489	2.466	2.123	25.74
61)	PCB209	1.127	2.150	2.469	2.328	2.358	2.473	2.151	23.95

Method Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
Method File : Q_PCB+6_140310.M

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(#) = Out of Range

PHYSIS

Continuing Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP_PAH_PCB_SPEX500_100.D
 Acq On : 31 May 2014 07:56 pm
 Operator :
 Sample : OCP_PAH_PCB_SPEX500_100
 Misc :
 ALS Vial : 91 Sample Multiplier: 1

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Quant Time: Jun 04 18:23:50 2014

Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M

Quant Title : PCBs (Richs Version)

QLast Update : Mon May 05 16:16:27 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	39.837	312	2139944	1000.00		0.03
30) 2,2',5,5'-Tetrabromobi...	50.840	389	412735	1000.00		-0.02
Target Compounds						Qvalue
2) PCB003	24.014	188	458069	121.24		97
3) PCB008	28.479	222	357325	119.66	#	96
4) PCB018	31.594	256	166318m	113.81		
5) PCB031	35.025	256	184100m	78.98		
6) PCB028	35.126	256	289817m	121.97		
7) PCB033	35.818	256	242213	106.61		95
8) PCB052	37.653	292	143538	90.43		89
9) PCB049	37.975	292	189870	115.54		93
10) PCB044	39.157	292	152840	109.73		96
11) PCB037	39.487	256	218090	93.63	#	93
12) PCB074	41.810	292	202756	90.27		98
13) PCB070	42.081	292	230761	100.78		96
14) PCB066	42.343	292	261254m	111.32		
15) PCB095	42.338	326	141025	95.98		93
16) PCB056(060)	43.545	292	201438	97.12		98
17) PCB101	44.042	326	166728	106.92		93
18) PCB099	44.433	326	179782	106.91		95
19) PCB119	44.904	326	147709	73.44		97
20) PCB097	45.573	326	126051	92.04		93
21) PCB087	45.959	326	134477	92.13	#	78
22) PCB081	46.055	292	241740	106.35		97
23) PCB110	46.671	326	209920	104.09		97
24) PCB077	46.779	292	238462	105.35		99
25) PCB151	47.543	360	131582	102.13		98
26) PCB149	48.387	360	152371	106.79		91
27) PCB123	48.412	326	192418	94.64		97
28) PCB118	48.585	326	232284	106.61		94
29) PCB114	49.360	326	223611	108.67		98
31) PCB153	50.165	360	124534	89.63		92
32) PCB168+132	50.334	360	318168	242.41		98
33) PCB105	50.448	326	222580	112.28		97
34) PCB141	51.035	360	132357	108.70		96
35) PCB138	52.108	360	121032	96.25	#	93
36) PCB158	52.286	360	189664	112.51		90
37) PCB126	52.804	326	180891	98.96		95
38) PCB187	53.263	394	111296	102.93		89
39) PCB183	53.617	394	118294	105.47		98
40) PCB128	53.982	360	99229	92.95		94
41) PCB167	54.121	360	178248	102.53		92
42) PCB174	54.865	394	103448	100.11		94
43) PCB177	55.242	394	118001	117.94		93
44) PCB156	55.680	360	167398	99.68		99
45) PCB199(200)	56.009	430	141297	119.44		98
46) PCB157	56.061	360	228041	108.08		99
47) PCB180	56.825	394	107449	101.22	#	93
48) PCB169	58.370	360	153023	90.91		98
49) PCB170	58.837	394	95298	99.55		96
50) PCB201	59.384	430	82739m	107.52		
51) PCB189	60.820	394	124403	87.44		99
52) PCB195	61.763	430	76520	93.29		96
53) PCB194	63.133	430	82912	94.63		93
54) PCB206	65.567	464	68159	91.17	#	86
55) PCB209	67.516	498	82680	100.82		94

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
Data File : OCP_PAH_PCB_SPEX500_100.D
Acq On : 31 May 2014 07:56 pm
Operator :
Sample : OCP_PAH_PCB_SPEX500_100
Misc :
ALS Vial : 91 Sample Multiplier: 1

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Quant Time: Jun 04 18:23:50 2014
Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M
Quant Title : PCBs (Richs Version)
QLast Update : Mon May 05 16:16:27 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP500_PCB100CCV.D
 Acq On : 29 May 2014 08:25 am
 Operator :
 Sample : OCP500_PCB100CCV
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Jun 04 18:25:07 2014

Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M

Quant Title : PCBs (Richs Version)

QLast Update : Mon May 05 16:16:27 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	39.822	312	2427255	1000.00		0.02
30) 2,2',5,5'-Tetrabromobi...	50.855	389	517155	1000.00		0.00
Target Compounds						
2) PCB003	24.033	188	479820	111.97	Qvalue	99
3) PCB008	28.496	222	405069	119.59	#	98
4) PCB018	31.614	256	197231	118.99		97
5) PCB031	35.030	256	237513	89.83		98
6) PCB028	35.116	256	330438m	122.61		
7) PCB033	35.816	256	281207	109.12		98
8) PCB052	37.661	292	186460	103.57		94
9) PCB049	37.989	292	209989	112.65		94
10) PCB044	39.161	292	173293	109.69		98
11) PCB037	39.473	256	260199	98.48		91
12) PCB074	41.816	292	258901	101.63		98
13) PCB070	42.084	292	258256	99.44		98
14) PCB066	42.352	292	255358	95.92		99
15) PCB095	42.353	326	182879	109.73		98
16) PCB056(060)	43.541	292	246900	104.94		96
17) PCB101	44.064	326	190627	107.78		93
18) PCB099	44.444	326	208300	109.21		95
19) PCB119	44.911	326	217685	95.42		96
20) PCB097	45.595	326	161513	103.97		89
21) PCB087	45.956	326	175627m	106.08		
22) PCB081	46.037	292	275232	106.75		96
23) PCB110	46.680	326	244606	106.93		96
24) PCB077	46.755	292	269608	105.01		98
25) PCB151	47.556	360	160538	109.85		98
26) PCB149	48.407	360	173721	107.34		95
27) PCB123	48.408	326	238799	103.55		97
28) PCB118	48.586	326	259319	104.93		95
29) PCB114	49.356	326	252386	108.13		96
31) PCB153	50.179	360	174863	100.44		99
32) PCB168+132	50.351	360	369913	224.93		97
33) PCB105	50.443	326	250681	100.92		94
34) PCB141	51.054	360	169503	111.10		97
35) PCB138	52.104	360	164423	104.35		92
36) PCB158	52.285	360	225614	106.82	#	90
37) PCB126	52.807	326	220765	96.39	#	90
38) PCB187	53.287	394	145703	107.54		87
39) PCB183	53.634	394	137218	97.64		94
40) PCB128	53.998	360	132362	98.95		94
41) PCB167	54.130	360	224349	102.99		92
42) PCB174	54.879	394	138338	106.84		95
43) PCB177	55.252	394	128641	102.62		95
44) PCB156	55.692	360	202291	96.14		98
45) PCB199(200)	56.028	430	171915	115.98		96
46) PCB157	56.073	360	277151	104.83		99
47) PCB180	56.842	394	137769	103.58		96
48) PCB169	58.359	360	197772	93.78		95
49) PCB170	58.825	394	124138	103.50		97
50) PCB201	59.404	430	117796m	122.17		
51) PCB189	60.817	394	172761	96.91		95
52) PCB195	61.765	430	109518	106.55		95
53) PCB194	63.145	430	114159	103.98		89
54) PCB206	65.584	464	96732	103.26	#	87
55) PCB209	67.536	498	112467	109.45	#	94

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
Data File : OCP500_PCB100CCV.D
Acq On : 29 May 2014 08:25 am
Operator :
Sample : OCP500_PCB100CCV
Misc :
ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Jun 04 18:25:07 2014
Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M
Quant Title : PCBs (Richs Version)
QLast Update : Mon May 05 16:16:27 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
----------	------	------	----------	------	-------	----------

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP500_PCB100FCV.D
 Acq On : 30 May 2014 07:52 am
 Operator :
 Sample : OCP500_PCB100FCV
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Jun 04 18:29:43 2014

Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M

Quant Title : PCBs (Richs Version)

QLast Update : Mon May 05 16:16:27 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	39.831	312	2546636	1000.00		0.03
30) 2,2',5,5'-Tetrabromobi...	50.853	389	472938	1000.00		0.00
Target Compounds						
2) PCB003	24.048	188	570916	126.98		Qvalue 99
3) PCB008	28.506	222	456032	128.33	#	96
4) PCB018	31.610	256	217117	124.85		97
5) PCB031	35.033	256	297682	107.31		98
6) PCB028	35.122	256	341228	120.67		99
7) PCB033	35.818	256	306079	113.20		98
8) PCB052	37.664	292	184049	97.44		96
9) PCB049	37.981	292	218045	111.49		98
10) PCB044	39.161	292	180843	109.10		98
11) PCB037	39.482	256	258619	93.30	#	89
12) PCB074	41.823	292	234706	87.81		96
13) PCB070	42.087	292	274138	100.60		95
14) PCB066	42.356	292	221076	79.15		95
15) PCB095	42.347	326	186958	106.92		95
16) PCB056(060)	43.546	292	255478	103.50		95
17) PCB101	44.054	326	189921	102.35		94
18) PCB099	44.442	326	199093	99.49		99
19) PCB119	44.913	326	196670	82.17		99
20) PCB097	45.584	326	157815	96.83		94
21) PCB087	45.956	326	181520m	104.50		
22) PCB081	46.048	292	276281	102.13		97
23) PCB110	46.680	326	249991	104.16		99
24) PCB077	46.779	292	267704	99.38		98
25) PCB151	47.555	360	151087	98.54		95
26) PCB149	48.404	360	177518	104.55		89
27) PCB123	48.416	326	237097	98.00		99
28) PCB118	48.590	326	260833	100.60		91
29) PCB114	49.360	326	253297	103.44		98
31) PCB153	50.180	360	158256	99.40		96
32) PCB168+132	50.344	360	358660	238.47		96
33) PCB105	50.448	326	246432	108.49		97
34) PCB141	51.053	360	155256	111.28		92
35) PCB138	52.115	360	149363	103.66		92
36) PCB158	52.287	360	210783	109.12		90
37) PCB126	52.836	326	195072	93.13	#	91
38) PCB187	53.274	394	134035m	108.18		
39) PCB183	53.642	394	135319	105.29		100
40) PCB128	54.004	360	113665	92.92		96
41) PCB167	54.142	360	207982	104.41		91
42) PCB174	54.876	394	123083	103.95		98
43) PCB177	55.250	394	117004	102.06		93
44) PCB156	55.704	360	172553	89.67		98
45) PCB199(200)	56.026	430	159157	117.42		97
46) PCB157	56.078	360	242078	100.13		97
47) PCB180	56.842	394	124589	102.42		95
48) PCB169	58.383	360	164212	85.14		95
49) PCB170	58.837	394	110330	100.58	#	91
50) PCB201	59.415	430	111477m	126.43		
51) PCB189	60.831	394	136868	83.95		99
52) PCB195	61.772	430	88110	93.74		95
53) PCB194	63.146	430	92085	91.72	#	88
54) PCB206	65.588	464	76954	89.83	#	87
55) PCB209	67.528	498	86022	91.54		99

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
Data File : OCP500_PCB100FCV.D
Acq On : 30 May 2014 07:52 am
Operator :
Sample : OCP500_PCB100FCV
Misc :
ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Jun 04 18:29:43 2014
Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M
Quant Title : PCBs (Richs Version)
QLast Update : Mon May 05 16:16:27 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
----------	------	------	----------	------	-------	----------

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PCB100 ICV			PCB100 CCV			PCB100 FCV		
	5/31/14 7:56 PM			5/29/14 8:25 AM			5/30/14 7:52 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PCB003	100	121	21	100	112	12	100	127	27
PCB008	100	120	20	100	120	20	100	128	28
PCB018	100	114	14	100	119	19	100	125	25
PCB031	100	79	21	100	90	10	100	107	7
PCB028	100	122	22	100	123	23	100	121	21
PCB033	100	107	7	100	109	9	100	113	13
PCB052	100	90	10	100	104	4	100	97	3
PCB049	100	116	16	100	113	13	100	111	11
PCB044	100	110	10	100	110	10	100	109	9
PCB037	100	94	6	100	98	2	100	93	7
PCB074	100	90	10	100	102	2	100	88	12
PCB070	100	101	1	100	99	1	100	101	1
PCB066	100	111	11	100	96	4	100	79	21
PCB095	100	96	4	100	110	10	100	107	7
PCB056 (060)	100	97	3	100	105	5	100	104	4
PCB101	100	107	7	100	108	8	100	102	2
PCB099	100	107	7	100	109	9	100	99	1
PCB119	100	73	27	100	95	5	100	82	18
PCB097	100	92	8	100	104	4	100	97	3
PCB087	100	92	8	100	106	6	100	105	5
PCB081	100	106	6	100	107	7	100	102	2
PCB110	100	104	4	100	107	7	100	104	4
PCB077	100	105	5	100	105	5	100	99	1
PCB151	100	102	2	100	110	10	100	99	1
PCB149	100	107	7	100	107	7	100	105	5
PCB123	100	95	5	100	104	4	100	98	2
PCB118	100	107	7	100	105	5	100	101	1
PCB114	100	109	9	100	108	8	100	103	3
PCB153	100	90	10	100	100	0	100	99	1
PCB168+132	200	242	21	200	225	12	200	238	19
PCB105	100	112	12	100	101	1	100	108	8
PCB141	100	109	9	100	111	11	100	111	11
PCB138	100	96	4	100	104	4	100	104	4
PCB158	100	113	13	100	107	7	100	109	9
PCB126	100	99	1	100	96	4	100	93	7
PCB187	100	103	3	100	108	8	100	108	8
PCB183	100	105	5	100	98	2	100	105	5
PCB128	100	93	7	100	99	1	100	93	7
PCB167	100	103	3	100	103	3	100	104	4
PCB174	100	100	0	100	107	7	100	104	4
PCB177	100	118	18	100	103	3	100	102	2
PCB156	100	100	0	100	96	4	100	90	10
PCB199 (200)	100	119	19	100	116	16	100	117	17
PCB157	100	108	8	100	105	5	100	100	0
PCB180	100	101	1	100	104	4	100	102	2
PCB169	100	91	9	100	94	6	100	85	15
PCB170	100	100	0	100	104	4	100	101	1
PCB201	100	108	8	100	122	22	100	126	26
PCB189	100	87	13	100	97	3	100	84	16
PCB195	100	93	7	100	107	7	100	94	6
PCB194	100	95	5	100	104	4	100	92	8
PCB206	100	91	9	100	103	3	100	90	10
PCB209	100	101	1	100	109	9	100	92	8
Average	-	-	9	-	-	7	-	-	9

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Data File : OCP500_PCB100_ICV.D
 Acq On : 06 May 2014 05:07 pm
 Operator :
 Sample : OCP500_PCB100_ICV
 Misc :
 ALS Vial : 97 Sample Multiplier: 1

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Quant Time: May 14 09:35:49 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_PCB+6_140310.M
 Quant Title : PCBs (Richs Version)
 QLast Update : Wed May 14 09:19:58 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	40.317	312	2496472	1000.00		0.00
34) 2,2',5,5'-Tetrabromobi...	51.414	389	504371	1000.00		0.00
Target Compounds						
2) PCB003	24.398	188	463300m	95.79		Qvalue
3) PCB008	28.945	222	381212m	91.85		
4) PCB005	28.945	222	379666m	99.12		
5) PCB018	32.122	256	186617m	67.57		
6) PCB015	0.000		0	N.D.	d	
7) PCB027	0.000		0	N.D.		
8) PCB029	0.000		0	N.D.	d	
9) PCB031	35.512	256	285827m	92.11		
10) PCB028	35.617	256	284417	83.14		98
11) PCB033	36.316	256	261159	94.88		98
12) PCB052	38.196	292	185437	69.41		98
13) PCB049	38.515	292	194384	73.62		98
14) PCB044	39.696	292	163097	73.89		97
15) PCB037	39.965	256	268413	90.12		99
16) PCB074	42.339	292	265592	86.49		96
17) PCB070	42.606	292	257642m	80.34		
18) PCB066	42.870	292	259208m	84.25		
19) PCB095	42.910	326	165740	77.39		98
20) PCB056(060)	44.067	292	226942	103.53		98
21) PCB101	44.611	326	182823	74.90		99
22) PCB099	44.992	326	197053m	78.67		
23) PCB119	45.448	326	238873m	80.80		
24) PCB097	46.139	326	149948m	95.07		
25) PCB087	46.514	326	167999m	77.02		
26) PCB081	46.534	292	258478m	88.26		
27) PCB110	47.225	326	244257m	81.94		
28) PCB077	47.235	292	253987m	94.32		
29) PCB151	48.118	360	153710m	75.67		
30) PCB149	48.960	360	178108m	77.94		
31) PCB123	48.940	326	242620m	96.51		
32) PCB118	49.112	326	245225m	83.50		
33) PCB114	49.894	326	252947m	102.99		
35) PCB153	50.734	360	174863	80.61	#	51
36) PCB168+132	50.908	360	338390	168.01		96
37) PCB105	50.974	326	252402	85.51		98
38) PCB141	51.613	360	152164	88.14		97
39) PCB137	0.000		0	N.D.	d	
40) PCB138	52.658	360	159160	80.82		83
41) PCB158	52.837	360	208818	79.86		93
42) PCB126	53.298	326	210749	97.68		98
43) PCB187	53.852	394	129686	72.73		100
44) PCB183	54.198	394	137662m	76.14		
45) PCB128	54.544	360	139087	87.55	#	27
46) PCB167	54.664	360	198972m	86.81		
47) PCB174	55.448	394	121105	86.32		95
48) PCB177	55.822	394	119796m	77.46		
49) PCB156	56.229	360	195833	98.18	#	74
50) PCB199(200)	56.611	430	164484	68.43		97
51) PCB157	56.613	360	274351m	93.66		
52) PCB180	57.395	394	128989m	83.45		
53) PCB169	58.846	360	188999m	114.48		
54) PCB170	59.384	394	119465m	89.34		
55) PCB201	59.983	430	107113m	89.71		

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
Data File : OCP500_PCB100_ICV.D
Acq On : 06 May 2014 05:07 pm
Operator :
Sample : OCP500_PCB100_ICV
Misc :
ALS Vial : 97 Sample Multiplier: 1

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Quant Time: May 14 09:35:49 2014
Quant Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_PCB+6_140310.M
Quant Title : PCBs (Richs Version)
QLast Update : Wed May 14 09:19:58 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	0.000		0	N.D.	d	
57) PCB189	61.343	394	166231m	103.24		
58) PCB195	62.338	430	102155m	85.35		
59) PCB194	63.698	430	113200m	83.21		
60) PCB206	66.154	464	93598m	75.67		
61) PCB209	68.133	498	97873m	79.74		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Data File : PCB+6_100CCV2.D
 Acq On : 10 May 2014 11:31 am
 Operator :
 Sample : PCB+6_100CCV2
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: May 14 10:00:28 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_PCB+6_140310.M
 Quant Title : PCBs (Richs Version)
 QLast Update : Mon Mar 10 15:51:02 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	40.305	312	4300519	1000.00		0.00
34) 2,2',5,5'-Tetrabromobi...	51.391	389	831883	1000.00		-0.02
Target Compounds						Qvalue
2) PCB003	24.387	188	781694m	93.83		
3) PCB008	28.945	222	663719m	92.83		
4) PCB005	28.945	222	643931m	97.59		
5) PCB018	32.091	256	301137m	63.29		
6) PCB015	32.284	222	648135m	108.86		
7) PCB027	32.883	256	300713m	82.29		
8) PCB029	34.517	256	435370m	94.20		
9) PCB031	35.502	256	466998m	87.36		
10) PCB028	35.593	256	451709m	76.65		
11) PCB033	36.297	256	449830	94.87		98
12) PCB052	38.175	292	299159	65.00		97
13) PCB049	38.498	292	314837	69.22		96
14) PCB044	39.678	292	258271	67.92		99
15) PCB037	39.952	256	458040	89.27		98
16) PCB074	42.320	292	387654	73.28		98
17) PCB070	42.586	292	421407m	76.29		
18) PCB066	42.850	292	440328m	83.08		
19) PCB095	42.884	326	286817	77.75		95
20) PCB056(060)	44.049	292	371219	98.31		97
21) PCB101	44.590	326	282427	67.17		98
22) PCB099	44.961	326	310364m	71.93		
23) PCB119	45.428	326	372349m	73.12		
24) PCB097	46.118	326	252654m	92.99		
25) PCB087	46.484	326	266089m	70.82		
26) PCB081	46.504	292	433574m	85.94		
27) PCB110	47.204	326	378062m	73.62		
28) PCB077	47.225	292	425746m	91.78		
29) PCB151	48.097	360	242317m	69.25		
30) PCB149	48.940	360	265008m	67.32		
31) PCB123	48.920	326	367858m	84.94		
32) PCB118	49.092	326	393351m	77.75		
33) PCB114	49.874	326	360433m	85.19		
35) PCB153	50.711	360	272128	76.06	#	52
36) PCB168+132	50.881	360	536967	161.64		97
37) PCB105	50.952	326	406340	83.46		98
38) PCB141	51.586	360	250549	87.99		99
39) PCB137	52.071	360	209424	104.61		97
40) PCB138	52.640	360	251068	77.30		83
41) PCB158	52.817	360	331421	76.85		93
42) PCB126	53.280	326	361129	101.48		96
43) PCB187	53.830	394	207079	70.41		99
44) PCB183	54.177	394	220169m	73.83		
45) PCB128	54.521	360	222401	84.88	#	27
46) PCB167	54.634	360	332471m	87.95		
47) PCB174	55.427	394	200221	86.53		92
48) PCB177	55.811	394	187177m	73.38		
49) PCB156	56.208	360	312151	94.88	#	75
50) PCB199(200)	56.589	430	243408	61.40		97
51) PCB157	56.583	360	412958m	85.48		
52) PCB180	57.364	394	205105m	80.46		
53) PCB169	58.816	360	307041m	112.76		
54) PCB170	59.354	394	190414m	86.34		
55) PCB201	59.952	430	162162m	82.34		

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
Data File : PCB+6_100CCV2.D
Acq On : 10 May 2014 11:31 am
Operator :
Sample : PCB+6_100CCV2
Misc :
ALS Vial : 105 Sample Multiplier: 1

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Quant Time: May 14 10:00:28 2014
Quant Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_PCB+6_140310.M
Quant Title : PCBs (Richs Version)
QLast Update : Mon Mar 10 15:51:02 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	60.318	430	179203m	87.51		
57) PCB189	61.323	394	263092m	99.07		
58) PCB195	62.307	430	160286m	81.20		
59) PCB194	63.667	430	172408m	76.84		
60) PCB206	66.124	464	137059m	67.18		
61) PCB209	68.103	498	147155m	72.69		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Data File : PCB+6_100FCV.D
 Acq On : 12 May 2014 07:37 am
 Operator :
 Sample : PCB+6_100FCV
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: May 14 10:03:38 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_PCB+6_140310.M
 Quant Title : PCBs (Richs Version)
 QLast Update : Wed May 14 10:02:07 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	40.303	312	4334537	1000.00		0.00
34) 2,2',5,5'-Tetrabromobi...	51.390	389	860915	1000.00		0.00
Target Compounds						Qvalue
2) PCB003	24.386	188	783877	93.35		96
3) PCB008	28.935	222	578547m	80.28		
4) PCB005	28.945	222	611834m	92.00		
5) PCB018	32.097	256	302154	63.01		94
6) PCB015	32.286	222	653102	108.83		99
7) PCB027	32.885	256	300324	81.54		97
8) PCB029	34.517	256	445188	95.57		93
9) PCB031	35.501	256	479595	89.02		95
10) PCB028	35.597	256	459229	77.32		97
11) PCB033	36.295	256	455090	95.23		97
12) PCB052	38.175	292	299936	64.66		96
13) PCB049	38.493	292	313732	68.43		98
14) PCB044	39.676	292	259943	67.82		97
15) PCB037	39.949	256	461540	89.25		98
16) PCB074	42.318	292	411870	77.25		95
17) PCB070	42.584	292	423900	76.13		96
18) PCB066	42.846	292	419284	78.49		97
19) PCB095	42.885	326	288396	77.56		97
20) PCB056(060)	44.047	292	395304	103.87		98
21) PCB101	44.587	326	292671	69.06		98
22) PCB099	44.965	326	314877	72.40		87
23) PCB119	45.433	326	385782	75.16		96
24) PCB097	46.119	326	261492	95.49	#	68
25) PCB087	46.489	326	276056	72.89		97
26) PCB081	46.515	292	451776	88.84		99
27) PCB110	47.203	326	391796	75.69		95
28) PCB077	47.225	292	433043	92.62		99
29) PCB151	48.098	360	247571	70.20		95
30) PCB149	48.944	360	272323	68.63		96
31) PCB123	48.918	326	383385	87.83		98
32) PCB118	49.095	326	407385	79.89	#	86
33) PCB114	49.871	326	374226	87.76		95
35) PCB153	50.706	360	295041	79.68	#	50
36) PCB168+132	50.879	360	547570	159.27		97
37) PCB105	50.950	326	424696	84.29		98
38) PCB141	51.584	360	263106	89.29		97
39) PCB137	52.069	360	213554	103.07		95
40) PCB138	52.624	360	263149m	78.28		
41) PCB158	52.812	360	328162	73.52		91
42) PCB126	53.276	326	361109	98.05		96
43) PCB187	53.824	394	210796	69.26		99
44) PCB183	54.180	394	220345	71.40		97
45) PCB128	54.523	360	234737	86.56	#	26
46) PCB167	54.639	360	330367	84.45	#	59
47) PCB174	55.428	394	203109	84.82		92
48) PCB177	55.801	394	194669	73.74		99
49) PCB156	56.204	360	326572	95.92	#	74
50) PCB199(200)	56.581	430	248133	60.48		99
51) PCB157	56.584	360	429233	85.85		99
52) PCB180	57.370	394	209599	79.45		97
53) PCB169	58.819	360	319425	113.35		92
54) PCB170	59.357	394	188281	82.49		96
55) PCB201	59.963	430	164244	80.59		95

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
Data File : PCB+6_100FCV.D
Acq On : 12 May 2014 07:37 am
Operator :
Sample : PCB+6_100FCV
Misc :
ALS Vial : 105 Sample Multiplier: 1

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Quant Time: May 14 10:03:38 2014
Quant Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_PCB+6_140310.M
Quant Title : PCBs (Richs Version)
QLast Update : Wed May 14 10:02:07 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	60.310	430	182587	86.16		96
57) PCB189	61.328	394	259980	94.60		95
58) PCB195	62.317	430	161625	79.11		92
59) PCB194	63.667	430	174763	75.26	#	96
60) PCB206	66.138	464	137831	65.28		98
61) PCB209	68.098	498	150808	71.99	#	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PCB100 ICV			PCB100 CCV			PCB100 CCV2		
	5/6/14 5:07 PM			5/10/13 11:31 AM			5/12/12 7:37 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PCB003	100	96	4	100	94	6	100	93	7
PCB008	100	92	8	100	93	7	100	80	20
PCB005	0	0	NA	100	98	2	100	92	8
PCB018	100	68	32	100	63	37	100	63	37
PCB015	0	0	NA	100	109	9	100	109	9
PCB027	0	0	NA	100	82	18	100	82	18
PCB029	0	0	NA	100	94	6	100	96	4
PCB031	100	92	8	100	87	13	100	89	11
PCB028	100	83	17	100	77	23	100	77	23
PCB033	100	95	5	100	95	5	100	95	5
PCB052	100	69	31	100	65	35	100	65	35
PCB049	100	74	26	100	69	31	100	68	32
PCB044	100	74	26	100	68	32	100	68	32
PCB037	100	90	10	100	89	11	100	89	11
PCB074	100	86	14	100	73	27	100	77	23
PCB070	100	80	20	100	76	24	100	76	24
PCB066	100	84	16	100	83	17	100	78	22
PCB095	100	77	23	100	78	22	100	78	22
PCB056 (060)	100	104	4	100	98	2	100	104	4
PCB101	100	75	25	100	67	33	100	69	31
PCB099	100	79	21	100	72	28	100	72	28
PCB119	100	81	19	100	73	27	100	75	25
PCB097	100	95	5	100	93	7	100	95	5
PCB087	100	77	23	100	71	29	100	73	27
PCB081	100	88	12	100	86	14	100	89	11
PCB110	100	82	18	100	74	26	100	76	24
PCB077	100	94	6	100	92	8	100	93	7
PCB151	100	76	24	100	69	31	100	70	30
PCB149	100	78	22	100	67	33	100	69	31
PCB123	100	97	3	100	85	15	100	88	12
PCB118	100	84	17	100	78	22	100	80	20
PCB114	100	103	3	100	85	15	100	88	12
PCB153	100	81	19	100	76	24	100	80	20
PCB168+132	200	168	16	200	162	19	200	159	20
PCB105	100	86	14	100	83	17	100	84	16
PCB141	100	88	12	100	88	12	100	89	11
PCB137	0	0	NA	100	105	5	100	103	3
PCB138	100	81	19	100	77	23	100	78	22
PCB158	100	80	20	100	77	23	100	74	26
PCB126	100	98	2	100	101	1	100	98	2
PCB187	100	73	27	100	70	30	100	69	31
PCB183	100	76	24	100	74	26	100	71	29
PCB128	100	88	12	100	85	15	100	87	13
PCB167	100	87	13	100	88	12	100	84	16
PCB174	100	86	14	100	87	13	100	85	15
PCB177	100	77	23	100	73	27	100	74	26
PCB156	100	98	2	100	95	5	100	96	4
PCB199 (200)	100	68	32	100	61	39	100	60	40
PCB157	100	94	6	100	85	15	100	86	14
PCB180	100	83	17	100	80	20	100	79	21
PCB169	100	114	14	100	113	13	100	113	13
PCB170	100	89	11	100	86	14	100	82	18
PCB201	100	90	10	100	82	18	100	81	19
PCB203	0	0	NA	100	88	12	100	86	14
PCB189	100	103	3	100	99	1	100	95	5
PCB195	100	85	15	100	81	19	100	79	21
PCB194	100	83	17	100	77	23	100	75	25
PCB206	100	76	24	100	67	33	100	65	35
PCB209	100	80	20	100	73	27	100	72	28
Average	-	-	16	-	-	19	-	-	19

Polynuclear

Aromatic

Hydrocarbons

(PAHs)

PHYSIS

Summary of Internal Standards

TERRA FACTORY AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

	D10-Anthracene		D-12 Perylene	
	Response	Retention Time	Response	Retention Time
Spex_500ICV	8518860	31.776	6676846	76.304
B_4006	18797637	31.763	4879235	76.339
BS1_6004	31034611	31.746	11881540	76.279
BS2_6004	22460040	31.754	12298059	76.287
22571MS1	22559348	31.745	8852006	76.272
22571MS2	24322752	31.744	11158657	76.266
22576	22582235	31.746	7689117	76.283
22551	33341759	31.747	13965349	76.263
22552	22210350	31.749	10257717	76.261
22553	25818801	31.749	12463985	76.266
22554	28158917	31.747	11730646	76.274
22555	29573722	31.745	13259406	76.268
22556	23414489	31.75	9935255	76.287
PAH500CCV	15646537	31.785	13145490	76.301
22557	25592442	31.749	7234553	76.305
22571	24936917	31.754	10580983	76.282
22571R2	19644983	31.752	9093758	76.283
22572	21823474	31.749	8802667	76.296
22573	29033002	31.743	10270644	76.258
22574	21236974	31.756	9740521	76.28
22575	26494227	31.749	8608615	76.305
22599	21764890	31.75	8032114	76.275
22600	23906778	31.753	10682688	76.271
PAH500FCV	17294450	31.783	12336687	76.306

	D10-Anthracene		D-12 Perylene	
	Response	Retention Time	Response	Retention Time
Spex_500ICV	11039117	32.274	9032556	76.821
B_5136	47106981	32.269	35077910	76.835
BS1_5136	51269212	32.271	34626674	76.844
BS2_5136	52381612	32.277	40524418	76.851
22483MS1	48560826	32.273	21718129	76.829
22483MS2	40969142	32.268	18403787	76.824
22492	48057079	32.298	24550516	76.914
22482	46232531	32.28	32552224	76.856
22483	47341236	32.277	13458527	76.831
22483R2	41063828	32.264	12336719	76.826
22484	39534965	32.273	35235605	76.85
22485	45278710	32.271	23361049	76.833
PAH500CCV	15986506	32.258	13706866	76.819
22486	41318754	32.266	36421156	76.846
22487	46279734	32.265	32512022	76.842
22488	55345454	32.264	35242516	76.849
22489	46215395	32.263	32509955	76.842
22490	49436540	32.268	31539642	76.846
22491	56858687	32.271	36081046	76.858
22546	45091304	32.264	27302323	76.834
22547	45498490	32.265	32419918	76.85
22548	43743344	32.264	28662849	76.834
22549	29107423	32.264	26134977	76.844
22550	45097826	32.271	43707997	76.855
PAH500FCV	15477202	32.256	12477923	76.818

PHYSIS

Initial Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\

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Method File : Q_PAH140411.M

Title : PAH

Last Update : Tue Jun 03 11:29:59 2014

Response Via : Initial Calibration

Calibration Files

500 =SPEXMIX500_100ICV.D 250 =PAH250.D 1000=PAH1000.D 100 =PAH100.D 50 =PAH50.D 25 =PAH25.D

Compound		500	250	1000	100	50	25	Avg	%RSD

1) I	d10-Anthracene	-----ISTD-----							
2) S	(d8-Naphthalene)	1.213	1.007	0.376	0.923	0.870	0.885	0.879	31.49
3) S	(d10-Acenaphth...	0.671	0.606	0.519	0.573	0.548	0.553	0.578	9.29
4) S	(d10-Phenanthr...	1.058	1.054	1.045	1.054	1.034	1.037	1.047	0.93
5) S	(d12-Chrysene)	1.109	1.189	1.230	1.170	1.241	1.224	1.194	4.16
6) S	(d12-Perylene)	1.082	1.162	1.202	1.129	1.244	1.208	1.171	5.04
7)	Naphthalene	1.169	0.977		0.883	0.839	0.851	0.944	14.52
8)	2-Methylnaphth...	0.823	0.707		0.655	0.622	0.625	0.686	12.20
9)	1-Methylnaphth...	0.729	0.631		0.582	0.553	0.558	0.611	11.95
10)	Biphenyl	1.013	0.888		0.831	0.781	0.787	0.860	11.12
11)	2,6-Dimethylna...	0.737	0.656		0.608	0.572	0.577	0.630	10.88
12)	Acenaphthylene	1.089	0.960		0.919	0.872	0.886	0.945	9.21
13)	Acenaphthene	0.704	0.630		0.602	0.570	0.570	0.615	9.09
14)	2,3,5-Trimethy...	0.673	0.625	0.577	0.596	0.564	0.587	0.604	6.60
15)	Fluorene	0.787	0.732	0.694	0.709	0.706	0.726	0.726	4.59
16)	Dibenzothiophene	1.022	1.009	0.985	1.001	0.981	0.990	0.998	1.59
17)	Phenanthrene	1.081	1.065	1.060	1.053	1.026	1.012	1.050	2.46
18)	Anthracene	1.047	1.043	1.059	1.031	1.010	1.018	1.035	1.79
19)	1-Methylphenan...	0.750	0.775	0.822	0.774	0.753	0.795	0.778	3.51
20)	Fluoranthene	1.105	1.146	1.215	1.137	1.143	1.151	1.149	3.13
21)	Pyrene	1.127	1.179	1.220	1.178	1.174	1.176	1.176	2.52
22)	Benz[a]anthracene	1.067	1.125	1.177	1.117	1.192	1.205	1.147	4.62
23)	Chrysene	1.045	1.107	1.157	1.096	1.155	1.141	1.117	3.87
24)	Benzo[b]fluora...	1.144	1.217	1.232	1.158	1.216	1.209	1.196	3.01
25)	Benzo[k]fluora...	1.250	1.322	1.339	1.259	1.421	1.312	1.317	4.71
26)	Benzo[e]pyrene	1.142	1.221	1.198	1.176	1.244	1.279	1.210	4.04
27)	Benzo[a]pyrene	1.122	1.198	1.196	1.123	1.235	1.198	1.179	3.90
28)	Perylene	1.136	1.220	1.212	1.164	1.271	1.283	1.214	4.75

29) I	d12-Benzo[g,h,i]pe...	-----ISTD-----							
30)	Indeno[1,2,3-c...	1.359	1.351	1.394	1.332	1.320	1.250	1.334	3.64
31)	Dibenz[a,h]ant...	1.340	1.322	1.355	1.310	1.308	1.376	1.335	2.04
32)	Benzo[g,h,i]pe...	1.417	1.451	1.416	1.450	1.419	1.448	1.434	1.25

(#)= Out of Range

Method Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Method File : Q_PAH140411.M
 Title : PAH
 Last Update : Mon May 12 18:27:49 2014
 Response Via : Initial Calibration

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Calibration Files

500 =PAH500ICV.D 250 =PAH250.D 1000=BS1_5129.D 100 =PAH100.D 50 =PAH50.D 25 =PAH25.D

Compound		500	250	1000	100	50	25	Avg	%RSD

1) I	d10-Anthracene	-----ISTD-----							
2) S	(d8-Naphthalene)	1.213	1.007	0.376	0.923	0.870	0.885	0.879	31.49
3) S	(d10-Acenaphth...	0.671	0.606	0.519	0.573	0.548	0.553	0.578	9.29
4) S	(d10-Phenanthr...	1.058	1.054	1.045	1.054	1.034	1.037	1.047	0.93
5) S	(d12-Chrysene)	1.109	1.189	1.230	1.170	1.241	1.224	1.194	4.16
6) S	(d12-Perylene)	1.082	1.162	1.202	1.129	1.244	1.208	1.171	5.04
7)	Naphthalene	1.169	0.977		0.883	0.839	0.851	0.944	14.52
8)	2-Methylnaphth...	0.823	0.707		0.655	0.622	0.625	0.686	12.20
9)	1-Methylnaphth...	0.729	0.631		0.582	0.553	0.558	0.611	11.95
10)	Biphenyl	1.013	0.888		0.831	0.781	0.787	0.860	11.12
11)	2,6-Dimethylna...	0.737	0.656		0.608	0.572	0.577	0.630	10.88
12)	Acenaphthylene	1.089	0.960		0.919	0.872	0.886	0.945	9.21
13)	Acenaphthene	0.704	0.630		0.602	0.570	0.570	0.615	9.09
14)	2,3,5-Trimethy...	0.673	0.625	0.577	0.596	0.564	0.587	0.604	6.60
15)	Fluorene	0.787	0.732	0.694	0.709	0.706	0.726	0.726	4.59
16)	Dibenzothiophene	1.022	1.009	0.985	1.001	0.981	0.990	0.998	1.59
17)	Phenanthrene	1.081	1.065	1.060	1.053	1.026	1.012	1.050	2.46
18)	Anthracene	1.047	1.043	1.059	1.031	1.010	1.018	1.035	1.79
19)	1-Methylphenan...	0.750	0.775	0.822	0.774	0.753	0.795	0.778	3.51
20)	Fluoranthene	1.105	1.146	1.215	1.137	1.143	1.151	1.149	3.13
21)	Pyrene	1.127	1.179	1.220	1.178	1.174	1.176	1.176	2.52
22)	Benz[a]anthracene	1.067	1.125	1.177	1.117	1.192	1.205	1.147	4.62
23)	Chrysene	1.045	1.107	1.157	1.096	1.155	1.141	1.117	3.87
24)	Benzo[b]fluora...	1.144	1.217	1.232	1.158	1.216	1.209	1.196	3.01
25)	Benzo[k]fluora...	1.250	1.322	1.339	1.259	1.421	1.312	1.317	4.71
26)	Benzo[e]pyrene	1.142	1.221	1.198	1.176	1.244	1.279	1.210	4.04
27)	Benzo[a]pyrene	1.122	1.198	1.196	1.123	1.235	1.198	1.179	3.90
28)	Perylene	1.136	1.220	1.212	1.164	1.271	1.283	1.214	4.75

29) I	d12-Benzo[g,h,i]pe...	-----ISTD-----							
30)	Indeno[1,2,3-c...	1.359	1.351	1.394	1.332	1.320	1.250	1.334	3.64
31)	Dibenz[a,h]ant...	1.340	1.322	1.355	1.310	1.308	1.376	1.335	2.04
32)	Benzo[g,h,i]pe...	1.417	1.451	1.416	1.450	1.419	1.448	1.434	1.25

(#) = Out of Range

PHYSIS

Continuing Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : SPEXMIX500_100ICV.D
 Acq On : 27 May 2014 06:56 pm
 Operator :
 Sample : SPEXMIX500_100ICV
 Misc :
 ALS Vial : 106 Sample Multiplier: 1

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Quant Time: Jun 03 11:29:21 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Mon Apr 21 14:15:24 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	31.776	188	8518860m	2000.00		-0.48
29) d12-Benzo[g,h,i]perylene	76.304	288	6676846m	2000.00		-0.51
System Monitoring Compounds						
2) (d8-Naphthalene)	12.764	136	4957453	1324.16		-0.44
3) (d10-Acenaphthene)	20.622	164	2588207m	1050.57		-0.73
4) (d10-Phenanthrene)	31.370	188	4056019m	909.48		-0.50
5) (d12-Chrysene)	55.037	240	4012162	788.93		0.27
6) (d12-Perylene)	67.179	264	3927635m	787.24		0.73
Target Compounds						
					Qvalue	
7) Naphthalene	12.817	128	2781091m	582.81		
8) 2-Methylnaphthalene	15.212	142	1754255m	518.84		
9) 1-Methylnaphthalene	15.648	142	1829316m	609.92		
10) Biphenyl	17.435	154	2098982m	502.06		
11) 2,6-Dimethylnaphthalene	18.226	156	1476545m	484.14		
12) Acenaphthylene	19.678	152	2180190m	484.29		
13) Acenaphthene	20.815	153	1537162m	526.33		
14) 2,3,5-Trimethylnaphtha...	23.504	170	1209169m	475.04		
15) Fluorene	24.225	166	1697983m	558.93		
16) Dibenzothiophene	30.528	184	2201167m	520.47		
17) Phenanthrene	31.543	178	2420888m	534.07		
18) Anthracene	31.919	178	1815946m	403.85		
19) 1-Methylphenanthrene	36.984	192	1593101	464.03		98
20) Fluoranthene	41.906	202	2356823	465.05		100
21) Pyrene	43.758	202	2495067	488.08		100
22) Benz[a]anthracene	54.925	228	2007156	408.45		100
23) Chrysene	55.253	228	2240664m	464.10		
24) Benzo[b]fluoranthene	64.266	252	2335100m	451.58		
25) Benzo[k]fluoranthene	64.459	252	2355938m	418.62		
26) Benzo[e]pyrene	66.337	252	2186566m	431.96		
27) Benzo[a]pyrene	66.702	252	2160880m	429.20		
28) Perylene	67.362	252	2060656m	403.93		
30) Indeno[1,2,3-c,d]pyrene	74.873	276	2197250m	475.43		
31) Dibenz[a,h]anthracene	75.167	278	2213477m	490.96		
32) Benzo[g,h,i]perylene	76.456	276	2517025m	531.61		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : PAH500CCV.D
 Acq On : 29 May 2014 05:07 am
 Operator :
 Sample : PAH500CCV
 Misc :
 ALS Vial : 103 Sample Multiplier: 1

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Quant Time: Jun 03 11:31:30 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Tue Jun 03 11:29:59 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	31.785	188	15646537	2000.00		0.00
29) d12-Benzo[g,h,i]perylene	76.301	288	13145490	2000.00		0.00
System Monitoring Compounds						
2) (d8-Naphthalene)	12.757	136	7810003	1135.78		0.00
3) (d10-Acenaphthene)	20.615	164	4607840	1018.33		0.00
4) (d10-Phenanthrene)	31.376	188	7494227	914.92		0.00
5) (d12-Chrysene)	55.053	240	8040594	860.82		0.02
6) (d12-Perylene)	67.185	264	8087048	882.53		0.00
Target Compounds						Qvalue
7) Naphthalene	12.814	128	3705517	422.79		100
8) 2-Methylnaphthalene	15.204	142	2567847	413.50		99
9) 1-Methylnaphthalene	15.637	142	2334673	423.81		98
10) Biphenyl	17.438	154	3222929	419.72		100
11) 2,6-Dimethylnaphthalene	18.229	156	2424066	432.75		99
12) Acenaphthylene	19.669	152	3643391	440.64		100
13) Acenaphthene	20.804	153	2388287	445.23		97
14) 2,3,5-Trimethylnaphtha...	23.506	170	2335638	499.58		98
15) Fluorene	24.237	166	2669326	478.40		99
16) Dibenzothiophene	30.533	184	3518093	452.91		100
17) Phenanthrene	31.552	178	3814244	458.14		100
18) Anthracene	31.929	178	3794476	459.44		100
19) 1-Methylphenanthrene	37.005	192	2784998	441.66		98
20) Fluoranthene	41.932	202	3976449	427.20		100
21) Pyrene	43.779	202	4114157	438.18		100
22) Benz[a]anthracene	54.939	228	3645588	403.91		100
23) Chrysene	55.274	228	3770149	425.16		100
24) Benzo[b]fluoranthene	64.273	252	3807436	400.89		100
25) Benzo[k]fluoranthene	64.473	252	4191122	405.46		100
26) Benzo[e]pyrene	66.338	252	3834161	412.40		100
27) Benzo[a]pyrene	66.714	252	3819835	413.08		100
28) Perylene	67.376	252	3977279	424.47		100
30) Indeno[1,2,3-c,d]pyrene	74.876	276	3886134	427.09		100
31) Dibenz[a,h]anthracene	75.177	278	3894567	438.76		100
32) Benzo[g,h,i]perylene	76.465	276	4275013	458.60		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : PAH500FCV.D
 Acq On : 30 May 2014 04:35 am
 Operator :
 Sample : PAH500FCV
 Misc :
 ALS Vial : 103 Sample Multiplier: 1

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Quant Time: Jun 03 11:33:54 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Tue Jun 03 11:29:59 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	31.783	188	17294450	2000.00		0.00
29) d12-Benzo[g,h,i]perylene	76.306	288	12336687	2000.00		0.00
System Monitoring Compounds						
2) (d8-Naphthalene)	12.755	136	8382739	1102.92		0.00
3) (d10-Acenaphthene)	20.615	164	4977593	995.22		0.00
4) (d10-Phenanthrene)	31.374	188	8153550	900.57		0.00
5) (d12-Chrysene)	55.056	240	8719891	844.59		0.02
6) (d12-Perylene)	67.191	264	8293354	818.81		0.01
Target Compounds						Qvalue
7) Naphthalene	12.813	128	3987124	411.57		100
8) 2-Methylnaphthalene	15.210	142	2773251	404.02		98
9) 1-Methylnaphthalene	15.639	142	2481032	407.47		99
10) Biphenyl	17.443	154	3469986	408.84		100
11) 2,6-Dimethylnaphthalene	18.239	156	2606601	420.99		99
12) Acenaphthylene	19.670	152	3943309	431.47		100
13) Acenaphthene	20.809	153	2583556	435.74		98
14) 2,3,5-Trimethylnaphtha...	23.505	170	2480681	480.05		98
15) Fluorene	24.240	166	2915245	472.69		97
16) Dibenzothiophene	30.531	184	3861933	449.80		100
17) Phenanthrene	31.551	178	4158243	451.87		100
18) Anthracene	31.927	178	4194729	459.51		100
19) 1-Methylphenanthrene	37.019	192	2987880	428.68		98
20) Fluoranthene	41.951	202	4194723	407.71		100
21) Pyrene	43.795	202	4349973	419.15		100
22) Benz[a]anthracene	54.947	228	3767813	377.68		100
23) Chrysene	55.278	228	4089631	417.25		100
24) Benzo[b]fluoranthene	64.281	252	3834927	365.31		100
25) Benzo[k]fluoranthene	64.477	252	4321996	378.28		100
26) Benzo[e]pyrene	66.340	252	3863132	375.92		100
27) Benzo[a]pyrene	66.723	252	3843950	376.08		100
28) Perylene	67.379	252	4024005	388.54		100
30) Indeno[1,2,3-c,d]pyrene	74.886	276	3434400	402.19		100
31) Dibenz[a,h]anthracene	75.193	278	3566536	428.14		100
32) Benzo[g,h,i]perylene	76.470	276	3970276	453.83		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PAH500 ICV			PAH500 CCV			PAH500 FCV		
	5/27/14 6:56 PM			5/29/14 5:07 AM			5/30/14 4:35 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
d8-Naphthalene	1000	1324	32	1000	1136	14	1000	1103	10
d10-Acenaphthene	1000	1051	5	1000	1018	2	1000	995	0
d10-Phenanthrene	1000	909	9	1000	915	9	1000	901	10
d10-Chrysene	1000	789	21	1000	861	14	1000	845	16
d12-Perylene	1000	787	21	1000	883	12	1000	819	18
Naphthalene	500	583	17	500	423	15	500	412	18
2-Methylnaphthalene	500	519	4	500	414	17	500	404	19
1-Methylnaphthalene	500	610	22	500	424	15	500	407	19
Biphenyl	500	502	0	500	420	16	500	409	18
2,6-Dimethylnaphthalene	500	484	3	500	433	13	500	421	16
Acenaphthylene	500	484	3	500	441	12	500	431	14
Acenaphthene	500	526	5	500	445	11	500	436	13
2,3,5-Trimethylnaphthalene	500	475	5	500	500	0	500	480	4
Fluorene	500	559	12	500	478	4	500	473	5
Dibenzothiophene	500	520	4	500	453	9	500	450	10
Phenanthrene	500	534	7	500	458	8	500	452	10
Anthracene	500	404	19	500	459	8	500	460	8
1-Methylphenanthrene	500	464	7	500	442	12	500	429	14
Fluoranthene	500	465	7	500	427	15	500	408	18
Pyrene	500	488	2	500	438	12	500	419	16
Benz[a]anthracene	500	408	18	500	404	19	500	378	24
Chrysene	500	464	7	500	425	15	500	417	17
Benzo[b]fluoranthene	500	452	10	500	401	20	500	365	27
Benzo[k]fluoranthene	500	419	16	500	405	19	500	378	24
Benzo[e]pyrene	500	432	14	500	412	18	500	376	25
Benzo[a]pyrene	500	429	14	500	413	17	500	376	25
Perylene	500	404	19	500	424	15	500	389	22
Indeno[1,2,3-c,d]pyrene	500	475	5	500	427	15	500	402	20
Dibenz[a,h]anthracene	500	491	2	500	439	12	500	428	14
Benzo[g,h,i]perylene	500	532	6	500	459	8	500	454	9
Average	-	-	11	-	-	13	-	-	15

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Data File : PAH500ICV.D
 Acq On : 09 May 2014 10:03 am
 Operator :
 Sample : PAH500ICV
 Misc :
 ALS Vial : 121 Sample Multiplier: 1

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Quant Time: May 12 18:27:21 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140422 EI O-5129\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Tue Apr 29 13:41:05 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	32.274	188	11039117m	2000.00		-1.60
29) d12-Benzo[g,h,i]perylene	76.821	288	9032556m	2000.00		-1.88
System Monitoring Compounds						
2) (d8-Naphthalene)	13.162	136	6287098m	1295.92		-0.64
3) (d10-Acenaphthene)	21.068	164	3639575m	1140.05		-1.24
4) (d10-Phenanthrene)	31.868	188	6040549m	1045.24		-1.59
5) (d12-Chrysene)	55.557	240	6481009m	983.45		-1.79
6) (d12-Perylene)	67.697	264	6559963m	1014.67		-1.83
Target Compounds						
7) Naphthalene	13.223	128	3261379m	527.42		Qvalue
8) 2-Methylnaphthalene	15.618	142	2226013m	508.06		
9) 1-Methylnaphthalene	16.064	142	2276125m	585.64		
10) Biphenyl	17.820	154	2720910m	502.24		
11) 2,6-Dimethylnaphthalene	18.622	156	1947963m	492.89		
12) Acenaphthylene	20.104	152	2977699m	510.44		
13) Acenaphthene	21.261	153	2017762m	533.16		
14) 2,3,5-Trimethylnaphtha...	23.971	170	1627602m	493.44		
15) Fluorene	24.692	166	2337082m	593.67		
16) Dibenzothiophene	31.025	184	2944908m	537.36		
17) Phenanthrene	32.050	178	3264308m	555.73		
18) Anthracene	32.416	178	2482132m	425.98		
19) 1-Methylphenanthrene	37.491	192	2264986m	509.11		
20) Fluoranthene	42.424	202	3365316m	512.44		
21) Pyrene	44.271	202	3554858m	536.64		
22) Benz[a]anthracene	55.446	228	3272139m	513.85		
23) Chrysene	55.781	228	3337959m	533.53		
24) Benzo[b]fluoranthene	64.784	252	3712246m	554.01		
25) Benzo[k]fluoranthene	64.987	252	3640016m	499.12		
26) Benzo[e]pyrene	66.854	252	3338021m	508.89		
27) Benzo[a]pyrene	67.220	252	3329008m	510.26		
28) Perylene	67.879	252	3231516m	488.83		
30) Indeno[1,2,3-c,d]pyrene	75.390	276	3380439m	540.68		
31) Dibenz[a,h]anthracene	75.695	278	3154315m	517.17		
32) Benzo[g,h,i]perylene	76.984	276	3634702m	567.46		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Data File : PAH500CCV2.D
 Acq On : 10 May 2014 08:13 am
 Operator :
 Sample : PAH500CCV2
 Misc :
 ALS Vial : 122 Sample Multiplier: 1

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Quant Time: May 12 18:29:00 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Mon May 12 17:32:57 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	32.258	188	15986506	2000.00		-0.02
29) d12-Benzo[g,h,i]perylene	76.819	288	13706866	2000.00		0.00
System Monitoring Compounds						
2) (d8-Naphthalene)	13.009	136	8445158	1202.04		-0.15
3) (d10-Acenaphthene)	21.010	164	4936232	1067.70		-0.06
4) (d10-Phenanthrene)	31.852	188	8651563	1033.75		-0.02
5) (d12-Chrysene)	55.558	240	9657890	1011.98		0.00
6) (d12-Perylene)	67.697	264	9271050	990.23		0.00
Target Compounds						
					Qvalue	
7) Naphthalene	13.068	128	3722850	415.73		100
8) 2-Methylnaphthalene	15.504	142	2646788	417.15		100
9) 1-Methylnaphthalene	15.960	142	2400983	426.58		99
10) Biphenyl	17.733	154	3262483	415.84		100
11) 2,6-Dimethylnaphthalene	18.540	156	2422670	423.30		100
12) Acenaphthylene	20.045	152	3671051	434.54		100
13) Acenaphthene	21.202	153	2374122	433.18		99
14) 2,3,5-Trimethylnaphtha...	23.925	170	2339838	489.84		100
15) Fluorene	24.646	166	2724934	477.98		98
16) Dibenzothiophene	31.001	184	3713360	467.88		100
17) Phenanthrene	32.029	178	4106427	482.74		100
18) Anthracene	32.402	178	4015498	475.86		100
19) 1-Methylphenanthrene	37.478	192	2898246	449.84		98
20) Fluoranthene	42.416	202	4351374	457.54		100
21) Pyrene	44.271	202	4538144	473.06		100
22) Benz[a]anthracene	55.437	228	3990026	432.67		100
23) Chrysene	55.774	228	4129033	455.73		100
24) Benzo[b]fluoranthene	64.786	252	4218519	434.73		100
25) Benzo[k]fluoranthene	64.984	252	4460020	422.30		100
26) Benzo[e]pyrene	66.857	252	4245113	446.89		100
27) Benzo[a]pyrene	67.219	252	4012411	424.68		100
28) Perylene	67.883	252	4184983	437.14		100
30) Indeno[1,2,3-c,d]pyrene	75.380	276	4041529m	425.98		
31) Dibenz[a,h]anthracene	75.697	278	3747284	404.87		100
32) Benzo[g,h,i]perylene	76.981	276	4662600	479.70		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\
 Data File : PAH500FCV.D
 Acq On : 12 May 2014 04:20 am
 Operator :
 Sample : PAH500FCV
 Misc :
 ALS Vial : 122 Sample Multiplier: 1

Page 309 of 389

Quant Time: May 12 18:29:24 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140506 EI O-5134 5136\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Mon May 12 17:32:57 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	32.256	188	15477202	2000.00		-0.02
29) d12-Benzo[g,h,i]perylene	76.818	288	12477923	2000.00		0.00
System Monitoring Compounds						
2) (d8-Naphthalene)	13.010	136	8919278	1311.29		-0.15
3) (d10-Acenaphthene)	21.009	164	5076760	1134.23		-0.06
4) (d10-Phenanthrene)	31.851	188	8408495	1037.77		-0.02
5) (d12-Chrysene)	55.552	240	8830853	955.77		0.00
6) (d12-Perylene)	67.695	264	8381190	924.64		0.00
Target Compounds						
					Qvalue	
7) Naphthalene	13.069	128	3950193	455.63		100
8) 2-Methylnaphthalene	15.504	142	2777705	452.18		99
9) 1-Methylnaphthalene	15.960	142	2517118	461.93		99
10) Biphenyl	17.733	154	3416611	449.81		100
11) 2,6-Dimethylnaphthalene	18.539	156	2507706	452.57		99
12) Acenaphthylene	20.044	152	3719374	454.75		100
13) Acenaphthene	21.202	153	2442468	460.32		99
14) 2,3,5-Trimethylnaphtha...	23.924	170	2364359	511.26		99
15) Fluorene	24.645	166	2729890	494.61		99
16) Dibenzothiophene	30.998	184	3627586	472.12		100
17) Phenanthrene	32.028	178	3994299	485.01		100
18) Anthracene	32.400	178	3859675	472.45		100
19) 1-Methylphenanthrene	37.474	192	2751236	441.08		99
20) Fluoranthene	42.407	202	4062909	441.26		100
21) Pyrene	44.264	202	4252000	457.82		100
22) Benz[a]anthracene	55.436	228	3675428	411.67		100
23) Chrysene	55.770	228	3764080	429.12		100
24) Benzo[b]fluoranthene	64.785	252	3900559	415.19		100
25) Benzo[k]fluoranthene	64.984	252	4108536	401.82		100
26) Benzo[e]pyrene	66.850	252	3986443	433.47		100
27) Benzo[a]pyrene	67.217	252	3650448	399.08		100
28) Perylene	67.880	252	3859175	416.38		100
30) Indeno[1,2,3-c,d]pyrene	75.390	276	3658553m	423.59		
31) Dibenz[a,h]anthracene	75.699	278	3244797	385.11		100
32) Benzo[g,h,i]perylene	76.982	276	4249837	480.29		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PAH500 ICV			PAH500 CCV			PAH500 FCV		
	5/9/14 10:03 AM			5/10/14 8:13 AM			5/12/14 4:20 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
d8-Naphthalene	1000	1296	30	1000	1202	20	1000	1311	31
d10-Acenaphthene	1000	1140	14	1000	1068	7	1000	1134	13
d10-Phenanthrene	1000	1045	5	1000	1034	3	1000	1038	4
d10-Chrysene	1000	983	2	1000	1012	1	1000	956	4
d12-Perylene	1000	1015	1	1000	990	1	1000	925	8
Naphthalene	500	527	5	500	416	17	500	456	9
2-Methylnaphthalene	500	508	2	500	417	17	500	452	10
1-Methylnaphthalene	500	586	17	500	427	15	500	462	8
Biphenyl	500	502	0	500	416	17	500	450	10
2,6-Dimethylnaphthalene	500	493	1	500	423	15	500	453	9
Acenaphthylene	500	510	2	500	435	13	500	455	9
Acenaphthene	500	533	7	500	433	13	500	460	8
2,3,5-Trimethylnaphthalene	500	493	1	500	490	2	500	511	2
Fluorene	500	594	19	500	478	4	500	495	1
Dibenzothiophene	500	537	7	500	468	6	500	472	6
Phenanthrene	500	556	11	500	483	3	500	485	3
Anthracene	500	426	15	500	476	5	500	472	6
1-Methylphenanthrene	500	509	2	500	450	10	500	441	12
Fluoranthene	500	512	2	500	458	8	500	441	12
Pyrene	500	537	7	500	473	5	500	458	8
Benz[a]anthracene	500	514	3	500	433	13	500	412	18
Chrysene	500	534	7	500	456	9	500	429	14
Benzo[b]fluoranthene	500	554	11	500	435	13	500	415	17
Benzo[k]fluoranthene	500	499	0	500	422	16	500	402	20
Benzo[e]pyrene	500	509	2	500	447	11	500	433	13
Benzo[a]pyrene	500	510	2	500	425	15	500	399	20
Perylene	500	489	2	500	437	13	500	416	17
Indeno[1,2,3-c,d]pyrene	500	451	10	500	426	15	500	424	15
Dibenz[a,h]anthracene	500	517	3	500	405	19	500	385	23
Benzo[g,h,i]perylene	500	567	13	500	480	4	500	480	4
Average	-	-	7	-	-	10	-	-	11

Organics - GC-MS-NCI

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Analytical Solutions
(EPA 8270C)

PHYSIS

Instrument Run Log

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

2014 Jan 06 1735 Sequence Log .LOG
 Starting sequence Mon Jan 06 17:35:21 2014

Instrument Name: GCMSQQQ
 Sequence File: D:\MassHunter\GCMS\1\sequence\140106 NCI . sequence. xml
 Comment:
 Operator: DATASYSTEM01\Admin
 Data Path: D:\MassHunter\GCMS\1\data\140106 NCI\
 Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX	HEX_NCI	HEX
2)	Sample	131	PYR25	PYR_NCI	PYR25
3)	Sample	132	PYR50	PYR_NCI	PYR50
4)	Sample	133	PYR100	PYR_NCI	PYR100
5)	Sample	134	PYR250	PYR_NCI	PYR250
6)	Sample	135	PYR500	PYR_NCI	PYR500
7)	Sample	136	PYR1000	PYR_NCI	PYR1000
8)	Sample	121	PYR1000SPEX		
	Datafile		PYR1000SPEX		
	Method		PYR_NCI		
9)	Sample	122	TRAL01000I CV		
	Datafile		TRAL01000I CV		
	Method		PYR_NCI		
10)	Sample	111	FI P25	PYR_NCI	FI P25
11)	Sample	112	FI P50	PYR_NCI	FI P50
12)	Sample	113	FI P100	PYR_NCI	FI P100
13)	Sample	114	FI P250	PYR_NCI	FI P250
14)	Sample	115	FI P500	PYR_NCI	FI P500
15)	Sample	116	FI P1000	PYR_NCI	FI P1000
16)	Sample	101	TOX10000I CV		
	Datafile		TOX10000I CV		
	Method		PYR_NCI		
17)	Sample	141	HEX2	HEX_NCI	HEX2
18)	Sample	1	B_5057	PYR_NCI	B_5057
19)	Sample	2	BS1_5057	PYR_NCI	BS1_5057
20)	Sample	3	BS2_5057	PYR_NCI	BS2_5057
21)	Sample	4	22628MS1	PYR_NCI	22628MS1
22)	Sample	5	22628MS2	PYR_NCI	22628MS2
23)	Sample	141	HEX3	HEX_NCI	HEX3
24)	Sample	6	22644	PYR_NCI	22644
25)	Sample	7	22628	PYR_NCI	22628
26)	Sample	8	22628R2	PYR_NCI	22628R2
27)	Sample	9	22629	PYR_NCI	22629
28)	Sample	10	22630	PYR_NCI	22630
29)	Sample	11	22631	PYR_NCI	22631
30)	Sample	12	22632	PYR_NCI	22632
31)	Sample	13	22633	PYR_NCI	22633
32)	Sample	14	22634	PYR_NCI	22634
33)	Sample	136	PYR1000CCV		
	Datafile		PYR1000CCV		
	Method		PYR_NCI		
34)	Sample	116	FI P1000CCV		
	Datafile		FI P1000CCV		
	Method		PYR_NCI		
35)	Sample	101	TOX10000CCV		
	Datafile		TOX10000CCV		
	Method		PYR_NCI		
36)	Sample	141	HEX4	HEX_NCI	HEX4
37)	Sample	15	22635	PYR_NCI	22635
38)	Sample	16	22636	PYR_NCI	22636
39)	Sample	17	22637	PYR_NCI	22637
40)	Sample	18	22638	PYR_NCI	22638

2014 Jan 06 1735 Sequence Log . LOG

41)	Sample	19	22639	PYR_NCI	22639
42)	Sample	20	22640	PYR_NCI	22640
43)	Sample	21	22641	PYR_NCI	22641
44)	Sample	22	22642	PYR_NCI	22642
45)	Sample	23	22643	PYR_NCI	22643
46)	Sample	24	22743	PYR_NCI	22743
47)	Sample	25	22744	PYR_NCI	22744
48)	Sample	136	PYR1000FCV		
	Datafile		PYR1000FCV		
	Method		PYR_NCI		
49)	Sample	116	FIP1000FCV		
	Datafile		FIP1000FCV		
	Method		PYR_NCI		
50)	Sample	101	TOX10000FCV		
	Datafile		TOX10000FCV		
	Method		PYR_NCI		
51)	Sample	31	22573	PYR_NCI	22573
52)	Sample	32	22574	PYR_NCI	22574
53)	Sample	33	22575	PYR_NCI	22575
54)	Sample	34	22599	PYR_NCI	22599
55)	Sample	35	22600	PYR_NCI	22600

Sequence completed Thu Jan 09 01:51:34 2014

D:\MassHunter\GCMS\1\data\140106 NCI\2014 Jan 06 1735 Sequence Log . LOG

2013 Nov 14 1434 Sequence Log .LOG
 Starting sequence Thu Nov 14 14:34:14 2013

Instrument Name: GCMSQQQ
 Sequence File: D:\MASSHUNTER\GCMS\1\SEQUENCE\131113 NCI . sequence. xml
 Comment:
 Operator: DATASYSTEM01\Admin
 Data Path: D:\MassHunter\GCMS\1\data\131114 NCI\
 Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX	HEX_NCI	HEX
2)	Sample	121	FIP25	PYR_NCI	FIP25
3)	Sample	122	FIP50	PYR_NCI	FIP50
4)	Sample	123	FIP100	PYR_NCI	FIP100
5)	Sample	124	FIP250	PYR_NCI	FIP250
6)	Sample	125	FIP500	PYR_NCI	FIP500
7)	Sample	126	FIP1000	PYR_NCI	FIP1000
8)	Sample	131	PYR25	PYR_NCI	PYR25
9)	Sample	132	PYR50	PYR_NCI	PYR50
10)	Sample	133	PYR100	PYR_NCI	PYR100
11)	Sample	134	PYR250	PYR_NCI	PYR250
12)	Sample	135	PYR500	PYR_NCI	PYR500
13)	Sample	136	PYR1000	PYR_NCI	PYR1000
14)	Sample	138	TRAL01000I CV		
	Datafile		TRAL01000I CV		
	Method		PYR_NCI		
15)	Sample	101	TOX10000I CV		
	Datafile		TOX10000I CV		
	Method		PYR_NCI		
16)	Sample	137	PYR1000SPEX		
	Datafile		PYR1000SPEX		
	Method		PYR_NCI		
17)	Sample	141	HEX2	HEX_NCI	HEX2
18)	Sample	1	B_5039	PYR_NCI	B_5039
19)	Sample	2	BS1_5039	PYR_NCI	BS1_5039
20)	Sample	3	BS2_5039	PYR_NCI	BS2_5039
21)	Sample	4	22571MS1	PYR_NCI	22571MS1
22)	Sample	5	22571MS2	PYR_NCI	22571MS2
23)	Sample	141	HEX3	HEX_NCI	HEX3
24)	Sample	6	22576	PYR_NCI	22576
25)	Sample	7	22551	PYR_NCI	22551
26)	Sample	31	22551RE	PYR_NCI	22551RE
27)	Sample	8	22552	PYR_NCI	22552
28)	Sample	9	22553	PYR_NCI	22553
29)	Sample	10	22554	PYR_NCI	22554
30)	Sample	11	22555	PYR_NCI	22555
31)	Sample	12	22556	PYR_NCI	22556
32)	Sample	13	22557	PYR_NCI	22557
33)	Sample	126	FIP1000CCV		
	Datafile		FIP1000CCV		
	Method		PYR_NCI		
34)	Sample	136	PYR1000CCV		
	Datafile		PYR1000CCV		
	Method		PYR_NCI		
35)	Sample	101	TOX10000CCV		
	Datafile		TOX10000CCV		
	Method		PYR_NCI		
36)	Sample	141	HEX4	HEX_NCI	HEX4
37)	Sample	14	22571	PYR_NCI	22571
38)	Sample	15	22571R2	PYR_NCI	22571R2
39)	Sample	16	22572	PYR_NCI	22572

2013 Nov 14 1434 Sequence Log .LOG

Sat Nov 16 07:01:04 2013

Fatal sequence error detected.

MS is in fault state: QqQ fault detected: 2.5 Emission current controller cannot regulate the requested setting after a fixed amount of time.

D: \MassHunter\GCMS\1\data\131114 NCI\2013 Nov 14 1434 Sequence Log .LOG

2013 Nov 17 1108 Sequence Log .LOG
 Starting sequence Sat Nov 16 21:56:01 2013

Instrument Name: GCMSQQQ
 Sequence File: D:\MASSHUNTER\GCMS\1\SEQUENCE\131113 NCI . sequence. xml
 Comment:
 Operator: DATASYSTEM01\Admin
 Data Path: D:\MassHunter\GCMS\1\data\131116 NCI\
 Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
33)	Sample	126	FIP1000CCV		
	Datafile		FIP1000CCV		
	Method		PYR_NCI		
34)	Sample	136	PYR1000CCV		
	Datafile		PYR1000CCV		
	Method		PYR_NCI		
35)	Sample	101	TOX10000CCV		
	Datafile		TOX10000CCV		
	Method		PYR_NCI		
36)	Sample	141	HEX4	HEX_NCI	HEX4

Sun Nov 17 01:43:14 2013
 Fatal sequence error detected.
 There was no bottle in the gripper.

D:\MassHunter\GCMS\1\data\131116 NCI\2013 Nov 16 2156 Sequence Log .LOG

Resuming sequence Sun Nov 17 11:08:57 2013

Instrument Name: GCMSQQQ
 Sequence File: D:\MASSHUNTER\GCMS\1\SEQUENCE\131113 NCI . sequence. xml
 Comment:
 Operator: DATASYSTEM01\Admin
 Data Path: D:\MassHunter\GCMS\1\data\131116 NCI\
 Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
38)	Sample	14	22571RR	PYR_NCI	22571RR
39)	Sample	15	22571R2	PYR_NCI	22571R2
40)	Sample	16	22572	PYR_NCI	22572
41)	Sample	17	22573	PYR_NCI	22573
42)	Sample	17	22573RR	PYR_NCI	22573RR
43)	Sample	18	22574	PYR_NCI	22574
44)	Sample	19	22575	PYR_NCI	22575
45)	Sample	20	22599	PYR_NCI	22599
46)	Sample	21	22600	PYR_NCI	22600
47)	Sample	126	FIP1000FCV		
	Datafile		FIP1000FCV		
	Method		PYR_NCI		
48)	Sample	136	PYR1000FCV		
	Datafile		PYR1000FCV		
	Method		PYR_NCI		
49)	Sample	101	TOX10000FCV		
	Datafile		TOX10000FCV		
	Method		PYR_NCI		

Sequence completed Sun Nov 17 23:52:45 2013

D:\MassHunter\GCMS\1\data\131116 NCI\2013 Nov 17 1108 Sequence Log .LOG

2013 Nov 22 0828 Sequence Log .LOG
Starting sequence Thu Nov 21 19:07:49 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MassHunter\GCMS\1\sequence\131121 PBDE NCI . sequence.xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131121 PBDE NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX	HEX_NCI	HEX

Thu Nov 21 19:41:43 2013
Fatal sequence error detected.
There was no bottle in the gripper.

D:\MassHunter\GCMS\1\data\131121 PBDE NCI\2013 Nov 21 1907 Sequence Log .LOG

Resuming sequence Fri Nov 22 08:28:46 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MassHunter\GCMS\1\sequence\131121 PBDE NCI . sequence.xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131121 PBDE NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
3)	Sample	121	PBDE10RR		
	Datafile		PBDE10RR		
	Method		NCI -15m PBDE		
4)	Sample	122	PBDE25		
	Datafile		PBDE25		
	Method		NCI -15m PBDE		
5)	Sample	123	PBDE50		
	Datafile		PBDE50		
	Method		NCI -15m PBDE		
6)	Sample	124	PBDE75		
	Datafile		PBDE75		
	Method		NCI -15m PBDE		
7)	Sample	125	PBDE100		
	Datafile		PBDE100		
	Method		NCI -15m PBDE		
8)	Sample	126	PBDE200		
	Datafile		PBDE200		
	Method		NCI -15m PBDE		
9)	Sample	141	HEX2	HEX_NCI	HEX2
10)	Sample	1	B_5039		
	Datafile		B_5039		
	Method		NCI -15m PBDE		
11)	Sample	2	BS1_5039		
	Datafile		BS1_5039		
	Method		NCI -15m PBDE		
12)	Sample	3	BS2_5039		
	Datafile		BS2_5039		
	Method		NCI -15m PBDE		
13)	Sample	4	22571MS1		
	Datafile		22571MS1		
	Method		NCI -15m PBDE		
14)	Sample	5	22571MS2		

2013 Nov 22 0828 Sequence Log .LOG

	Datafile		22571MS2		
	Method		NCI -15m PBDE		
15)	Sample	141	HEX3	HEX_NCI	HEX3
16)	Sample	6	22576		
	Datafile		22576		
	Method		NCI -15m PBDE		
17)	Sample	7	22551RE		
	Datafile		22551RE		
	Method		NCI -15m PBDE		
18)	Sample	8	22552		
	Datafile		22552		
	Method		NCI -15m PBDE		
19)	Sample	9	22553		
	Datafile		22553		
	Method		NCI -15m PBDE		
20)	Sample	10	22554		
	Datafile		22554		
	Method		NCI -15m PBDE		
21)	Sample	11	22555		
	Datafile		22555		
	Method		NCI -15m PBDE		
22)	Sample	126	PBDE200CCV		
	Datafile		PBDE200CCV		
	Method		NCI -15m PBDE		
23)	Sample	141	HEX4	HEX_NCI	HEX4
24)	Sample	12	22556		
	Datafile		22556		
	Method		NCI -15m PBDE		
25)	Sample	13	22557		
	Datafile		22557		
	Method		NCI -15m PBDE		
26)	Sample	14	22571		
	Datafile		22571		
	Method		NCI -15m PBDE		
27)	Sample	15	22571R2		
	Datafile		22571R2		
	Method		NCI -15m PBDE		
28)	Sample	16	22572		
	Datafile		22572		
	Method		NCI -15m PBDE		
29)	Sample	17	22573		
	Datafile		22573		
	Method		NCI -15m PBDE		
30)	Sample	18	22574		
	Datafile		22574		
	Method		NCI -15m PBDE		
31)	Sample	19	22575		
	Datafile		22575		
	Method		NCI -15m PBDE		
32)	Sample	20	22599		
	Datafile		22599		
	Method		NCI -15m PBDE		
33)	Sample	21	22600		
	Datafile		22600		
	Method		NCI -15m PBDE		
34)	Sample	7	22551		
	Datafile		22551		
	Method		NCI -15m PBDE		
35)	Sample	126	PBDE200FCV		
	Datafile		PBDE200FCV		
	Method		NCI -15m PBDE		

Sequence completed Sat Nov 23 05:29:53 2013

2013 Nov 22 0828 Sequence Log .LOG

D:\MassHunter\GCMS\1\data\131121 PBDE NCI\2013 Nov 22 0828 Sequence Log .LOG

2014 May 30 1739 Sequence Log .LOG
 Starting sequence Fri May 30 17:39:40 2014

Instrument Name: GCMS3

Sequence File: D:\MassHunter\GCMS\1\sequence\Q3_140524 EI 0-6004.sequence.xml

Comment:

Operator:

Data Path: D:\MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\

Method Path: D:\MassHunter\GCMS\1\methods\checkout\

Line	Type	Vials	DataFile	Sample Name

Acquisition Method: EI Scan. M				
48)	Sample	111	TOX1000	TOX1000
49)	Sample	112	TOX2500	TOX2500
50)	Sample	113	TOX5000	TOX5000
51)	Sample	114	TOX7500	TOX7500
52)	Sample	115	TOX10000	TOX10000
53)	Sample	121	PYR25	PYR25
54)	Sample	122	PYR50	PYR50
55)	Sample	123	PYR100	PYR100
56)	Sample	124	PYR250	PYR250
57)	Sample	125	PYR500	PYR500
58)	Sample	131	FIP+RES25	FIP+RES25
59)	Sample	132	FIP+RES50	FIP+RES50
60)	Sample	133	FIP+RES100	FIP+RES100
Sequence Table edit performed Sat May 31 16:12:21 2014				
61)	Sample	134	FIP+RES250	FIP+RES250
62)	Sample	135	FIP+RES500	FIP+RES500
Acquisition Method: EI_HEX. M				
63)	Sample	141	HEX6	HEX6
Acquisition Method: EI Scan. M				
64)	Sample	91	OCP_PAH_PCB_SPE..._100	OCP_PAH_PCB_SPEX500_100
Acquisition Method: EI_HEX. M				
65)	Sample	141	HEX7	HEX7
Acquisition Method: EI Scan. M				
66)	Sample	1	B1_6004CC	B1_6004CC
Comment: 22544, NA, B1, 5/16/2014, 0-6004,				
67)	Sample	2	BS1_6004CC	BS1_6004CC
Comment: 22544, NA, BS1, 5/16/2014, 0-6004,				
68)	Sample	3	BS2_6004CC	BS2_6004CC
Comment: 22544, NA, BS2, 5/16/2014, 0-6004,				
69)	Sample	4	22571MS1CC	22571MS1CC
Comment: 22571, NA, MS1, 5/16/2014, 0-6004,				
70)	Sample	5	22571MS2CC	22571MS2CC
Comment: 22571, NA, MS2, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
71)	Sample	141	HEX3CC	HEX3CC
Acquisition Method: EI Scan. M				
72)	Sample	6	22576CC	22576CC
Comment: 22576, NA, CRM1, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
73)	Sample	141	HEX4CC	HEX4CC
Acquisition Method: EI Scan. M				
74)	Sample	7	22551CC	22551CC

2014 May 30 1739 Sequence Log . LOG

75)	Comment:	22551, NA, R1, 5/16/2014, 0-6004,	
	Sample	8	22552CC
	Comment:	22552, NA, R1, 5/16/2014, 0-6004,	22552CC
76)	Sample	9	22553CC
	Comment:	22553, NA, R1, 5/16/2014, 0-6004,	22553CC
77)	Sample	10	22554CC
	Comment:	22554, NA, R1, 5/16/2014, 0-6004,	22554CC
78)	Sample	103	PAH500CCV2
79)	Sample	105	OCP500_PCB100CCV2

Acqui si ti on Method: EI_HEX. M

80)	Sample	141	HEX52	HEX52
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Acqui si ti on Method: EI Scan. M

81)	Sample	11	22555CC	22555CC
	Comment:	22555, NA, R1, 5/16/2014, 0-6004,		
82)	Sample	12	22556CC	22556CC
	Comment:	22556, NA, R1, 5/16/2014, 0-6004,		
83)	Sample	21	22557CC	22557CC
	Comment:	22557, NA, R1, 5/16/2014, 0-6004,		
84)	Sample	13	22571CC	22571CC
	Comment:	22571, NA, R1, 5/16/2014, 0-6004,		
85)	Sample	14	22571R2CC	22571R2CC
	Comment:	22571, NA, R2, 5/16/2014, 0-6004,		
86)	Sample	15	22572CC	22572CC
	Comment:	22572, NA, R1, 5/16/2014, 0-6004,		
87)	Sample	16	22573CC	22573CC
	Comment:	22573, NA, R1, 5/16/2014, 0-6004,		
88)	Sample	17	22574CC	22574CC
	Comment:	22574, NA, R1, 5/16/2014, 0-6004,		
89)	Sample	22	22575CC	22575CC
	Comment:	22575, NA, R1, 5/16/2014, 0-6004,		
90)	Sample	18	22599CC	22599CC
	Comment:	22599, NA, R1, 5/16/2014, 0-6004,		
91)	Sample	19	22600CC	22600CC
	Comment:	22600, NA, R1, 5/16/2014, 0-6004,		
92)	Sample	103	PAH500FCV2	PAH500FCV2
93)	Sample	105	OCP500_PCB100FCV2	OCP500_PCB100FCV2
94)	Sample	61	PYR500CCV	PYR500CCV
95)	Sample	62	RES500CCV	RES500CCV

Acqui si ti on Method: EI_HEX. M

96)	Sample	141	HEX8	HEX8
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Acqui si ti on Method: EI Scan. M

97)	Sample	31	26212	26212
	Comment:	26212, NA, R1, 5/28/2014, 0-6016,		
98)	Sample	32	26213	26213
	Comment:	26213, NA, R1, 5/28/2014, 0-6016,		
99)	Sample	33	26214	26214
	Comment:	26214, NA, R1, 5/28/2014, 0-6016,		
100)	Sample	34	26215	26215
	Comment:	26215, NA, R1, 5/28/2014, 0-6016,		
101)	Sample	35	26781	26781
	Comment:	26781, NA, R1, 5/28/2014, 0-6016,		
102)	Sample	36	26782	26782
	Comment:	26782, NA, R1, 5/28/2014, 0-6016,		
103)	Sample	37	26783	26783
	Comment:	26783, NA, R1, 5/28/2014, 0-6016,		
104)	Sample	38	26784	26784
	Comment:	26784, NA, R1, 5/28/2014, 0-6016,		
105)	Sample	39	26785	26785
	Comment:	26785, NA, R1, 5/28/2014, 0-6016,		

2014 May 30 1739 Sequence Log .LOG
 Sequence Table edit performed Tue Jun 03 10:46:33 2014

106)	Sample	40	26786	26786
	Comment:	26786, NA, R1, 5/28/2014, 0-6016,		
107)	Sample	41	26787	26787
	Comment:	26787, NA, R1, 5/28/2014, 0-6016,		
108)	Sample	61	PYR500FCV	PYR500FCV
109)	Sample	62	RES500FCV	RES500FCV
110)	Sample	121	PYR25_POST	PYR25_POST
111)	Sample	122	PYR50_POST	PYR50_POST
112)	Sample	123	PYR100_POST	PYR100_POST
113)	Sample	124	PYR250_POST	PYR250_POST

Sequence completed Tue Jun 03 23:55:35 2014

D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 30 1739 Quality Log.
 D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 30 1739 Sequence Log

2014 May 27 1040 Sequence Log .LOG
Starting sequence Tue May 27 10:40:05 2014

Instrument Name: GCMS3

Sequence File: D:\MassHunter\GCMS\1\sequence\Q3_140524 EI 0-6004.sequence.xml

Comment:

Operator:

Data Path: D:\MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\

Method Path: D:\MassHunter\GCMS\1\methods\checkout\

Line	Type	Vials	DataFile	Sample Name
Acquisition Method: EI Scan. M				
2)	Sample	101	PYR_RES1000	PYR_RES1000
3)	Sample	102	TRAL0500	TRAL0500
4)	Sample	103	PAH500	PAH500
5)	Sample	104	FIP500	FIP500
6)	Sample	105	OCP500_PCB100	OCP500_PCB100
7)	Sample	106	SPEXMI X500_100I CV	SPEXMI X500_100I CV
8)	Sample	51	OXY1000I CV	OXY1000I CV
9)	Sample	51	OCY1000I CV_2	OCY1000I CV_2
10)	Sample	142	TUNE	TUNE
Acquisition Method: EI_HEX. M				
11)	Sample	141	HEX2	HEX2
Acquisition Method: EI Scan. M				
12)	Sample	1	B1_6004	B1_6004
Comment: 22544, NA, B1, 5/16/2014, 0-6004,				
13)	Sample	2	BS1_6004	BS1_6004
Comment: 22544, NA, BS1, 5/16/2014, 0-6004,				
14)	Sample	3	BS2_6004	BS2_6004
Comment: 22544, NA, BS2, 5/16/2014, 0-6004,				
15)	Sample	4	22571MS1	22571MS1
Comment: 22571, NA, MS1, 5/16/2014, 0-6004,				
16)	Sample	5	22571MS2	22571MS2
Comment: 22571, NA, MS2, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
17)	Sample	141	HEX3	HEX3
Acquisition Method: EI Scan. M				
18)	Sample	6	22576	22576
Comment: 22576, NA, CRM1, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
19)	Sample	141	HEX4	HEX4
Acquisition Method: EI Scan. M				
20)	Sample	7	22551	22551
Comment: 22551, NA, R1, 5/16/2014, 0-6004,				
21)	Sample	8	22552	22552
Comment: 22552, NA, R1, 5/16/2014, 0-6004,				
22)	Sample	9	22553	22553
Comment: 22553, NA, R1, 5/16/2014, 0-6004,				
23)	Sample	10	22554	22554
Comment: 22554, NA, R1, 5/16/2014, 0-6004,				
24)	Sample	11	22555	22555
Comment: 22555, NA, R1, 5/16/2014, 0-6004,				
25)	Sample	12	22556	22556
Comment: 22556, NA, R1, 5/16/2014, 0-6004,				
26)	Sample	41	22492_RR_CC	22492_RR_CC
Comment: 22492, NA, CRM1, 4/22/2014, 0-5136,				

2014 May 27 1040 Sequence Log . LOG

27) Sample	42	22492_RR	22492_RR
Comment:	22492, NA, CRM1, 4/22/2014, 0-5136,		
28) Sample	101	PYR_RES1000CCV	PYR_RES1000CCV
29) Sample	102	TRAL0500CCV	TRAL0500CCV
30) Sample	103	PAH500CCV	PAH500CCV
31) Sample	104	FI P500CCV	FI P500CCV
32) Sample	105	OCP500_PCB100CCV	OCP500_PCB100CCV

Acquisition Method: EI_HEX.M

33) Sample	141	HEX5	HEX5
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Acquisition Method: EI Scan.M

34) Sample	13	22557	22557
Comment:	22557, NA, R1, 5/16/2014, 0-6004,		
35) Sample	14	22571	22571
Comment:	22571, NA, R1, 5/16/2014, 0-6004,		
36) Sample	15	22571R2	22571R2
Comment:	22571, NA, R2, 5/16/2014, 0-6004,		
37) Sample	16	22572	22572
Comment:	22572, NA, R1, 5/16/2014, 0-6004,		
38) Sample	17	22573	22573
Comment:	22573, NA, R1, 5/16/2014, 0-6004,		
39) Sample	18	22574	22574
Comment:	22574, NA, R1, 5/16/2014, 0-6004,		
40) Sample	19	22575	22575
Comment:	22575, NA, R1, 5/16/2014, 0-6004,		
41) Sample	20	22599	22599
Comment:	22599, NA, R1, 5/16/2014, 0-6004,		
42) Sample	21	22600	22600
Comment:	22600, NA, R1, 5/16/2014, 0-6004,		
43) Sample	101	PYR_RES1000FCV	PYR_RES1000FCV
44) Sample	102	TRAL0500FCV	TRAL0500FCV
45) Sample	103	PAH500FCV	PAH500FCV
46) Sample	104	FI P500FCV	FI P500FCV
47) Sample	105	OCP500_PCB100FCV	OCP500_PCB100FCV

Sequence completed Fri May 30 09: 24: 46 2014

D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 27 1040 Quality Log.
D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 27 1040 Sequence Log

2013 Nov 08 1537 Sequence Log .LOG
 Starting sequence Fri Nov 08 15:37:22 2013

Instrument Name: GCMSQQQ
 Sequence File: D:\MassHunter\GCMS\1\sequence\131108 NCI . sequence. xml
 Comment:
 Operator: DATASYSTEM01\Admin
 Data Path: D:\MassHunter\GCMS\1\data\131108 NCI\
 Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX	HEX_NCI	HEX
2)	Sample	111	TOX1000	PYR_NCI	TOX1000
3)	Sample	112	TOX2500	PYR_NCI	TOX2500
4)	Sample	113	TOX5000	PYR_NCI	TOX5000
5)	Sample	114	TOX7500	PYR_NCI	TOX7500
6)	Sample	115	TOX10000	PYR_NCI	TOX10000
7)	Sample	121	FI P25	PYR_NCI	FI P25
8)	Sample	122	FI P50	PYR_NCI	FI P50
9)	Sample	123	FI P100	PYR_NCI	FI P100
10)	Sample	124	FI P250	PYR_NCI	FI P250
11)	Sample	125	FI P500	PYR_NCI	FI P500
12)	Sample	126	FI P1000	PYR_NCI	FI P1000
13)	Sample	131	PYR25	PYR_NCI	PYR25
14)	Sample	132	PYR50	PYR_NCI	PYR50
15)	Sample	133	PYR100	PYR_NCI	PYR100
16)	Sample	134	PYR250	PYR_NCI	PYR250
17)	Sample	135	PYR500	PYR_NCI	PYR500
18)	Sample	136	PYR1000	PYR_NCI	PYR1000
19)	Sample	138	TRAL01000I CV		
	Datafile		TRAL01000I CV		
	Method		PYR_NCI		
20)	Sample	137	PYR1000SPEX		
	Datafile		PYR1000SPEX		
	Method		PYR_NCI		
21)	Sample	141	HEX2	HEX_NCI	HEX2
22)	Sample	1	B_5034	PYR_NCI	B_5034
23)	Sample	2	BS1_5034	PYR_NCI	BS1_5034
24)	Sample	3	BS2_5034	PYR_NCI	BS2_5034
25)	Sample	4	22482MS1	PYR_NCI	22482MS1
26)	Sample	5	22482MS2	PYR_NCI	22482MS2
27)	Sample	141	HEX3	HEX_NCI	HEX3
28)	Sample	6	22492	PYR_NCI	22492
29)	Sample	7	22482	PYR_NCI	22482
30)	Sample	8	22482R2	PYR_NCI	22482R2
31)	Sample	9	22483	PYR_NCI	22483
32)	Sample	10	22484	PYR_NCI	22484
33)	Sample	11	22485	PYR_NCI	22485
34)	Sample	12	22486	PYR_NCI	22486
35)	Sample	13	22487	PYR_NCI	22487
36)	Sample	115	TOX10000CCV		
	Datafile		TOX10000CCV		
	Method		PYR_NCI		
37)	Sample	126	FI P1000CCV		
	Datafile		FI P1000CCV		
	Method		PYR_NCI		
38)	Sample	136	PYR1000CCV		
	Datafile		PYR1000CCV		
	Method		PYR_NCI		
39)	Sample	141	HEX4	HEX_NCI	HEX4
40)	Sample	14	22488	PYR_NCI	22488
41)	Sample	15	22489	PYR_NCI	22489
42)	Sample	16	22490	PYR_NCI	22490

2013 Nov 08 1537 Sequence Log .LOG

43) Sample	17	22491	PYR_NCI	22491
44) Sample	18	22546	PYR_NCI	22546
45) Sample	19	22547	PYR_NCI	22547
46) Sample	20	22548	PYR_NCI	22548
47) Sample	21	22549	PYR_NCI	22549
48) Sample	22	22550	PYR_NCI	22550
49) Sample	31	BS1	ACETONE	
Datafile		BS1	ACETONE	
Method			PYR_NCI	
50) Sample	32	BS2	ACETONE	
Datafile		BS2	ACETONE	
Method			PYR_NCI	
51) Sample	33	MS1	ACETONE	
Datafile		MS1	ACETONE	
Method			PYR_NCI	
52) Sample	34	MS2	ACETONE	
Datafile		MS2	ACETONE	
Method			PYR_NCI	
53) Sample	115	TOX10000FCV		
Datafile		TOX10000FCV		
Method			PYR_NCI	
54) Sample	126	FIP1000FCV		
Datafile		FIP1000FCV		
Method			PYR_NCI	
55) Sample	136	PYR1000FCV		
Datafile		PYR1000FCV		
Method			PYR_NCI	

Sequence completed Sun Nov 10 23:58:24 2013

D:\MassHunter\GCMS\1\data\131108_NCI\2013 Nov 08 1537 Sequence Log .LOG

2014 Apr 28 1625 Sequence Log .LOG
 Starting sequence Mon Apr 28 16:25:11 2014

Instrument Name: GCMS1
 Sequence File: C:\msdchem\1\sequence\Q2_140428 NCI 0-5136.S
 Comment:
 Operator:
 Data Path: C:\MSDCHEM\1\DATA\Q2_140428 NCI 0-5136\
 Method Path: C:\MSDCHEM\1\METHODS\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX	NCI_HEX	HEX
2)	Sample	121	PYR25	NCI	PYR25
3)	Sample	122	PYR50	NCI	PYR50
4)	Sample	123	PYR100	NCI	PYR100
5)	Sample	124	PYR250	NCI	PYR250
6)	Sample	125	PYR500	NCI	PYR500
7)	Sample	126	PYR1000	NCI	PYR1000
8)	Sample	131	PYR500I CV		
	Datafile		PYR500I CV		
	Method		NCI		
9)	Sample	141	HEX2	NCI_HEX	HEX2
10)	Sample	1	B_5136	NCI	B_5136
11)	Sample	2	BS1_5136	NCI	BS1_5136
12)	Sample	3	BS2_5136	NCI	BS2_5136
13)	Sample	4	22483MS1	NCI	22483MS1
14)	Sample	5	22483MS2	NCI	22483MS2
15)	Sample	6	22492CRM	NCI	22492CRM
16)	Sample	141	HEX3	NCI_HEX	HEX3
17)	Sample	7	22482	NCI	22482
18)	Sample	8	22483	NCI	22483
19)	Sample	9	22483R2	NCI	22483R2
20)	Sample	10	22484	NCI	22484
21)	Sample	11	22485	NCI	22485
22)	Sample	12	22486	NCI	22486
23)	Sample	13	22487	NCI	22487
24)	Sample	125	PYR500CCV		
	Datafile		PYR500CCV		
	Method		NCI		
25)	Sample	141	HEX4	NCI_HEX	HEX4
26)	Sample	14	22488	NCI	22488

Tue Apr 29 17:55:28 2014

Fatal sequence error detected.

No response, cannot bring MS on line (possible bad address or existing lock)
 [error -204]

C:\MSDCHEM\1\DATA\Q2_140428 NCI 0-5136\2014 Apr 28 1625 Quality Log.LOG
 C:\MSDCHEM\1\DATA\Q2_140428 NCI 0-5136\2014 Apr 28 1625 Sequence Log .LOG

2013 Nov 19 1352 Sequence Log .LOG
 Starting sequence Tue Nov 19 13:52:04 2013

Instrument Name: GCMSQQQ
 Sequence File: D:\MassHunter\GCMS\1\sequence\131119 PBDE NCI . sequence.xml
 Comment:
 Operator: DATASYSTEM01\Admin
 Data Path: D:\MassHunter\GCMS\1\data\131119 PBDE NCI\
 Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX	HEX_NCI	HEX
2)	Sample	121	PBDE10		
	Datafile		PBDE10		
	Method		NCI -15m PBDE		
3)	Sample	122	PBDE25		
	Datafile		PBDE25		
	Method		NCI -15m PBDE		
4)	Sample	123	PBDE50		
	Datafile		PBDE50		
	Method		NCI -15m PBDE		
5)	Sample	124	PBDE75		
	Datafile		PBDE75		
	Method		NCI -15m PBDE		
6)	Sample	125	PBDE100		
	Datafile		PBDE100		
	Method		NCI -15m PBDE		
7)	Sample	126	PBDE200		
	Datafile		PBDE200		
	Method		NCI -15m PBDE		
8)	Sample	133	PBDE200_NEW		
	Datafile		PBDE200_NEW		
	Method		NCI -15m PBDE		
9)	Sample	141	HEX2	HEX_NCI	HEX2
10)	Sample	1	B_5034		
	Datafile		B_5034		
	Method		NCI -15m PBDE		
11)	Sample	2	BS1_5034		
	Datafile		BS1_5034		
	Method		NCI -15m PBDE		
12)	Sample	3	BS2_5034		
	Datafile		BS2_5034		
	Method		NCI -15m PBDE		
13)	Sample	4	22482MS1		
	Datafile		22482MS1		
	Method		NCI -15m PBDE		
14)	Sample	5	22482MS2		
	Datafile		22482MS2		
	Method		NCI -15m PBDE		
15)	Sample	141	HEX3	HEX_NCI	HEX3
16)	Sample	6	22492		
	Datafile		22492		
	Method		NCI -15m PBDE		
17)	Sample	7	22482		
	Datafile		22482		
	Method		NCI -15m PBDE		
18)	Sample	8	22482R2		
	Datafile		22482R2		
	Method		NCI -15m PBDE		
19)	Sample	9	22483		
	Datafile		22483		
	Method		NCI -15m PBDE		
20)	Sample	10	22484		

2013 Nov 19 1352 Sequence Log .LOG

	Datafile	22484		
	Method	NCI -15m PBDE		
21)	Sample	11 22485		
	Datafile	22485		
	Method	NCI -15m PBDE		
22)	Sample	126 PBDE200CCV		
	Datafile	PBDE200CCV		
	Method	NCI -15m PBDE		
23)	Sample	133 PBDE200_NEW_CCV		
	Datafile	PBDE200_NEW_CCV		
	Method	NCI -15m PBDE		
24)	Sample	141 HEX4	HEX_NCI	HEX4
25)	Sample	12 22486		
	Datafile	22486		
	Method	NCI -15m PBDE		
26)	Sample	13 22487		
	Datafile	22487		
	Method	NCI -15m PBDE		
27)	Sample	14 22488		
	Datafile	22488		
	Method	NCI -15m PBDE		
28)	Sample	15 22489		
	Datafile	22489		
	Method	NCI -15m PBDE		
29)	Sample	16 22490		
	Datafile	22490		
	Method	NCI -15m PBDE		
30)	Sample	17 22491		
	Datafile	22491		
	Method	NCI -15m PBDE		
31)	Sample	18 22546		
	Datafile	22546		
	Method	NCI -15m PBDE		
32)	Sample	19 22547		
	Datafile	22547		
	Method	NCI -15m PBDE		
33)	Sample	20 22548		
	Datafile	22548		
	Method	NCI -15m PBDE		
34)	Sample	21 22549		
	Datafile	22549		
	Method	NCI -15m PBDE		
35)	Sample	22 22550		
	Datafile	22550		
	Method	NCI -15m PBDE		
36)	Sample	126 PBDE200FCV		
	Datafile	PBDE200FCV		
	Method	NCI -15m PBDE		
37)	Sample	133 PBDE200_NEW_FCV		
	Datafile	PBDE200_NEW_FCV		
	Method	NCI -15m PBDE		

Sequence completed Wed Nov 20 13:26:11 2013

D:\MassHunter\GCMS\1\data\131119 PBDE NCI\2013 Nov 19 1352 Sequence Log .LOG

Fipronil & Degradates

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PHYSIS

Initial Calibration Data

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Quantitative Analysis Calibration Report

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Batch Info

Batch Data Path	C:\msdchem\1\DATA\O-5039 NCI\QuantResults\O-5039 FIP.batch.bin		
Analysis Time	11/14/2013 3:05 PM	Analyst Name	
Report Time	6/16/2014 7:23 AM	Reporter Name	
Last Calib Update	1/13/2014 11:16 AM	Batch State	

Calibration Information

Fipronil Desulfinyl

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5039 NCI\FIP100.D	Calibration	4	80845	100.0000	4.4977
C:\msdchem\1\DATA\O-5039 NCI\FIP1000.D	Calibration	1	832430	1000.0000	4.5463
C:\msdchem\1\DATA\O-5039 NCI\FIP25.D	Calibration	6	22929	25.0000	5.1616
C:\msdchem\1\DATA\O-5039 NCI\FIP250.D	Calibration	3	187380	250.0000	4.2810
C:\msdchem\1\DATA\O-5039 NCI\FIP50.D	Calibration	5	45531	50.0000	4.7371
C:\msdchem\1\DATA\O-5039 NCI\FIP500.D	Calibration	2	330895	500.0000	3.8127

Fipronil Sulfide

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5039 NCI\FIP100.D	Calibration	4	76569	100.0000	4.2598
C:\msdchem\1\DATA\O-5039 NCI\FIP1000.D	Calibration	1	831487	1000.0000	4.5412
C:\msdchem\1\DATA\O-5039 NCI\FIP25.D	Calibration	6	21021	25.0000	4.7321
C:\msdchem\1\DATA\O-5039 NCI\FIP250.D	Calibration	3	179673	250.0000	4.1050
C:\msdchem\1\DATA\O-5039 NCI\FIP50.D	Calibration	5	43599	50.0000	4.5361
C:\msdchem\1\DATA\O-5039 NCI\FIP500.D	Calibration	2	332052	500.0000	3.8260

Fipronil

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5039 NCI\FIP100.D	Calibration	4	14445	100.0000	0.8036
C:\msdchem\1\DATA\O-5039 NCI\FIP1000.D	Calibration	1	155768	1000.0000	0.8507
C:\msdchem\1\DATA\O-5039 NCI\FIP25.D	Calibration	6	3318	25.0000	0.7469
C:\msdchem\1\DATA\O-5039 NCI\FIP250.D	Calibration	3	30413	250.0000	0.6948
C:\msdchem\1\DATA\O-5039 NCI\FIP50.D	Calibration	5	7258	50.0000	0.7551
C:\msdchem\1\DATA\O-5039 NCI\FIP500.D	Calibration	2	62781	500.0000	0.7234

Fipronil Sulfone

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5039 NCI\FIP100.D	Calibration	4	25580	100.0000	1.4231
C:\msdchem\1\DATA\O-5039 NCI\FIP1000.D	Calibration	1	257902	1000.0000	1.4085
C:\msdchem\1\DATA\O-5039 NCI\FIP25.D	Calibration	6	5980	25.0000	1.3462
C:\msdchem\1\DATA\O-5039 NCI\FIP250.D	Calibration	3	49544	250.0000	1.1319
C:\msdchem\1\DATA\O-5039 NCI\FIP50.D	Calibration	5	12242	50.0000	1.2737

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\O-5030 NCI\FIP500.D	Calibration	2	128500	500.0000	1.4806
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2,2',5,5'-Tetrabromobiphenyl

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5030 NCI\FIP100.D	Calibration	4	179747	1000.0000	179.7466
C:\msdchem\1\DATA\O-5030 NCI\FIP1000.D	Calibration	1	183100	1000.0000	183.1003
C:\msdchem\1\DATA\O-5030 NCI\FIP25.D	Calibration	6	177686	1000.0000	177.6864
C:\msdchem\1\DATA\O-5030 NCI\FIP250.D	Calibration	3	175079	1000.0000	175.0794
C:\msdchem\1\DATA\O-5030 NCI\FIP50.D	Calibration	5	192230	1000.0000	192.2303
C:\msdchem\1\DATA\O-5030 NCI\FIP500.D	Calibration	2	173577	1000.0000	173.5766

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Batch Info

Batch Data Path	P:\Data, Organics Lab_Q1 Data Files\131108 NCI\QuantResults\O-5034 FIP.batch.bin		
Analysis Time	11/8/2014 9:24 PM	Analyst Name	
Report Time	6/10/2014 3:35 PM	Reporter Name	
Last Calib Update	11/20/2013 4:27 PM	Batch State	

Calibration Information

Fipronil Desulfinyl

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\Masshunter\Data\13110					
8 NCI\FIP100.D	Calibration	4	77372	100.0000	35.1051
C:\Masshunter\Data\13110					
8 NCI\FIP1000CCV.D	Calibration	1	844109	1000.0000	60.8916
C:\Masshunter\Data\13110					
8 NCI\FIP25.D	Calibration	6	32079	25.0000	57.2862
C:\Masshunter\Data\13110					
8 NCI\FIP250.D	Calibration	3	146477	250.0000	50.5091
C:\Masshunter\Data\13110					
8 NCI\FIP50.D	Calibration	5	38001	50.0000	59.2521
C:\Masshunter\Data\13110					
8 NCI\FIP500.D	Calibration	2	439911	500.0000	35.1639

Fipronil Sulfide

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\Masshunter\Data\13110					
8 NCI\FIP100.D	Calibration	4	76387	100.0000	34.6578
C:\Masshunter\Data\13110					
8 NCI\FIP1000CCV.D	Calibration	1	731099	1000.0000	52.7394
C:\Masshunter\Data\13110					
8 NCI\FIP25.D	Calibration	6	28666	25.0000	51.1908
C:\Masshunter\Data\13110					
8 NCI\FIP250.D	Calibration	3	121272	250.0000	41.8177
C:\Masshunter\Data\13110					
8 NCI\FIP50.D	Calibration	5	38172	50.0000	59.5191
C:\Masshunter\Data\13110					
8 NCI\FIP500.D	Calibration	2	436710	500.0000	34.9081

Fipronil

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\Masshunter\Data\13110					
8 NCI\FIP100.D	Calibration	4	19710	100.0000	8.9429
C:\Masshunter\Data\13110					
8 NCI\FIP1000CCV.D	Calibration	1	173487	1000.0000	12.5148
C:\Masshunter\Data\13110					
8 NCI\FIP25.D	Calibration	6	6899	25.0000	12.3201
C:\Masshunter\Data\13110					
8 NCI\FIP250.D	Calibration	3	28957	250.0000	9.9850
C:\Masshunter\Data\13110					
8 NCI\FIP50.D	Calibration	5	8376	50.0000	13.0604
C:\Masshunter\Data\13110					
8 NCI\FIP500.D	Calibration	2	99143	500.0000	7.9249

Fipronil Sulfone

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\Masshunter\Data\13110					
8 NCI\FIP100.D	Calibration	4	34009	100.0000	15.4303
C:\Masshunter\Data\13110					
8 NCI\FIP1000CCV.D	Calibration	1	264975	1000.0000	19.1145
C:\Masshunter\Data\13110					
8 NCI\FIP25.D	Calibration	6	9600	25.0000	17.1433
C:\Masshunter\Data\13110					
8 NCI\FIP250.D	Calibration	3	60264	250.0000	20.7805
C:\Masshunter\Data\13110					
8 NCI\FIP50.D	Calibration	5	15040	50.0000	23.4504

Quantitative Analysis Calibration Report

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C:\Masshunter\Data\13110					
8 NCI\FIP500.D	Calibration	2	132877	500.0000	10.6214

2,2',5,5'-Tetrabromobiphenyl

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\Masshunter\Data\13110					
8 NCI\FIP100.D	Calibration	4	22040	1000.0000	22.0402
C:\Masshunter\Data\13110					
8 NCI\FIP1000CCV.D	Calibration	1	13862	1000.0000	13.8625
C:\Masshunter\Data\13110					
8 NCI\FIP25.D	Calibration	6	22399	1000.0000	22.3991
C:\Masshunter\Data\13110					
8 NCI\FIP250.D	Calibration	3	11600	1000.0000	11.6001
C:\Masshunter\Data\13110					
8 NCI\FIP50.D	Calibration	5	12827	1000.0000	12.8269
C:\Masshunter\Data\13110					
8 NCI\FIP500.D	Calibration	2	25021	1000.0000	25.0206

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Continuing Calibration Data

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\msdchem\1\DATA\O-5039 NCI\QuantResults\O-5039 FIP.batch.bin		
Analysis Time	11/15/2013 11:07 PM	Analyst Name	eugenechae
Report Time	6/16/2014 7:23 AM	Reporter Name	eugenechae
Last Calib Update	1/13/2014 11:16 AM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	FIP1000CCV
Level		Data File	FIP1000CCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
Fipronil Desulfinyl	2,2',5,5'-Tetrabromobiphenyl	17.022	2294014	548187	4.1847	951.9987	ng
Fipronil Sulfide	2,2',5,5'-Tetrabromobiphenyl	18.916	2126501	548187	3.8792	884.9074	ng
Fipronil	2,2',5,5'-Tetrabromobiphenyl	19.186	501580	548187	0.9150	1117.4980	ng
Fipronil Sulfone	2,2',5,5'-Tetrabromobiphenyl	21.274	799613	548187	1.4586	1035.3055	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\msdchem\1\DATA\O-5057 NCI\QuantResults\O-5057 FIP.batch.bin		
Analysis Time	11/17/2014 8:40 PM	Analyst Name	eugenechae
Report Time	6/12/2014 9:46 AM	Reporter Name	eugenechae
Last Calib Update	1/16/2014 12:54 PM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	FIP1000FCV
Level		Data File	FIP1000FCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
Fipronil Desulfinyl	2,2',5,5'- Tetrabromobiphenyl	16.489	624430	105535	5.9168	1597.1992	ng
Fipronil Sulfide	2,2',5,5'- Tetrabromobiphenyl	18.265	982262	105535	9.3074	1744.2241	ng
Fipronil	2,2',5,5'- Tetrabromobiphenyl	18.510	298877	105535	2.8320	1962.2487	ng
Fipronil Sulfone	2,2',5,5'- Tetrabromobiphenyl	20.480	255377	105535	2.4198	1424.1564	ng

	FIP1000 CCV			FIP1000 FCV		
	11/15/13 11:07 PM			11/17/13 8:40 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Fipronil Desulfinyl	1000	952	5	1000	1597	60
Fipronil Sulfide	1000	885	12	1000	1744	74
Fipronil	1000	1117	12	1000	1962	96
Fipronil Sulfone	1000	1035	4	1000	1424	42
Average	-	-	8	-	-	69

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	P:\Data, Organics Lab_Q1 Data Files\131108 NCI\QuantResults\O-5034 FIP.batch.bin		
Analysis Time	11/10/2014 4:18 AM	Analyst Name	eugenechae
Report Time	6/10/2014 3:35 PM	Reporter Name	eugenechae
Last Calib Update	11/20/2013 4:27 PM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	FIP1000CCV
Level	1	Data File	FIP1000CCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Calibration	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD 2,2',5,5'-	RT	Response	ISTD Resp	RR	Final Conc	
Fipronil Desulfinyl	Tetrabromobiphenyl	17.166	844109	13862	60.8916	1014.1387	ng
Fipronil Sulfide	Tetrabromobiphenyl	19.093	731099	13862	52.7394	1015.1652	ng
Fipronil	Tetrabromobiphenyl	19.372	173487	13862	12.5148	1014.5149	ng
Fipronil Sulfone	Tetrabromobiphenyl	21.502	264975	13862	19.1145	996.2741	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	P:\Data, Organics Lab_Q1 Data Files\131108 NCI\QuantResults\O-5034 FIP.batch.bin		
Analysis Time	11/10/2014 9:50 PM	Analyst Name	eugenechae
Report Time	6/10/2014 3:35 PM	Reporter Name	eugenechae
Last Calib Update	11/20/2013 4:27 PM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	FIP1000FCV
Level		Data File	FIP1000FCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD 2,2',5,5'-	RT	Response	ISTD Resp	RR	Final Conc	
Fipronil Desulfinyl	Tetrabromobiphenyl	17.183	424333	7416	57.2151	952.9071	ng
Fipronil Sulfide	Tetrabromobiphenyl	19.110	355411	7416	47.9219	922.4338	ng
Fipronil	Tetrabromobiphenyl	19.381	84056	7416	11.3336	918.7618	ng
Fipronil Sulfone	Tetrabromobiphenyl	21.545	115877	7416	15.6244	814.3619	ng

	FIP1000 CCV			FIP1000 FCV		
	11/10/14 4:18 AM			11/10/14 9:50 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Fipronil Desulfinyl	1000	1014	1	1000	953	5
Fipronil Sulfide	1000	1015	2	1000	922	8
Fipronil	1000	1015	1	1000	919	8
Fipronil Sulfone	1000	996	0	1000	814	19
Average	-	-	1	-	-	13

PolyBrominated Diphenyl Ethers (PBDEs)

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Summary of Internal Standards

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	2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time
PBDE200ICV	953570.5306	16.67921667
B_5039	4676807.647	16.67448333
BS1_5039	3591351.281	16.66951667
BS2_5039	2944555.961	16.67436667
22571MS1	4851583.649	16.67436667
22571MS2	2720244.22	16.67436667
22576	4130593.455	16.72775
22551	3111871.999	16.67436667
22552	7524644.433	16.68405
22553	4933763.836	16.67921667
22554	5950076.989	16.67921667
22555	5027026.001	16.67436667
PBDE200CCV	870708.9844	16.67436667
22556	5562542.72	16.67448333
22557	2412738.031	16.67436667
22571	5859813.944	16.67921667
22571R2	2042794.64	16.67436667
22572	3868828.156	16.67436667
22573	2191636.493	16.66951667
22574	1206.566939	16.66951667
22575	4950954.606	16.66951667
22599	4074408.09	16.67436667
22600	5634492.763	16.67921667
22551	2855057.357	16.67436667
PBDE200FCV	840166.3222	16.66951667

	2,2',5,5' - Tetrabromobiphenyl	
	Response	Retention Time
PBDE200ICV	1833854	16.6937
B_5034	271893	16.6890
BS1_5034	227298	16.6889
BS2_5034	215733	16.6889
22482MS1	200232	16.6937
22482MS2	229647	16.6937
22492	371478	16.7568
22482	187853	16.6937
22482R2	349796	16.6937
22483	159478	16.6889
22484	205644	16.6937
22485	257522	16.6937
PBDE200CCV	2163969	16.6889
22486	390217	16.6939
22487	358139	16.6937
22488	410275	16.6937
22489	338348	16.6937
22490	339491	16.6937
22491	338383	16.6937
22546	325117	16.6937
22547	298241	16.6937
22548	331140	16.6937
22549	332894	16.6937
22550	309582	16.6889
PBDE200FCV	2613940	16.6889

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Initial Calibration Data

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Quantitative Analysis Calibration Report

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Batch Info

Batch Data Path	C:\msdchem\1\DATA\O-5039 PBDE\QuantResults\O-5039 PBDE.batch.bin	Analyst Name	
Analysis Time	1/8/2014 1:31 PM	Reporter Name	
Report Time	6/11/2014 1:13 PM	Batch State	
Last Calib Update	1/8/2014 9:56 AM		

Calibration Information

(FTBDE)

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	362466	50.0000	0.8609	9.33923862
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	337714	50.0000	0.8698	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	607995	50.0000	1.0693	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	307831	50.0000	0.8625	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	296957	50.0000	0.8792	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	282764	50.0000	0.8521	

PBDE017

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	52253	10.0000	0.6205	6.238080774
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	528996	100.0000	0.6812	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1704812	200.0000	0.7496	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	123267	25.0000	0.6908	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	223360	50.0000	0.6613	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	332929	75.0000	0.6688	

PBDE028

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	58500	10.0000	0.6947	9.320306201
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	566816	100.0000	0.7300	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1874211	200.0000	0.8241	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	117608	25.0000	0.6590	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	216999	50.0000	0.6425	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	338205	75.0000	0.6794	

2,2',5,5'Tetrabromobiphenyl

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	8420757	1000.0000	8420.7572	22.14354227
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	7765091	1000.0000	7765.0915	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	11371385	1000.0000	11371.3849	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	7138104	1000.0000	7138.1044	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	6755020	1000.0000	6755.0195	

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D Calibration 3 6636959 1000.0000 6636.9590

PBDE049

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	61371	10.0000	0.7288	5.217898315
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	585232	100.0000	0.7537	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1850487	200.0000	0.8137	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	133638	25.0000	0.7489	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	238360	50.0000	0.7057	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	355624	75.0000	0.7144	

PBDE071

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	54217	10.0000	0.6438	8.935920972
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	493999	100.0000	0.6362	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1680098	200.0000	0.7387	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	110183	25.0000	0.6174	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	192682	50.0000	0.5705	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	301875	75.0000	0.6065	

PBDE047

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	54571	10.0000	0.6481	11.4127573
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	454915	100.0000	0.5858	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1606336	200.0000	0.7063	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	103036	25.0000	0.5774	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	173451	50.0000	0.5135	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	279045	75.0000	0.5606	

PBDE066

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	76790	10.0000	0.9119	17.54376011
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	505778	100.0000	0.6513	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1657219	200.0000	0.7287	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	120178	25.0000	0.6734	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	194152	50.0000	0.5748	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	300050	75.0000	0.6028	

PBDE100

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
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C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	47004	10.0000	0.5582	9.077650409
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	424904	100.0000	0.5472	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1356524	200.0000	0.5965	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	92995	25.0000	0.5211	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	155825	50.0000	0.4614	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	246104	75.0000	0.4944	

(DFPBDE)

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	255002	50.0000	0.6057	13.11949559
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	271392	50.0000	0.6990	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	448005	50.0000	0.7880	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	211378	50.0000	0.5923	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	189019	50.0000	0.5596	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	205194	50.0000	0.6183	

PBDE099

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	50407	10.0000	0.5986	11.90445015
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	442583	100.0000	0.5700	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1386670	200.0000	0.6097	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	92620	25.0000	0.5190	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	148404	50.0000	0.4394	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	253216	75.0000	0.5087	

PBDE085

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	39462	10.0000	0.4686	10.83932623
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	360304	100.0000	0.4640	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1060242	200.0000	0.4662	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	72504	25.0000	0.4063	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	120379	50.0000	0.3564	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	199688	75.0000	0.4012	

PBDE154

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	44515	10.0000	0.5286	9.07372955
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	412441	100.0000	0.5311	

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1209803	200.0000	0.5320
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	83023	25.0000	0.4652
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	142484	50.0000	0.4219
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	243445	75.0000	0.4891

PBDE153

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	39939	10.0000	0.4743	9.209985408
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	390618	100.0000	0.5030	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1095420	200.0000	0.4817	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	80633	25.0000	0.4518	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	129283	50.0000	0.3828	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	219510	75.0000	0.4410	

PBDE138

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	33029	10.0000	0.3922	13.43955488
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	358264	100.0000	0.4614	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	993361	200.0000	0.4368	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	72370	25.0000	0.4055	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	102656	50.0000	0.3039	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	198720	75.0000	0.3992	

PBDE183

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	38071	10.0000	0.4521	13.07345306
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	311176	100.0000	0.4007	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	846727	200.0000	0.3723	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	66367	25.0000	0.3719	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	101259	50.0000	0.2998	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	185387	75.0000	0.3724	

PBDE190

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	13841	10.0000	0.1644	15.49968796
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	154666	100.0000	0.1992	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	367277	200.0000	0.1615	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	32494	25.0000	0.1821	

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	41375	50.0000	0.1225
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	88271	75.0000	0.1773

PBDE209

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	1273	50.0000	0.0030	27.1696364
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	7426	500.0000	0.0019	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	19867	1000.0000	0.0017	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	2479	125.0000	0.0028	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	2622	250.0000	0.0016	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	5048	375.0000	0.0020	

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Batch Info

Batch Data Path C:\msdchem\1\DATA\O-5034 PBDE\QuantResults\O-5034 PBDE.batch.bin
Analysis Time 11/19/2014 2:19 PM **Analyst Name**
Report Time 6/10/2014 12:31 PM **Reporter Name**
Last Calib Update 1/7/2014 7:24 PM **Batch State**

Calibration Information

(FTBDE)

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	362466	50.0000	0.8609
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	337714	50.0000	0.8698
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	607995	50.0000	1.0693
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	307831	50.0000	0.8625
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	296957	50.0000	0.8792
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	282764	50.0000	0.8521

PBDE017

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	52253	10.0000	0.6205
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	528996	100.0000	0.6812
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1704812	200.0000	0.7496
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	123267	25.0000	0.6908
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	223360	50.0000	0.6613
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	332929	75.0000	0.6688

PBDE028

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	58500	10.0000	0.6947
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	566816	100.0000	0.7300
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1874211	200.0000	0.8241
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	117608	25.0000	0.6590
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	216999	50.0000	0.6425
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	338205	75.0000	0.6794

2,2',5,5'Tetrabromobiphenyl

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	8420757	1000.0000	8420.7572
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	7765091	1000.0000	7765.0915
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	11371385	1000.0000	11371.3849
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	7138104	1000.0000	7138.1044
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	6755020	1000.0000	6755.0195

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D Calibration 3 6636959 1000.0000 6636.9590

PBDE049

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	61371	10.0000	0.7288
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	585232	100.0000	0.7537
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1850487	200.0000	0.8137
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	133638	25.0000	0.7489
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	238360	50.0000	0.7057
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	355624	75.0000	0.7144

PBDE071

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	54217	10.0000	0.6438
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	493999	100.0000	0.6362
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1680098	200.0000	0.7387
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	110183	25.0000	0.6174
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	192682	50.0000	0.5705
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	301875	75.0000	0.6065

PBDE047

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	54571	10.0000	0.6481
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	454915	100.0000	0.5858
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1606336	200.0000	0.7063
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	103036	25.0000	0.5774
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	173451	50.0000	0.5135
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	279045	75.0000	0.5606

PBDE066

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	76790	10.0000	0.9119
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	505778	100.0000	0.6513
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1657219	200.0000	0.7287
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	120178	25.0000	0.6734
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	194152	50.0000	0.5748
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	300050	75.0000	0.6028

PBDE100

Calibration STD	CalType	Level	Response	Exp Conc	RF
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C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	47004	10.0000	0.5582
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	424904	100.0000	0.5472
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1356524	200.0000	0.5965
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	92995	25.0000	0.5211
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	155825	50.0000	0.4614
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	246104	75.0000	0.4944

(DFPBDE)

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	255002	50.0000	0.6057
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	271392	50.0000	0.6990
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	448005	50.0000	0.7880
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	211378	50.0000	0.5923
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	189019	50.0000	0.5596
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	205194	50.0000	0.6183

PBDE099

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	50407	10.0000	0.5986
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	442583	100.0000	0.5700
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1386670	200.0000	0.6097
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	92620	25.0000	0.5190
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	148404	50.0000	0.4394
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	253216	75.0000	0.5087

PBDE085

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	39462	10.0000	0.4686
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	360304	100.0000	0.4640
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1060242	200.0000	0.4662
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	72504	25.0000	0.4063
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	120379	50.0000	0.3564
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	199688	75.0000	0.4012

PBDE154

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	44515	10.0000	0.5286
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	412441	100.0000	0.5311

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1209803	200.0000	0.5320
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	83023	25.0000	0.4652
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	142484	50.0000	0.4219
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	243445	75.0000	0.4891

PBDE153

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	39939	10.0000	0.4743
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	390618	100.0000	0.5030
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1095420	200.0000	0.4817
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	80633	25.0000	0.4518
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	129283	50.0000	0.3828
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	219510	75.0000	0.4410

PBDE138

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	33029	10.0000	0.3922
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	358264	100.0000	0.4614
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	993361	200.0000	0.4368
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	72370	25.0000	0.4055
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	102656	50.0000	0.3039
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	198720	75.0000	0.3992

PBDE183

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	38071	10.0000	0.4521
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	311176	100.0000	0.4007
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	846727	200.0000	0.3723
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	66367	25.0000	0.3719
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	101259	50.0000	0.2998
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	185387	75.0000	0.3724

PBDE190

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	13841	10.0000	0.1644
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	154666	100.0000	0.1992
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	367277	200.0000	0.1615
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	32494	25.0000	0.1821

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	41375	50.0000	0.1225
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	88271	75.0000	0.1773

PBDE209

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	1273	50.0000	0.0030
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	7426	500.0000	0.0019
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	19867	1000.0000	0.0017
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	2479	125.0000	0.0028
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	2622	250.0000	0.0016
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	5048	375.0000	0.0020

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Continuing Calibration Data

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path C:\msdchem\1\DATA\O-5039 PBDE\QuantResults\O-5039 PBDE.batch.bin
Analysis Time 11/22/2013 8:30 PM **Analyst Name** eugenechae
Report Time 6/11/2014 1:13 PM **Reporter Name** eugenechae
Last Calib Update 1/8/2014 9:56 AM **Batch State** Processed

Analysis Info

Acq Time
Level
Position
Sample Type Sample
Dilution 1
Sample Name PBDE200CCV
Data File PBDE200CCV.D
Acq Method File NCI-15m PBDE.M
Sample Info
Comment

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphe nyl	15.139	38127	870709	0.0438	48.7096	ng
PBDE017	2,2',5,5'Tetrabromobiphe nyl	15.691	118381	870709	0.1360	187.3549	ng
PBDE028	2,2',5,5'Tetrabromobiphe nyl	16.040	130828	870709	0.1503	191.5094	ng
PBDE049	2,2',5,5'Tetrabromobiphe nyl	18.016	84922	870709	0.0975	123.6829	ng
PBDE071	2,2',5,5'Tetrabromobiphe nyl	18.103	113970	870709	0.1309	186.9713	ng
PBDE047	2,2',5,5'Tetrabromobiphe nyl	18.408	98726	870709	0.1134	171.2123	ng
PBDE066	2,2',5,5'Tetrabromobiphe nyl	18.742	104620	870709	0.1202	172.4642	ng
PBDE100	2,2',5,5'Tetrabromobiphe nyl	20.234	89194	870709	0.1024	179.1719	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphe nyl	20.568	26375	870709	0.0303	47.0501	ng
PBDE099	2,2',5,5'Tetrabromobiphe nyl	20.738	89502	870709	0.1028	175.6851	ng
PBDE085	2,2',5,5'Tetrabromobiphe nyl	21.605	71874	870709	0.0825	181.6977	ng
PBDE154	2,2',5,5'Tetrabromobiphe nyl	22.191	87719	870709	0.1007	192.8758	ng
PBDE153	2,2',5,5'Tetrabromobiphe nyl	22.908	84622	870709	0.0972	203.8003	ng
PBDE138	2,2',5,5'Tetrabromobiphe nyl	23.770	68580	870709	0.0788	182.6102	ng
PBDE183	2,2',5,5'Tetrabromobiphe nyl	24.913	63064	870709	0.0724	193.5536	ng
PBDE190	2,2',5,5'Tetrabromobiphe nyl	26.061	29393	870709	0.0338	200.9639	ng
PBDE209	2,2',5,5'Tetrabromobiphe nyl	30.003	436	870709		276.8817	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path C:\msdchem\1\DATA\O-5039 PBDE\QuantResults\O-5039 PBDE.batch.bin
Analysis Time 11/23/2013 4:50 AM **Analyst Name** eugenechae
Report Time 6/11/2014 1:13 PM **Reporter Name** eugenechae
Last Calib Update 1/8/2014 9:56 AM **Batch State** Processed

Analysis Info

Acq Time
Level
Position
Sample Type Sample
Dilution 1
Sample Name PBDE200FCV
Data File PBDE200FCV.D
Acq Method File NCI-15m PBDE.M
Sample Info
Comment

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphe nyl	15.134	32710	840166	0.0389	43.3077	ng
PBDE017	2,2',5,5'Tetrabromobiphe nyl	15.686	110038	840166	0.1310	180.4817	ng
PBDE028	2,2',5,5'Tetrabromobiphe nyl	16.040	123617	840166	0.1471	187.5326	ng
PBDE049	2,2',5,5'Tetrabromobiphe nyl	18.011	77217	840166	0.0919	116.5489	ng
PBDE071	2,2',5,5'Tetrabromobiphe nyl	18.098	108670	840166	0.1293	184.7579	ng
PBDE047	2,2',5,5'Tetrabromobiphe nyl	18.408	92260	840166	0.1098	165.8156	ng
PBDE066	2,2',5,5'Tetrabromobiphe nyl	18.742	99400	840166	0.1183	169.8153	ng
PBDE100	2,2',5,5'Tetrabromobiphe nyl	20.229	85130	840166	0.1013	177.2247	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphe nyl	20.563	27670	840166	0.0329	51.1558	ng
PBDE099	2,2',5,5'Tetrabromobiphe nyl	20.738	83976	840166	0.1000	170.8304	ng
PBDE085	2,2',5,5'Tetrabromobiphe nyl	21.600	69447	840166	0.0827	181.9452	ng
PBDE154	2,2',5,5'Tetrabromobiphe nyl	22.191	84177	840166	0.1002	191.8171	ng
PBDE153	2,2',5,5'Tetrabromobiphe nyl	22.908	78534	840166	0.0935	196.0160	ng
PBDE138	2,2',5,5'Tetrabromobiphe nyl	23.760	68440	840166	0.0815	188.8638	ng
PBDE183	2,2',5,5'Tetrabromobiphe nyl	24.908	63417	840166	0.0755	201.7147	ng
PBDE190	2,2',5,5'Tetrabromobiphe nyl	26.056	25957	840166	0.0309	183.9223	ng
PBDE209	2,2',5,5'Tetrabromobiphe nyl	29.925	825	840166		543.3356	ng

	PBDE200 CCV			PBDE200 FCV		
	11/22/13 8:30 PM			11/23/13 4:50 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
FTBDE	50	49	3	50	43	13
DFTBDE	50	47	6	50	51	2
PBDE017	200	187	6	200	180	10
PBDE028	200	192	4	200	188	6
PBDE049	200	124	38	200	117	42
PBDE071	200	187	7	200	185	8
PBDE047	200	171	14	200	166	17
PBDE066	200	172	14	200	170	15
PBDE100	200	179	10	200	177	11
PBDE099	200	176	12	200	171	15
PBDE085	200	182	9	200	182	9
PBDE154	200	193	4	200	192	4
PBDE153	200	204	2	200	196	2
PBDE138	200	183	9	200	189	6
PBDE183	200	194	3	200	202	1
PBDE190	200	201	0	200	184	8
PBDE209	1000	277	72	1000	543	46
Average	-	-	13	-	-	13

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path C:\msdchem\1\DATA\O-5034 PBDE\QuantResults\O-5034 PBDE.batch.bin
Analysis Time 11/20/2014 3:06 AM **Analyst Name** eugenechae
Report Time 6/10/2014 12:31 PM **Reporter Name** eugenechae
Last Calib Update 1/7/2014 7:24 PM **Batch State** Processed

Analysis Info

Acq Time
Level
Position
Sample Type Sample
Dilution 1

Sample Name PBDE200CCV
Data File PBDE200CCV.D
Acq Method File NCI-15m PBDE.M
Sample Info
Comment

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphe nyl	15.154	91575	2163969	0.0423	47.0736	ng
PBDE017	2,2',5,5'Tetrabromobiphe nyl	15.706	277446	2163969	0.1282	176.6791	ng
PBDE028	2,2',5,5'Tetrabromobiphe nyl	16.054	318603	2163969	0.1472	187.6555	ng
PBDE049	2,2',5,5'Tetrabromobiphe nyl	18.035	275487	2163969	0.1273	161.4406	ng
PBDE071	2,2',5,5'Tetrabromobiphe nyl	18.118	279872	2163969	0.1293	184.7424	ng
PBDE047	2,2',5,5'Tetrabromobiphe nyl	18.423	247731	2163969	0.1145	172.8648	ng
PBDE066	2,2',5,5'Tetrabromobiphe nyl	18.757	264642	2163969	0.1223	175.5358	ng
PBDE100	2,2',5,5'Tetrabromobiphe nyl	20.254	225042	2163969	0.1040	181.8946	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphe nyl	20.588	68927	2163969	0.0319	49.4748	ng
PBDE099	2,2',5,5'Tetrabromobiphe nyl	20.757	225209	2163969	0.1041	177.8735	ng
PBDE085	2,2',5,5'Tetrabromobiphe nyl	21.619	176131	2163969	0.0814	179.1577	ng
PBDE154	2,2',5,5'Tetrabromobiphe nyl	22.215	215335	2163969	0.0995	190.5119	ng
PBDE153	2,2',5,5'Tetrabromobiphe nyl	22.927	196826	2163969	0.0910	190.7338	ng
PBDE138	2,2',5,5'Tetrabromobiphe nyl	23.789	168352	2163969	0.0778	180.3712	ng
PBDE183	2,2',5,5'Tetrabromobiphe nyl	24.937	157195	2163969	0.0726	194.1260	ng
PBDE190	2,2',5,5'Tetrabromobiphe nyl	26.085	66646	2163969		183.3474	ng
PBDE209	2,2',5,5'Tetrabromobiphe nyl	29.964	2957	2163969		756.3519	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\msdchem\1\DATA\O-5034 PBDE\QuantResults\O-5034 PBDE.batch.bin	Analyst Name	eugenechae
Analysis Time	11/20/2014 12:07 PM	Reporter Name	eugenechae
Report Time	6/10/2014 12:31 PM	Batch State	Processed
Last Calib Update	1/7/2014 7:24 PM		

Analysis Info

Acq Time		Sample Name	PBDE200FCV
Level		Data File	PBDE200FCV.D
Position		Acq Method File	NCI-15m PBDE.M
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphenyl	15.158	111235	2613940	0.0426	47.3364	ng
PBDE017	2,2',5,5'Tetrabromobiphenyl	15.711	341387	2613940	0.1306	179.9734	ng
PBDE028	2,2',5,5'Tetrabromobiphenyl	16.059	384857	2613940	0.1472	187.6576	ng
PBDE049	2,2',5,5'Tetrabromobiphenyl	18.035	326384	2613940	0.1249	158.3418	ng
PBDE071	2,2',5,5'Tetrabromobiphenyl	18.122	339491	2613940	0.1299	185.5199	ng
PBDE047	2,2',5,5'Tetrabromobiphenyl	18.428	292410	2613940	0.1119	168.9168	ng
PBDE066	2,2',5,5'Tetrabromobiphenyl	18.762	295763	2613940	0.1131	162.4072	ng
PBDE100	2,2',5,5'Tetrabromobiphenyl	20.254	241364	2613940	0.0923	161.5042	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphenyl	20.593	71805	2613940	0.0275	42.6679	ng
PBDE099	2,2',5,5'Tetrabromobiphenyl	20.762	235713	2613940	0.0902	154.1224	ng
PBDE085	2,2',5,5'Tetrabromobiphenyl	21.629	164001	2613940	0.0627	138.1027	ng
PBDE154	2,2',5,5'Tetrabromobiphenyl	22.220	213097	2613940	0.0815	156.0776	ng
PBDE153	2,2',5,5'Tetrabromobiphenyl	22.932	174237	2613940	0.0667	139.7793	ng
PBDE138	2,2',5,5'Tetrabromobiphenyl	23.799	128385	2613940	0.0491	113.8727	ng
PBDE183	2,2',5,5'Tetrabromobiphenyl	24.937	111787	2613940	0.0428	114.2854	ng
PBDE190	2,2',5,5'Tetrabromobiphenyl	26.090	37151	2613940	0.0142	84.6108	ng
PBDE209	2,2',5,5'Tetrabromobiphenyl	29.954	1389	2613940		294.0340	ng

	PBDE200 CCV			PBDE200 FCV		
	11/20/14 3:06 AM			11/20/14 12:07 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
FTBDE	50	47	5.85	50	47	5.33
DFPBDE	50	49	1.05	50	43	14.66
PBDE017	200	177	11.66	200	180	10.01
PBDE028	200	188	6.17	200	188	6.17
PBDE049	200	161	19.28	200	158	20.83
PBDE071	200	185	7.63	200	186	7.24
PBDE047	200	173	13.57	200	169	15.54
PBDE066	200	176	12.23	200	162	18.80
PBDE100	200	182	9.05	200	162	19.25
PBDE099	200	178	11.06	200	154	22.94
PBDE085	200	179	10.42	200	138	30.95
PBDE154	200	191	4.74	200	156	21.96
PBDE153	200	191	4.63	200	140	30.11
PBDE138	200	180	9.81	200	114	43.06
PBDE183	200	194	2.94	200	114	42.86
PBDE190	200	183	8.33	200	85	57.69
PBDE209	1000	756	24.36	1000	294	70.60
Average	-	-	9.58	-	-	25.76

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Pyrethroids

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Summary of Internal Standards

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	2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time
Spex_500ICV	236069	50.862
B_6004	865025	50.859
BS1_6004	1054479	50.855
BS2_6004	1090869	50.853
22571MS1	751887	50.829
22571MS2	685069	50.83
22576	853512	50.887
22551	908562	50.855
22552	1025891	50.857
22553	936527	50.86
22554	968541	50.856
22555	851572	50.854
22556	1086888	50.851
PYR1000CCV	311662	50.863
22557	1001001	50.851
22571	1224777	50.85
22571R2	1147905	50.85
22572	1046552	50.85
22573	908979	50.854
22574	1021303	50.847
22575	826008	50.85
22599	805724	50.848
22600	936840	50.847
PYR1000FCV	347568	50.865

	2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time
PYR500ICV	12422379	22.926
B_5136	28393165	22.934
BS1_5136	28222123	22.931
BS2_5136	32381596	22.931
22483MS1	27579040	22.931
22483MS2	35612894	22.935
22492	41883557	22.974
22482	27045062	22.933
22483	32095990	22.933
22483R2	33466719	22.934
22484	30090634	22.929
22485	31306580	22.931
22486	30117350	22.933
22487	28561023	22.929
PYR500CCV	13979475	22.926
PYR500CCV2	15222731	22.924
22488	27225208	22.931
22489	31545941	22.928
22490	28131311	22.927
22491	30880528	22.929
22546	34165465	22.931
22547	30667033	22.929
22548	38243831	22.93
22549	30924150	22.926
22550	29426652	22.925
PYR500FCV	14881995	22.921

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Initial Calibration Data

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Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Method File : Q_PYR_EI_140528.M
 Title : Pyrethroids
 Last Update : Mon Jun 02 09:29:20 2014
 Response Via : Initial Calibration

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Calibration Files

1000=PYR1000.D 500 =PYR500.D 250 =PYR250.D 100 =PYR100.D 50 =PYR50.D 25 =PYR25.D

	Compound	1000	500	250	100	50	25	Avg	%RSD
1) I	4,4'-Dibromobiphenyl	-----ISTD-----							
2) S	(TCMX)-PYR	0.478	0.416	0.468	0.447	0.469	0.461	0.456	4.90
3) s	(PCB030)-PYR	1.264	1.137	1.239	1.222	1.237	1.263	1.227	3.82
4)	Allethrin	1.021	0.960	0.808	0.663	0.642	0.666	0.793	20.75
5)	Prallethrin	0.894	0.866	0.600	0.476	0.441	0.428	0.618	34.40
6)	Resmethrin	0.443						0.443	0.00
7) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
8) s	(PCB112)-PYR	4.555	4.269	4.481	4.685	4.608	4.648	4.541	3.33
9) s	(PCB198)-PYR	1.471	1.406	1.410	1.450	1.410	1.427	1.429	1.85
10)	Bifenthrin	9.881	9.548	8.406	7.814	7.001	7.556	8.368	13.64
11)	Danitol (Fenpr...	2.748	2.662	2.281	2.151	1.909	1.635	2.231	19.24
12)	Cyhalothrin-la...	2.032	1.983	1.552	1.346	1.229	1.339	1.580	22.00
13)	Permethrin-cis	5.612	5.669	4.597	4.799	4.244	5.159	5.013	11.36
14)	Permethrin-trans	4.772	4.860	3.976	3.881	3.637	4.211	4.223	11.74
15)	Cyfluthrin-1	0.388	0.396	0.330	0.288	0.258	0.467	0.355	21.77
16)	Cyfluthrin-2	0.528	0.549	0.401	0.372	0.334	0.538	0.454	21.00
17)	Cyfluthrin-3	0.294	0.305	0.255	0.285	0.262	0.243	0.274	8.84
18)	Cyfluthrin-4	0.250	0.266	0.216	0.245	0.299	0.334	0.269	15.67
19)	Cypermethrin-1	0.426	0.450	0.371	0.248	0.438	0.355	0.381	19.84
20)	Cypermethrin-2	0.375	0.410	0.324	0.281	0.243	0.303	0.323	18.94
21)	Cypermethrin-3	0.376	0.393	0.293	0.265	0.314	0.400	0.340	16.77
22)	Cypermethrin-4	0.294	0.303	0.244	0.193	0.261	0.214	0.251	17.16
23)	Fenvalerate	1.623	1.689	1.232	1.142	1.285	1.371	1.390	15.82
24)	Esfenvalerate	1.758	1.850	1.460	1.254	1.245	1.627	1.532	16.65
25)	Fluvalinate	1.446	1.541	1.051	0.835	0.911	0.795	1.097	29.28
26)	Deltamethrin/T...	0.433	0.460	0.206	0.247	0.179		0.305	43.11

(#) = Out of Range

Method Path : P:\Data, Organics Lab_Q2 Data Files\Q2_140428 NCI O-5136\
 Method File : Q_PYR_140411.M
 Title : Pyrethroids
 Last Update : Mon May 12 17:15:06 2014
 Response Via : Initial Calibration

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Calibration Files

500 =PYR500CCV_RR.D 250 =PYR250RR.D 100 =PYR100RR.D 50 =PYR50RR.D 25 =PYR25RR.D

Compound		500	250	100	50	25	Avg	%RSD

1) I	2,2',5,5'-Tetrabro...	-----ISTD-----						
2) S	(PCB112)-PYR	1.200	1.289	1.271	1.295	1.299	1.271	3.24
3) S	(PCB198)-PYR	0.289	0.327	0.321	0.328	0.330	0.319	5.37
4)	Allethrin	0.169	0.101	0.141	0.097	0.103	0.122	25.85
5)	Prallethrin	0.202	0.131	0.109	0.145	0.138	0.145	23.73
6)	Resmethrin	0.297	0.137	0.133	0.127	0.129	0.165	45.05
7)	Bifenthrin	0.113	0.092	0.084	0.085	0.080	0.091	14.51
8)	Danitol (Fenpr...	0.243	0.158	0.140	0.154	0.165	0.172	23.65
9)	L-Cyhalothrin	0.308	0.211	0.205	0.207	0.245	0.235	18.74
10)	Permethrin-cis	0.011	0.004				0.008	59.43
11)	Permethrin-trans	0.007	0.003				0.005	58.89
12)	Cyfluthrin-1	0.063	0.035	0.037	0.037	0.040	0.042	27.17
13)	Cyfluthrin-2	0.072	0.040	0.038	0.037	0.041	0.046	32.62
14)	Cyfluthrin-3	0.052	0.035	0.033	0.034	0.040	0.039	19.73
15)	Cyfluthrin-4	0.047	0.028	0.028	0.030	0.034	0.033	23.26
16)	Cypermethrin-1	0.047	0.028	0.028	0.028	0.030	0.032	25.53
17)	Cypermethrin-2	0.040	0.021	0.023	0.021	0.017	0.024	36.08
18)	Cypermethrin-3	0.047	0.028	0.029	0.026	0.039	0.034	27.36
19)	Cypermethrin-4	0.036	0.021	0.020	0.019	0.020	0.023	30.79
20)	Fenvalerate	0.483	0.224	0.245	0.244	0.272	0.293	36.55
21)	Esfenvalerate	0.463	0.224	0.226	0.201	0.252	0.273	39.40
22)	Fluvalinate	0.247	0.132	0.142	0.142	0.141	0.161	30.03
23)	Deltamethrin/T...	0.022	0.007				0.015	70.73

(#) = Out of Range

PHYSIS

Continuing Calibration Data

TERRA

FAUNA

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Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : SPEXMIX500_100ICV.D
 Acq On : 27 May 2014 06:56 pm
 Operator :
 Sample : SPEXMIX500_100ICV
 Misc :
 ALS Vial : 106 Sample Multiplier: 1

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Quant Time: Jun 13 14:38:32 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PYR_EI_140528.M
 Quant Title : Pyrethroids
 QLast Update : Mon Jun 02 09:29:20 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	39.810	312	1216332	1000.00		-0.07
7) 2,2',5,5'-Tetrabromobi...	50.862	391	236069	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)-PYR	25.543	244	233211	420.01		0.00
3) (PCB030)-PYR	30.578	256	587048	393.36		-0.02
8) (PCB112)-PYR	45.059	326	459245	428.40		0.01
9) (PCB198)-PYR	59.203	358	128068	379.69		0.03
Target Compounds						
					Qvalue	
4) Allethrin	42.708	123	767380m	633.79		
5) Prallethrin	43.713	123	440741m	416.16		
6) Resmethrin	0.000		0	N.D.		
10) Bifenthrin	55.857	181	2814174	1225.61		99
11) Danitol (Fenpropathrin)	56.235	97	503398	788.85		95
12) Cyhalothrin-lambda	59.732	181	231104	491.19		90
13) Permethrin-cis	62.329	183	255605	194.53		97
14) Permethrin-trans	62.836	183	1084524	968.75		98
15) Cyfluthrin-1	64.685	163	63065	692.92	#	83
16) Cyfluthrin-2	65.064	163	79020	638.14	#	70
17) Cyfluthrin-3	65.332	163	58092m	836.51		
18) Cyfluthrin-4	65.509	163	80624	1355.57	#	85
19) Cypermethrin-1	65.829	163	97603m	969.88		
20) Cypermethrin-2	66.227	163	97625	1094.11		92
21) Cypermethrin-3	66.495	163	94053	1064.56		95
22) Cypermethrin-4	66.658	163	88056	1275.70	#	90
23) Fenvalerate	69.247	125	483373	1269.58	#	80
24) Esfenvalerate	70.037	125	474394	1144.29	#	88
25) Fluvalinate	70.371	250	360871	1062.18	#	42
26) Deltamethrin/Tralomethrin	72.039	253	79254	789.69	#	26

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : PYR_RES1000CCV.D
 Acq On : 29 May 2014 01:49 am
 Operator :
 Sample : PYR_RES1000CCV
 Misc :
 ALS Vial : 101 Sample Multiplier: 1

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Quant Time: Jun 13 14:40:21 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PYR_EI_140528.M
 Quant Title : Pyrethroids
 QLast Update : Mon Jun 02 09:29:20 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	39.841	312	1512225	1000.00		-0.04
7) 2,2',5,5'-Tetrabromobi...	50.863	391	311662	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)-PYR	25.550	244	264296	382.85		0.01
3) (PCB030)-PYR	30.588	256	715384	385.56		0.00
8) (PCB112)-PYR	45.058	326	593413	419.30		0.00
9) (PCB198)-PYR	59.194	358	180681	405.75		0.02
Target Compounds						
					Qvalue	
4) Allethrin	42.698	123	1106015m	734.74		
5) Prallethrin	43.703	123	942697m	715.95		
6) Resmethrin	53.832	123	875513m	1307.59		
10) Bifenthrin	55.849	181	3838889	1266.38		99
11) Danitol (Fenpropathrin)	56.231	97	715825	849.66		94
12) Cyhalothrin-lambda	59.727	181	672876	1083.26		93
13) Permethrin-cis	62.327	183	706014	406.99		99
14) Permethrin-trans	62.838	183	1531225	1036.02		99
15) Cyfluthrin-1	64.672	163	153541m	1277.84		
16) Cyfluthrin-2	65.048	163	212177m	1297.87		
17) Cyfluthrin-3	65.332	163	110225m	1202.25		
18) Cyfluthrin-4	65.506	163	102084	1300.08	#	69
19) Cypermethrin-1	65.830	163	190582m	1434.47		
20) Cypermethrin-2	66.215	163	164931m	1400.09		
21) Cypermethrin-3	66.493	163	157592	1351.10		93
22) Cypermethrin-4	66.652	163	129170m	1417.44		
23) Fenvalerate	69.246	125	675043	1342.97	#	77
24) Esfenvalerate	70.034	125	791910	1446.87	#	87
25) Fluvalinate	70.364	250	704695	1571.10	#	44
26) Deltamethrin/Tralomethrin	72.041	253	181220	1367.72	#	26

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : PYR_RES1000FCV.D
 Acq On : 30 May 2014 01:17 am
 Operator :
 Sample : PYR_RES1000FCV
 Misc :
 ALS Vial : 101 Sample Multiplier: 1

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Quant Time: Jun 13 14:41:28 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PYR_EI_140528.M
 Quant Title : Pyrethroids
 QLast Update : Mon Jun 02 09:29:20 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	39.855	312	1663011	1000.00		-0.03
7) 2,2',5,5'-Tetrabromobi...	50.865	391	347568	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)-PYR	25.549	244	289319	381.10		0.00
3) (PCB030)-PYR	30.586	256	786808	385.61		0.00
8) (PCB112)-PYR	45.053	326	650979	412.45		0.00
9) (PCB198)-PYR	59.184	358	189168	380.92		0.01
Target Compounds						
					Qvalue	
4) Allethrin	42.688	123	1118864m	675.88		
5) Prallethrin	43.693	123	823642m	568.81		
6) Resmethrin	53.842	123	892369m	1211.92		
10) Bifenthrin	55.843	181	3919800	1159.48		99
11) Danitol (Fenpropathrin)	56.228	97	747624	795.73		91
12) Cyhalothrin-lambda	59.722	181	616857	890.48		91
13) Permethrin-cis	62.324	183	659863	341.09		98
14) Permethrin-trans	62.836	183	1490339	904.19		99
15) Cyfluthrin-1	64.672	163	151008m	1126.92		
16) Cyfluthrin-2	65.054	163	203065	1113.81		94
17) Cyfluthrin-3	65.333	163	112349	1098.82		88
18) Cyfluthrin-4	65.506	163	108916	1243.78	#	85
19) Cypermethrin-1	65.819	163	188866m	1274.69		
20) Cypermethrin-2	66.226	163	164059	1248.82		94
21) Cypermethrin-3	66.494	163	154833	1190.31		95
22) Cypermethrin-4	66.641	163	122111m	1201.55		
23) Fenvalerate	69.242	125	661585	1180.22	#	79
24) Esfenvalerate	70.033	125	785473	1286.85	#	88
25) Fluvalinate	70.366	250	616941m	1233.36		
26) Deltamethrin/Tralomethrin	72.031	253	185878m	1257.95		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PYR500 ICV			PYR1000 CCV			PYR1000 FCV		
	5/27/14 6:56 PM			5/29/14 1:49 AM			5/30/14 1:17 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PCB112	400	428	7	400	419	5	400	412	3
PCB198	400	380	5	400	406	1	400	381	5
Allethrin	500	634	27	1000	735	27	1000	676	32
Prallethrin	500	416	17	1000	716	28	1000	569	43
Resmethrin	500	0	100	1000	1308	31	1000	1212	21
Bifenthrin	500	1226	145	1000	1266	27	1000	1159	16
Danitol (Fenpropathrin)	500	789	58	1000	850	15	1000	796	20
Cyhalothrin-lambda	500	491	2	1000	1083	8	1000	890	11
Permethrin-cis	134	195	46	267	407	52	267	341	28
Permethrin-trans	358	969	171	716	1036	45	716	904	26
Cyfluthrin-1	500	693	39	1000	1278	28	1000	1127	13
Cyfluthrin-2	500	638	28	1000	1298	30	1000	1114	11
Cyfluthrin-3	500	837	67	1000	1202	20	1000	1099	10
Cyfluthrin-4	500	1356	171	1000	1300	30	1000	1244	24
Cypermethrin-1	500	970	94	1000	1434	43	1000	1275	27
Cypermethrin-2	500	1094	119	1000	1400	40	1000	1249	25
Cypermethrin-3	500	1065	113	1000	1351	35	1000	1190	19
Cypermethrin-4	500	1276	155	1000	1417	42	1000	1202	20
Fenvalerate	500	1270	154	1000	1343	34	1000	1180	18
Esfenvalerate	500	1144	129	1000	1447	45	1000	1287	29
Fluvalinate	500	1062	112	1000	1571	57	1000	1233	23
Deltamethrin-Tralomethrin	500	790	58	1000	1368	37	1000	1258	26
Average	-	-	95	-	-	35	-	-	21

Data Path : P:\Data, Organics Lab_Q2 Data Files\Q2_140428 NCI O-5136\
 Data File : PYR500ICV.D
 Acq On : 28 Apr 2014 11:22 pm
 Operator :
 Sample : PYR500ICV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: May 12 17:30:34 2014
 Quant Method : C:\msdchem\1\DATA_Q2\Q2_140428 NCI O-5136\Q_PYR_140411.M
 Quant Title : Pyrethroids
 QLast Update : Mon May 12 17:15:06 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	22.926	79	12422379	1000.00		0.00
System Monitoring Compounds						
2) (PCB112)-PYR	19.986	326	6356378	402.67		0.01
Spiked Amount 400.000			Recovery	=	100.67%	
3) (PCB198)-PYR	28.183	358	1528093	385.56		0.02
Spiked Amount 400.000			Recovery	=	96.39%	
Target Compounds						
					Qvalue	
4) Allethrin	18.471	167	3865227m	1089.62		
5) Prallethrin	18.498	167	3674387m	945.79		
6) Resmethrin	18.852	167	4028482	751.58		96
7) Bifenthrin	25.328	386	1595684	895.79		98
8) Danitol (Fenpropathrin)	25.681	141	3503705	829.05	#	100
9) L-Cyhalothrin	28.003	241	3509483	734.32		99
10) Permethrin-cis	30.215	207	23446m	150.92		
11) Permethrin-trans	30.591	207	68803	519.22	#	97
12) Cyfluthrin-1	32.035	207	712039	707.04		98
13) Cyfluthrin-2	32.315	207	822505	701.74		97
14) Cyfluthrin-3	32.576	207	731552	837.61		89
15) Cyfluthrin-4	32.685	207	793461m	901.64		
16) Cypermethrin-1	33.038	207	692742	827.76	#	95
17) Cypermethrin-2	33.351	207	566458	796.69	#	97
18) Cypermethrin-3	33.608	207	691625	818.83	#	93
19) Cypermethrin-4	33.712	207	523713m	817.53		
20) Fenvalerate	36.095	211	7637267	819.09	#	99
21) Esfenvalerate	36.782	211	6689326	782.71		98
22) Fluvalinate	36.955	294	3572583m	801.17		
23) Deltamethrin/Tralomethrin	38.766	297	388377	798.01		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : P:\Data, Organics Lab_Q2 Data Files\Q2_140428 NCI O-5136\
 Data File : PYR500CCV.D
 Acq On : 29 Apr 2014 3:20 pm
 Operator :
 Sample : PYR500CCV
 Misc :
 ALS Vial : 125 Sample Multiplier: 1

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Quant Time: May 12 21:36:18 2014
 Quant Method : C:\msdchem\1\DATA_Q2\Q2_140428 NCI O-5136\Q_PYR_140411.M
 Quant Title : Pyrethroids
 QLast Update : Mon May 12 17:15:06 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	22.926	79	13979475	1000.00		0.00
System Monitoring Compounds						
2) (PCB112)-PYR	19.986	326	7069680	397.97		0.01
Spiked Amount 400.000			Recovery	=	99.49%	
3) (PCB198)-PYR	28.182	358	1558118	349.34		0.02
Spiked Amount 400.000			Recovery	=	87.33%	
Target Compounds						
					Qvalue	
4) Allethrin	18.471	167	1612580	609.79		98
5) Prallethrin	18.498	167	1899868m	600.45		
6) Resmethrin	18.851	167	3137762	621.81		98
7) Bifenthrin	25.326	386	860785	534.28		97
8) Danitol (Fenpropathrin)	25.679	141	1881929	533.90	#	100
9) L-Cyhalothrin	27.999	241	3507625	682.59		99
10) Permethrin-cis	30.215	207	21157m	136.40		
11) Permethrin-trans	30.578	207	35724m	361.85		
12) Cyfluthrin-1	32.032	207	531761	561.64		97
13) Cyfluthrin-2	32.308	207	726042	613.82		98
14) Cyfluthrin-3	32.580	207	465139	589.75		90
15) Cyfluthrin-4	32.686	207	331595m	507.52		
16) Cypermethrin-1	33.037	207	418777	580.72	#	98
17) Cypermethrin-2	33.345	207	361861	583.52	#	97
18) Cypermethrin-3	33.613	207	397590	558.32	#	96
19) Cypermethrin-4	33.703	207	322433m	582.62		
20) Fenvalerate	36.094	211	3606706	520.25	#	99
21) Esfenvalerate	36.781	211	4040172	564.68		91
22) Fluvalinate	36.955	294	2570797m	627.21		
23) Deltamethrin/Tralomethrin	38.764	297	304426	677.31		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : P:\Data, Organics Lab_Q2 Data Files\Q2_140428 NCI O-5136\
 Data File : PYR500CCV2.D
 Acq On : 30 Apr 2014 10:04 am
 Operator :
 Sample : PYR500CCV2
 Misc :
 ALS Vial : 125 Sample Multiplier: 1

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Quant Time: May 13 21:29:21 2014
 Quant Method : C:\msdchem\1\DATA_Q2\Q2_140428 NCI O-5136\Q_PYR_140411.M
 Quant Title : Pyrethroids
 QLast Update : Mon May 12 17:15:06 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	22.924	79	15222731	1000.00		0.00
System Monitoring Compounds						
2) (PCB112)-PYR	19.988	326	8524784	440.69		0.01
Spiked Amount 400.000			Recovery	=	110.17%	
3) (PCB198)-PYR	28.181	358	1881156	387.32		0.02
Spiked Amount 400.000			Recovery	=	96.83%	
Target Compounds						
					Qvalue	
4) Allethrin	18.471	167	2240619m	705.97		
5) Prallethrin	18.498	167	2172546m	618.33		
6) Resmethrin	18.853	167	4227429	693.96		97
7) Bifenthrin	25.323	386	1042607	577.44		96
8) Danitol (Fenpropathrin)	25.679	141	2422013	591.04	#	100
9) L-Cyhalothrin	27.998	241	4264413	730.53		98
10) Permethrin-cis	30.206	207	25043m	141.70		
11) Permethrin-trans	30.587	207	50114	406.81	#	100
12) Cyfluthrin-1	32.026	207	681920	616.03		98
13) Cyfluthrin-2	32.305	207	833211	631.92		98
14) Cyfluthrin-3	32.573	207	542682	615.89		91
15) Cyfluthrin-4	32.685	207	402974m	541.97		
16) Cypermethrin-1	33.038	207	486040	602.61	#	98
17) Cypermethrin-2	33.340	207	422253	606.41	#	96
18) Cypermethrin-3	33.599	207	480490	593.11	#	92
19) Cypermethrin-4	33.712	207	362332m	593.17		
20) Fenvalerate	36.087	211	4472330	557.13	#	100
21) Esfenvalerate	36.776	211	4938711	600.22		91
22) Fluvalinate	36.945	294	3032322m	655.49		
23) Deltamethrin/Tralomethrin	38.764	297	440937	770.66	#	77

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : P:\Data, Organics Lab_Q2 Data Files\Q2_140428 NCI O-5136\
 Data File : PYR500FCV.D
 Acq On : 30 Apr 2014 9:17 pm
 Operator :
 Sample : PYR500FCV
 Misc :
 ALS Vial : 125 Sample Multiplier: 1

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Quant Time: May 13 21:30:13 2014
 Quant Method : C:\msdchem\1\DATA_Q2\Q2_140428 NCI O-5136\Q_PYR_140411.M
 Quant Title : Pyrethroids
 QLast Update : Mon May 12 17:15:06 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	22.921	79	14881995	1000.00		0.00
System Monitoring Compounds						
2) (PCB112)-PYR	19.983	326	8330371	440.50		0.00
Spiked Amount 400.000			Recovery	=	110.13%	
3) (PCB198)-PYR	28.178	358	1724871	363.28		0.01
Spiked Amount 400.000			Recovery	=	90.82%	
Target Compounds						
					Qvalue	
4) Allethrin	18.461	167	1759208m	618.90		
5) Prallethrin	18.498	167	2486073m	679.06		
6) Resmethrin	18.848	167	4045348	686.36		96
7) Bifenthrin	25.320	386	1039437	585.70		97
8) Danitol (Fenpropathrin)	25.673	141	2290345	579.27	#	100
9) L-Cyhalothrin	27.993	241	4011221	713.42		98
10) Permethrin-cis	30.200	207	24846	142.66	#	2
11) Permethrin-trans	30.590	207	36594	355.50	#	24
12) Cyfluthrin-1	32.025	207	593532	576.92		98
13) Cyfluthrin-2	32.305	207	771997	613.42		96
14) Cyfluthrin-3	32.581	207	470416	570.94		89
15) Cyfluthrin-4	32.685	207	374048m	525.45		
16) Cypermethrin-1	33.037	207	434335	571.97	#	98
17) Cypermethrin-2	33.339	207	386928	584.96	#	98
18) Cypermethrin-3	33.600	207	407241	545.90	#	92
19) Cypermethrin-4	33.712	207	317815m	557.49		
20) Fenvalerate	36.084	211	3745598	513.49	#	100
21) Esfenvalerate	36.776	211	4200488	557.66		91
22) Fluvalinate	36.936	294	2639701m	614.80		
23) Deltamethrin/Tralomethrin	38.758	297	374450	722.90		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PYR500 ICV			PYR500 CCV			PYR500 CCV2			PYR500 FCV		
	4/28/14 11:22 PM			4/29/14 3:20 PM			4/30/14 10:04 AM			4/30/14 9:17 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PCB112	400	403	1	400	398	1	400	441	10	400	441	10
PCB198	400	386	4	400	349	13	400	387	3	400	363	9
Allethrin	500	1090	118	500	610	22	500	706	41	500	619	24
Prallethrin	500	946	89	500	600	20	500	618	24	500	679	36
Resmethrin	500	752	50	500	622	24	500	694	39	500	686	37
Bifenthrin	500	896	79	500	534	7	500	577	15	500	586	17
Danitol (Fenpropathrin)	500	829	66	500	534	7	500	591	18	500	579	16
Cyhalothrin-lambda	500	734	47	500	683	37	500	731	46	500	713	43
Permethrin-cis	134	151	13	134	136	2	134	142	6	134	143	7
Permethrin-trans	358	519	45	358	362	1	358	407	14	358	356	1
Cyfluthrin-1	500	707	41	500	562	12	500	616	23	500	577	15
Cyfluthrin-2	500	702	40	500	614	23	500	632	26	500	613	23
Cyfluthrin-3	500	838	68	500	590	18	500	616	23	500	571	14
Cyfluthrin-4	500	902	80	500	508	2	500	542	8	500	525	5
Cypermethrin-1	500	828	66	500	581	16	500	603	21	500	572	14
Cypermethrin-2	500	797	59	500	584	17	500	606	21	500	585	17
Cypermethrin-3	500	819	64	500	558	12	500	593	19	500	546	9
Cypermethrin-4	500	818	64	500	583	17	500	593	19	500	557	11
Fenvalerate	500	819	64	500	520	4	500	557	11	500	513	3
Esfenvalerate	500	783	57	500	565	13	500	600	20	500	558	12
Fluvalinate	500	801	60	500	627	25	500	655	31	500	615	23
Deltamethrin-Tralomethrin	500	798	60	500	677	35	500	771	54	500	723	45
Average	-	-	56	-	-	15	-	-	23	-	-	16

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Toxaphene

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Summary of Internal Standards

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	2,2',5,5' - Tetrabromobiphenyl	
	Response	Retention Time
TOX10000ICV.D	152352	23.8695
B_5039.D	672198	23.8611
BS1_5039.D	1112139	23.8526
BS2_5039.D	1047777	23.8526
22571MS1.D	1272375	23.8611
22571MS2.D	625402	23.8526
22576.D	1386168	23.9203
22551.D	1750861	23.8611
22552.D	1137549	23.8611
22553.D	1189231	23.8611
22554.D	1298852	23.8611
22555.D	1569409	23.8611
22556.D	903377	23.8526
22557.D	1548665	23.8611
TOX10000CCV.D	335962	23.8611
22571.D	1123100	23.8611
22571R2.D	1066262	23.8611
22572.D	1359567	23.8526
22573.D	229761	23.0411
22574.D	279473	23.0411
22575.D	211653	23.0411
22599.D	202846	23.0411
22600.D	196349	23.0411
TOX10000FCV.D	174532	23.8530

	2,2',5,5' - Tetrabromobiphenyl	
	Response	Retention Time
TOX10000.D	26263	24.1147
B_5034.D	78034	24.0978
BS1_5034.D	118687	24.0893
BS2_5034.D	77482	24.0893
22482MS1.D	147756	24.0978
22482MS2.D	85915	24.0978
22492.D	205359	24.2415
22482.D	63163	24.0978
22482R2.D	99923	24.0978
22483.D	82969	24.0978
22484.D	97235	24.0978
22485.D	80325	24.0978
22486.D	58758	24.0978
22487.D	58879	24.0893
TOX10000CCV.D	13618	24.0978
22488.D	74584	24.0893
22489.D	56606	24.0893
22490.D	97537	24.0893
22491.D	60677	24.0893
22546.D	57063	24.0809
22547.D	108522	24.0893
22548.D	55908	24.0809
22549.D	75679	24.0809
22550.D	53150	24.0809
TOX10000FCV.D	8180	24.1062

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Continuing Calibration Data

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	TOX10000 CCV			TOX10000 FCV		
	11/15/13 5:03 AM			11/16/13 1:16 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Toxaphene	10000	12789	28	10000	8585	14

	TOX10000 CCV			TOX10000 FCV		
	11/10/13 3:20 AM			11/10/13 8:52 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Toxaphene	10000	14625	46	10000	25565	156

June 05, 2014

Chris Stransky
 AMEC
 9210 Sky Park Court
 Suite 200
 San Diego, CA 92123-

Project Name: RHMP Bight '13
 Physis Project ID: 1307002-012

Dear Chris,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 8/29/2013. A total of 12 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventionals
Percent Solids by SM 2540B
Ammonia as N by SM 4500-NH ₃ D
Acid Volatile Sulfides (AVS) by Plumb, 1981 and TERL
Elements
Trace Metals by EPA 6020
Trace Mercury by EPA 245.7
Total Phosphorus by EPA 6020
Simultaneously Extracted Metals Analysis (AVS-SEM) by EPA 200.8
Organics
Toxaphene w/ OCPs by EPA 8270C-NCI
Synthetic Pyrethroid Pesticides by EPA 8270C-NCI
Polynuclear Aromatic Hydrocarbons by EPA 8270C
PBDE Congeners by EPA 8270C-NCI
Organochlorine Pesticides & PCB Congeners/Aroclors by EPA 8270C
Fipronil & Degradates by EPA 8270C-NCI
Subcontract
Total Organic Carbon by SM 5310 B
Total Nitrogen by SM 4500-N

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

Misty Mercier
Extension 202
714-335-5918 cell
mistymercier@physislabs.com

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and are used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use was assessed through the analysis of procedural blanks at a minimum frequency of one per batch. Physis' QM requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the procedural blanks be flagged in the project sample results with a B qualifier.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS1/MS2, BS1/BS2, LCS1/LCS2, LCM1/LCM2, CRM1/CRM2, surrogate spikes and/or replicate project sample analysis (R1/R2) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

MATRIX SPIKES: MS samples were employed to assess the effect a particular project sample matrix has on the accuracy of a measurement. It is prepared by adding a known amount of the target analyte(s) to an aliquot of the project sample. Matrix spikes indicate the bias of analytical measurements due to chemical interferences inherent in the sample matrix. If the matrix spike recovery does not fall within the specified acceptance limits, it may be an indication of sample matrix interference in the specific project sample used for the MS. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

BLANK SPIKES: BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

CERTIFIED REFERENCE MATERIALS: CRMs are pre-homogenized materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of a preparation and analytical method. CRMs are analyzed to provide evidence that the laboratory method produces results that are comparable to those obtained by an independent organization.

SURROGATES: Where CRMs are unavailable, target analyte recovery can be assessed by monitoring added surrogate compounds/elements. A surrogate is a pure analyte unlikely to be found in any project sample and most often used with organic analytical procedures. Percent recovery is calculated for each surrogate and is used to monitor method performance within each discrete sample and is indicative of the procedure's ability to recover the actual analytes of interest.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored

under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes. Physis' QM requires that all samples analyzed beyond the method recommended holding time be flagged in the sample results with an H qualifier.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
*	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified recovery and/or RPD acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore MS recovery and/or RPD acceptance limits do not apply
SL	analyte results for R1 and/or R2 were lower than 10 times the MDL, therefore RPD acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore MS recovery and/or RPD were outside the specified acceptance limits
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples



CASE NARRATIVE

QUALIFIER NOTES

In addition to the use of analyte specific Physis Qualifier Codes where applicable, the following were also noted.

ELEMENTS CRM: Several elements, Aluminum (Al), Antimony (Sb), Arsenic (As), Beryllium (Be), Chromium (Cr), Iron (Fe) and Nickel (Ni) were above the specified acceptance limits in one or more CRM - RTC 016-050 and/or CRM - ERA 540. This occurred as a result of a more rigorous digestion employed by Physis, which causes a higher yield for some lithogenous elements. These values are in agreement with past internal results for CRM - RTC 016-050 and CRM - ERA 540.

ORGANICS: Blank spikes (BS1/BS2) for Endosulfan-I, Endosulfan-II, Endrin Aldehyde and Resmethrin fell outside of the acceptance range required by the associated project QAPP (70% – 130%), but passed PHYSIS' internal acceptance range for this analysis (50% - 150% for Endosulfan-I and Endosulfan-II, 0%-125% for Endrin Aldehyde, 0%-130% for Resmethrin).

Relative percent difference between blank spikes (BS1/BS2) failed for PAHs due to overspiking of BS1 compared to BS2.

Revisions 6/20/2014:

- Aroclors:
 - Updated Aroclor MDLs/RLs from 10/20 to 1/2
 - Added Aroclor 1262 and Aroclor 1268
 - After review of the data, the Technical Director made a decision to revise the data for the Aroclors
- RPDs:
 - Reviewed and updated all RPDs to 25%, per the RHMP QAPP. Revised Passes to Fails and added QA Qualifiers, where needed due to update.
- Acceptance Ranges
 - Reviewed and updated all Acceptance ranges per the RHMP QAPP. Revised Passes to Fails and added QA Qualifier, where needed due to update.
- CRM
 - After review of the data, the Technical Director made a decision to revise the Organics data for the CRM (SRM 1944).
- Recovery surrogates
 - After review of the recovery surrogates, the Technical Director made a decision to revise PAH recovery surrogates for sample B13-8073 (Physis Sample ID: 22557)

ANALYTICAL

REPORT

PHYSICS

TERRA **AMERICA** **AURORA**

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature



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CA ELAP #2769

Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22546-R1 B13-8109 Grab Matrix: Sediment Sampled: 28-Aug-13 7:43 Received: 29-Aug-13 Method: EPA 8270C Batch ID: O-5136 Prepared: 22-Apr-14 Analyzed: 11-May-14						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	2.4	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	
Sample ID: 22547-R1 B13-8118 Grab Matrix: Sediment Sampled: 28-Aug-13 10:36 Received: 29-Aug-13 Method: EPA 8270C Batch ID: O-5136 Prepared: 22-Apr-14 Analyzed: 11-May-14						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	6.2	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	
Sample ID: 22548-R1 B13-8122 Grab Matrix: Sediment Sampled: 28-Aug-13 13:48 Received: 29-Aug-13 Method: EPA 8270C Batch ID: O-5136 Prepared: 22-Apr-14 Analyzed: 11-May-14						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	



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Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1260	NA	5.7	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22549-R1**B13-8033 Grab**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-5136

Sampled: 28-Aug-13 16:58

Prepared: 22-Apr-14

Received: 29-Aug-13

Analyzed: 12-May-14

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	5.3	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22550-R1**B13-8093 Grab**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-5136

Sampled: 29-Aug-13 7:34

Prepared: 22-Apr-14

Received: 29-Aug-13

Analyzed: 12-May-14

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	5.9	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22551-R1**B13-8100 Grab**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-6004

Sampled: 29-Aug-13 8:44

Prepared: 16-May-14

Received: 29-Aug-13

Analyzed: 01-Jun-14

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	



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Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	53.9	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22552-R1**B13-8099 Grab**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-6004

Sampled: 29-Aug-13 9:55

Prepared: 16-May-14

Received: 29-Aug-13

Analyzed: 01-Jun-14

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	15.6	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22553-R1**B13-8098 Grab**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-6004

Sampled: 29-Aug-13 11:06

Prepared: 16-May-14

Received: 29-Aug-13

Analyzed: 01-Jun-14

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	2.1	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22554-R1**B13-8096 Grab**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-6004

Sampled: 29-Aug-13 12:34

Prepared: 16-May-14

Received: 29-Aug-13

Analyzed: 01-Jun-14



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CA ELAP #2769

Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	ND	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22555-R1**B13-8095 Grab**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-6004

Sampled: 29-Aug-13 14:14

Prepared: 16-May-14

Received: 29-Aug-13

Analyzed: 01-Jun-14

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	13.1	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22556-R1**B13-8087 Grab**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-6004

Sampled: 29-Aug-13 15:16

Prepared: 16-May-14

Received: 29-Aug-13

Analyzed: 01-Jun-14

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	ND	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	



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Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22557-R1		B13-8073 Grab		Matrix: Sediment		Sampled: 29-Aug-13 16:38
Method: EPA 8270C		Batch ID: O-6004		Prepared: 16-May-14		Received: 29-Aug-13
						Analyzed: 01-Jun-14
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	ND	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	



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CA ELAP #2769

Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22546-R1 B13-8109 Grab Matrix: Sediment Sampled: 28-Aug-13 7:43 Received: 29-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 10-Nov-13						
Toxaphene	NA	ND	0.1	0.2	ng/dry g	
Method: EPA 8270C Batch ID: O-5136 Prepared: 22-Apr-14 Analyzed: 11-May-14						
(PCB030)	NA	84			% Recovery	
(PCB112)	NA	92			% Recovery	
(PCB198)	NA	88			% Recovery	
(TCMX)	NA	87			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	0.37	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22547-R1**B13-8118 Grab****Matrix: Sediment****Sampled: 28-Aug-13 10:36****Received: 29-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 10-Nov-13

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5136	Prepared: 22-Apr-14	Analyzed: 11-May-14		
(PCB030)	NA	103			% Recovery	
(PCB112)	NA	106			% Recovery	
(PCB198)	NA	101			% Recovery	
(TCMX)	NA	101			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22548-R1

B13-8122 Grab

Matrix: Sediment

Sampled: 28-Aug-13 13:48

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 10-Nov-13

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5136	Prepared: 22-Apr-14	Analyzed: 11-May-14		
(PCB030)	NA	73			% Recovery	
(PCB112)	NA	86			% Recovery	
(PCB198)	NA	97			% Recovery	
(TCMX)	NA	78			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22549-R1

B13-8033 Grab

Matrix: Sediment

Sampled: 28-Aug-13 16:58

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 10-Nov-13

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C		Batch ID: O-5136		Prepared: 22-Apr-14	Analyzed: 12-May-14
(PCB030)	NA	93			% Recovery	
(PCB112)	NA	94			% Recovery	
(PCB198)	NA	98			% Recovery	
(TCMX)	NA	96			% Recovery	

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22550-R1 B13-8093 Grab Matrix: Sediment Sampled: 29-Aug-13 7:34 Received: 29-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 10-Nov-13						
Toxaphene	NA	ND	0.1	0.2	ng/dry g	
Method: EPA 8270C Batch ID: O-5136 Prepared: 22-Apr-14 Analyzed: 12-May-14						
(PCB030)	NA	84			% Recovery	
(PCB112)	NA	94			% Recovery	
(PCB198)	NA	103			% Recovery	
(TCMX)	NA	88			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22551-R1

B13-8100 Grab

Matrix: Sediment

Sampled: 29-Aug-13 8:44

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-6004	Prepared: 16-May-14	Analyzed: 01-Jun-14		
(PCB030)	NA	98			% Recovery	
(PCB112)	NA	96			% Recovery	
(PCB198)	NA	78			% Recovery	
(TCMX)	NA	99			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	0.49	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	0.84	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	

PHYSIS Project ID: 1307002-012

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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	0.35	0.05	0.1	ng/dry g	

Sample ID: 22552-R1

B13-8099 Grab

Matrix: Sediment

Sampled: 29-Aug-13 9:55

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-6004	Prepared: 16-May-14	Analyzed: 01-Jun-14		
(PCB030)	NA	89			% Recovery	
(PCB112)	NA	87			% Recovery	
(PCB198)	NA	74			% Recovery	
(TCMX)	NA	89			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	0.57	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	0.55	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22553-R1**B13-8098 Grab****Matrix: Sediment****Sampled: 29-Aug-13 11:06****Received: 29-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C		Batch ID: O-6004		Prepared: 16-May-14	
(PCB030)	NA	95			% Recovery	Analyzed: 01-Jun-14
(PCB112)	NA	97			% Recovery	
(PCB198)	NA	89			% Recovery	
(TCMX)	NA	93			% Recovery	

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22554-R1 B13-8096 Grab Matrix: Sediment Sampled: 29-Aug-13 12:34 Received: 29-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5039 Prepared: 12-Nov-13 Analyzed: 15-Nov-13						
Toxaphene	NA	ND	0.1	0.2	ng/dry g	
Method: EPA 8270C Batch ID: O-6004 Prepared: 16-May-14 Analyzed: 01-Jun-14						
(PCB030)	NA	93			% Recovery	
(PCB112)	NA	99			% Recovery	
(PCB198)	NA	85			% Recovery	
(TCMX)	NA	94			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22555-R1

B13-8095 Grab

Matrix: Sediment

Sampled: 29-Aug-13 14:14

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-6004	Prepared: 16-May-14	Analyzed: 01-Jun-14		
(PCB030)	NA	94			% Recovery	
(PCB112)	NA	99			% Recovery	
(PCB198)	NA	82			% Recovery	
(TCMX)	NA	97			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	

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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22556-R1

B13-8087 Grab

Matrix: Sediment

Sampled: 29-Aug-13 15:16

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-6004	Prepared: 16-May-14	Analyzed: 01-Jun-14		
(PCB030)	NA	92			% Recovery	
(PCB112)	NA	102			% Recovery	
(PCB198)	NA	92			% Recovery	
(TCMX)	NA	97			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	

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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22557-R1**B13-8073 Grab****Matrix: Sediment****Sampled: 29-Aug-13 16:38****Received: 29-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C		Batch ID: O-6004		Prepared: 16-May-14	Analyzed: 01-Jun-14
(PCB030)	NA	85			% Recovery	
(PCB112)	NA	104			% Recovery	
(PCB198)	NA	91			% Recovery	
(TCMX)	NA	65			% Recovery	

PHYSIS Project ID: 1307002-012

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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	



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Conventionals

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22546-R1 B13-8109 Grab Matrix: Sediment Sampled: 28-Aug-13 7:43 Received: 29-Aug-13 Method: Plumb, 1981 and TERL Batch ID: C-14065 Prepared: 15-Oct-13 Analyzed: 15-Oct-13						
Acid Volatile Sulfides	NA	5.96	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14071		Prepared: 16-Oct-13		Analyzed: 16-Oct-13
Ammonia as N	NA	0.48	0.02	0.03	mg/dry kg	
	Method: SM 2540B	Batch ID: E-7004		Prepared: 14-Oct-13		Analyzed: 14-Oct-13
Percent Solids	NA	64.7	0.1	0.1	% Dry Weight	
	Method: EPA 6020	Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 21-Oct-13
Total Phosphorus	NA	313.437	0.016	0.05	µg/dry g	
Sample ID: 22547-R1 B13-8118 Grab Matrix: Sediment Sampled: 28-Aug-13 10:36 Received: 29-Aug-13 Method: Plumb, 1981 and TERL Batch ID: C-14065 Prepared: 15-Oct-13 Analyzed: 15-Oct-13						
Acid Volatile Sulfides	NA	4.29	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14071		Prepared: 16-Oct-13		Analyzed: 16-Oct-13
Ammonia as N	NA	0.47	0.02	0.03	mg/dry kg	
	Method: SM 2540B	Batch ID: E-7004		Prepared: 14-Oct-13		Analyzed: 14-Oct-13
Percent Solids	NA	54	0.1	0.1	% Dry Weight	
	Method: EPA 6020	Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 21-Oct-13
Total Phosphorus	NA	666.258	0.016	0.05	µg/dry g	
Sample ID: 22548-R1 B13-8122 Grab Matrix: Sediment Sampled: 28-Aug-13 13:48 Received: 29-Aug-13 Method: Plumb, 1981 and TERL Batch ID: C-14065 Prepared: 15-Oct-13 Analyzed: 15-Oct-13						
Acid Volatile Sulfides	NA	4.61	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14071		Prepared: 16-Oct-13		Analyzed: 16-Oct-13
Ammonia as N	NA	0.26	0.02	0.03	mg/dry kg	
	Method: SM 2540B	Batch ID: E-7004		Prepared: 14-Oct-13		Analyzed: 14-Oct-13
Percent Solids	NA	69.8	0.1	0.1	% Dry Weight	
	Method: EPA 6020	Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 21-Oct-13
Total Phosphorus	NA	276.556	0.016	0.05	µg/dry g	
Sample ID: 22549-R1 B13-8033 Grab Matrix: Sediment Sampled: 28-Aug-13 16:58 Received: 29-Aug-13 Method: Plumb, 1981 and TERL Batch ID: C-14065 Prepared: 15-Oct-13 Analyzed: 15-Oct-13						
Acid Volatile Sulfides	NA	88	0.05	0.1	mg/dry kg	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14071		Prepared: 16-Oct-13		Analyzed: 16-Oct-13
	NA	1.46	0.02	0.03	mg/dry kg	
Percent Solids	Method: SM 2540B	Batch ID: E-7004		Prepared: 14-Oct-13		Analyzed: 14-Oct-13
	NA	47.8	0.1	0.1	% Dry Weight	
Total Phosphorus	Method: EPA 6020	Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 21-Oct-13
	NA	501.7	0.016	0.05	µg/dry g	
Sample ID: 22550-R1 B13-8093 Grab Matrix: Sediment Sampled: 29-Aug-13 7:34 Received: 29-Aug-13						
Acid Volatile Sulfides	Method: Plumb, 1981 and TERL	Batch ID: C-14065		Prepared: 15-Oct-13		Analyzed: 15-Oct-13
	NA	3.89	0.05	0.1	mg/dry kg	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14071		Prepared: 16-Oct-13		Analyzed: 16-Oct-13
	NA	0.36	0.02	0.03	mg/dry kg	
Percent Solids	Method: SM 2540B	Batch ID: E-7004		Prepared: 14-Oct-13		Analyzed: 14-Oct-13
	NA	66.5	0.1	0.1	% Dry Weight	
Total Phosphorus	Method: EPA 6020	Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 21-Oct-13
	NA	298.87	0.016	0.05	µg/dry g	
Sample ID: 22551-R1 B13-8100 Grab Matrix: Sediment Sampled: 29-Aug-13 8:44 Received: 29-Aug-13						
Acid Volatile Sulfides	Method: Plumb, 1981 and TERL	Batch ID: C-14065		Prepared: 15-Oct-13		Analyzed: 15-Oct-13
	NA	25.96	0.05	0.1	mg/dry kg	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14071		Prepared: 16-Oct-13		Analyzed: 16-Oct-13
	NA	0.86	0.02	0.03	mg/dry kg	
Percent Solids	Method: SM 2540B	Batch ID: E-7004		Prepared: 14-Oct-13		Analyzed: 14-Oct-13
	NA	42.1	0.1	0.1	% Dry Weight	
Total Phosphorus	Method: EPA 6020	Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 21-Oct-13
	NA	731.669	0.016	0.05	µg/dry g	
Sample ID: 22552-R1 B13-8099 Grab Matrix: Sediment Sampled: 29-Aug-13 9:55 Received: 29-Aug-13						
Acid Volatile Sulfides	Method: Plumb, 1981 and TERL	Batch ID: C-14065		Prepared: 15-Oct-13		Analyzed: 15-Oct-13
	NA	24.97	0.05	0.1	mg/dry kg	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14071		Prepared: 16-Oct-13		Analyzed: 16-Oct-13
	NA	0.59	0.02	0.03	mg/dry kg	
	Method: SM 2540B	Batch ID: E-7004		Prepared: 14-Oct-13		Analyzed: 14-Oct-13



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Conventionals

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Percent Solids	NA	51.8	0.1	0.1	% Dry Weight	
	Method: EPA 6020	Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 21-Oct-13
Total Phosphorus	NA	529.122	0.016	0.05	µg/dry g	
Sample ID: 22553-R1	B13-8098 Grab	Matrix: Sediment	Sampled: 29-Aug-13 11:06	Received: 29-Aug-13		
	Method: Plumb, 1981 and TERL	Batch ID: C-14065	Prepared: 15-Oct-13	Analyzed: 15-Oct-13		
Acid Volatile Sulfides	NA	3.31	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14071	Prepared: 16-Oct-13	Analyzed: 16-Oct-13		
Ammonia as N	NA	0.31	0.02	0.03	mg/dry kg	
	Method: SM 2540B	Batch ID: E-7004	Prepared: 14-Oct-13	Analyzed: 14-Oct-13		
Percent Solids	NA	67.6	0.1	0.1	% Dry Weight	
	Method: EPA 6020	Batch ID: E-7006	Prepared: 12-Oct-13	Analyzed: 21-Oct-13		
Total Phosphorus	NA	228.047	0.016	0.05	µg/dry g	
Sample ID: 22554-R1	B13-8096 Grab	Matrix: Sediment	Sampled: 29-Aug-13 12:34	Received: 29-Aug-13		
	Method: Plumb, 1981 and TERL	Batch ID: C-14065	Prepared: 15-Oct-13	Analyzed: 15-Oct-13		
Acid Volatile Sulfides	NA	3.83	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14071	Prepared: 16-Oct-13	Analyzed: 16-Oct-13		
Ammonia as N	NA	0.36	0.02	0.03	mg/dry kg	
	Method: SM 2540B	Batch ID: E-7004	Prepared: 14-Oct-13	Analyzed: 14-Oct-13		
Percent Solids	NA	67.5	0.1	0.1	% Dry Weight	
	Method: EPA 6020	Batch ID: E-7006	Prepared: 12-Oct-13	Analyzed: 21-Oct-13		
Total Phosphorus	NA	267.578	0.016	0.05	µg/dry g	
Sample ID: 22555-R1	B13-8095 Grab	Matrix: Sediment	Sampled: 29-Aug-13 14:14	Received: 29-Aug-13		
	Method: Plumb, 1981 and TERL	Batch ID: C-14065	Prepared: 15-Oct-13	Analyzed: 15-Oct-13		
Acid Volatile Sulfides	NA	39.02	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14071	Prepared: 16-Oct-13	Analyzed: 16-Oct-13		
Ammonia as N	NA	0.81	0.02	0.03	mg/dry kg	
	Method: SM 2540B	Batch ID: E-7004	Prepared: 14-Oct-13	Analyzed: 14-Oct-13		
Percent Solids	NA	39.2	0.1	0.1	% Dry Weight	
	Method: EPA 6020	Batch ID: E-7006	Prepared: 12-Oct-13	Analyzed: 21-Oct-13		
Total Phosphorus	NA	783.583	0.016	0.05	µg/dry g	



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Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22556-R1		B13-8087 Grab	Matrix: Sediment	Sampled: 29-Aug-13 15:16	Received: 29-Aug-13	
	Method: Plumb, 1981 and TERL	Batch ID: C-14065		Prepared: 15-Oct-13	Analyzed: 15-Oct-13	
Acid Volatile Sulfides	NA	2.13	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14071		Prepared: 16-Oct-13	Analyzed: 16-Oct-13	
Ammonia as N	NA	0.24	0.02	0.03	mg/dry kg	
	Method: SM 2540B	Batch ID: E-7004		Prepared: 14-Oct-13	Analyzed: 14-Oct-13	
Percent Solids	NA	74.3	0.1	0.1	% Dry Weight	
	Method: EPA 6020	Batch ID: E-7007		Prepared: 12-Oct-13	Analyzed: 21-Oct-13	
Total Phosphorus	NA	243.945	0.016	0.05	µg/dry g	
Sample ID: 22557-R1		B13-8073 Grab	Matrix: Sediment	Sampled: 29-Aug-13 16:38	Received: 29-Aug-13	
	Method: Plumb, 1981 and TERL	Batch ID: C-14065		Prepared: 15-Oct-13	Analyzed: 15-Oct-13	
Acid Volatile Sulfides	NA	87.63	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14071		Prepared: 16-Oct-13	Analyzed: 16-Oct-13	
Ammonia as N	NA	0.39	0.02	0.03	mg/dry kg	
	Method: SM 2540B	Batch ID: E-7004		Prepared: 14-Oct-13	Analyzed: 14-Oct-13	
Percent Solids	NA	68.6	0.1	0.1	% Dry Weight	
	Method: EPA 6020	Batch ID: E-7007		Prepared: 12-Oct-13	Analyzed: 21-Oct-13	
Total Phosphorus	NA	189.922	0.016	0.05	µg/dry g	



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22546-R1 B13-8109 Grab Matrix: Sediment Sampled: 28-Aug-13 7:43 Received: 29-Aug-13 Method: EPA 245.7 Batch ID: E-6038 Prepared: 22-Oct-13 Analyzed: 22-Oct-13						
Mercury (Hg)	NA	0.2343	0.00001	0.00002	µg/dry g	
Method: EPA 6020 Batch ID: E-7006 Prepared: 12-Oct-13 Analyzed: 22-Oct-13						
Aluminum (Al)	NA	14474.7	1	5	µg/dry g	
Antimony (Sb)	NA	0.173	0.025	0.05	µg/dry g	
Arsenic (As)	NA	5.513	0.025	0.05	µg/dry g	
Barium (Ba)	NA	51.897	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.291	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1204	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	27.2327	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	45.9594	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	16030.5	1	5	µg/dry g	
Lead (Pb)	NA	20.5683	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	7.22	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.153	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.35	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	92.488	0.025	0.05	µg/dry g	
Sample ID: 22547-R1 B13-8118 Grab Matrix: Sediment Sampled: 28-Aug-13 10:36 Received: 29-Aug-13 Method: EPA 245.7 Batch ID: E-6038 Prepared: 22-Oct-13 Analyzed: 22-Oct-13						
Mercury (Hg)	NA	0.6195	0.00001	0.00002	µg/dry g	
Method: EPA 6020 Batch ID: E-7006 Prepared: 12-Oct-13 Analyzed: 22-Oct-13						
Aluminum (Al)	NA	31356.6	1	5	µg/dry g	
Antimony (Sb)	NA	0.327	0.025	0.05	µg/dry g	
Arsenic (As)	NA	11.207	0.025	0.05	µg/dry g	
Barium (Ba)	NA	98.815	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.548	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.179	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	55.5499	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	99.1408	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	31527.1	1	5	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Lead (Pb)	NA	36.0305	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	14.56	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.261	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.64	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	168.769	0.025	0.05	µg/dry g	

Sample ID: 22548-R1**B13-8122 Grab****Matrix: Sediment****Sampled: 28-Aug-13 13:48****Received: 29-Aug-13**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13

Mercury (Hg)	NA	0.1716	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 22-Oct-13
Aluminum (Al)	NA	14144.5	1	5	µg/dry g	
Antimony (Sb)	NA	0.11	0.025	0.05	µg/dry g	
Arsenic (As)	NA	4.344	0.025	0.05	µg/dry g	
Barium (Ba)	NA	70.851	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.187	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1372	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	28.1918	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	32.0845	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	14982.5	1	5	µg/dry g	
Lead (Pb)	NA	11.9767	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	6.19	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.095	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.27	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	80.93	0.025	0.05	µg/dry g	

Sample ID: 22549-R1**B13-8033 Grab****Matrix: Sediment****Sampled: 28-Aug-13 16:58****Received: 29-Aug-13**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13

Mercury (Hg)	NA	0.1845	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 22-Oct-13
Aluminum (Al)	NA	34928.8	1	5	µg/dry g	
Antimony (Sb)	NA	0.285	0.025	0.05	µg/dry g	
Arsenic (As)	NA	7.982	0.025	0.05	µg/dry g	
Barium (Ba)	NA	92.784	0.025	0.05	µg/dry g	



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Beryllium (Be)	NA	0.573	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2297	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	46.0093	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	100.8652	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	32280.4	1	5	µg/dry g	
Lead (Pb)	NA	23.5371	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	14.1	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.276	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.52	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	175.166	0.025	0.05	µg/dry g	

Sample ID: 22550-R1**B13-8093 Grab****Matrix: Sediment****Sampled: 29-Aug-13 7:34****Received: 29-Aug-13**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13

Mercury (Hg)	NA	0.1763	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 22-Oct-13
Aluminum (Al)	NA	13609.4	1	5	µg/dry g	
Antimony (Sb)	NA	0.212	0.025	0.05	µg/dry g	
Arsenic (As)	NA	6.725	0.025	0.05	µg/dry g	
Barium (Ba)	NA	37.315	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.259	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.0676	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	26.7602	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	37.7513	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	15443.3	1	5	µg/dry g	
Lead (Pb)	NA	17.7224	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	6.11	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.128	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.25	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	97.372	0.025	0.05	µg/dry g	

Sample ID: 22551-R1**B13-8100 Grab****Matrix: Sediment****Sampled: 29-Aug-13 8:44****Received: 29-Aug-13**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13

Mercury (Hg)	NA	0.6203	0.00001	0.00002	µg/dry g	
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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Method: EPA 6020		Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 22-Oct-13
Aluminum (Al)	NA	42172	1	5	µg/dry g	
Antimony (Sb)	NA	0.435	0.025	0.05	µg/dry g	
Arsenic (As)	NA	12.291	0.025	0.05	µg/dry g	
Barium (Ba)	NA	123.76	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.736	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2703	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	73.1008	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	158.1639	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	38789.6	1	5	µg/dry g	
Lead (Pb)	NA	51.5877	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	18.96	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.389	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.92	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	238.729	0.025	0.05	µg/dry g	

Sample ID: 22552-R1

B13-8099 Grab

Matrix: Sediment

Sampled: 29-Aug-13 9:55

Received: 29-Aug-13

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13

Mercury (Hg)	NA	0.4133	0.00001	0.00002	µg/dry g	
Method: EPA 6020		Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 22-Oct-13
Aluminum (Al)	NA	28817.8	1	5	µg/dry g	
Antimony (Sb)	NA	0.44	0.025	0.05	µg/dry g	
Arsenic (As)	NA	8.132	0.025	0.05	µg/dry g	
Barium (Ba)	NA	86.367	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.486	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1719	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	49.1853	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	98.8823	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	29194.8	1	5	µg/dry g	
Lead (Pb)	NA	34.2079	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	13.26	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.225	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.58	0.01	0.02	µg/dry g	

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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Elements

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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Zinc (Zn)	NA	168.002	0.025	0.05	µg/dry g	
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Sample ID: 22553-R1

B13-8098 Grab

Matrix: Sediment

Sampled: 29-Aug-13 11:06

Received: 29-Aug-13

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13

Mercury (Hg)	NA	0.1276	0.00001	0.00002	µg/dry g	
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Method: EPA 6020

Batch ID: E-7006

Prepared: 12-Oct-13

Analyzed: 22-Oct-13

Aluminum (Al)	NA	11423.9	1	5	µg/dry g	
Antimony (Sb)	NA	0.176	0.025	0.05	µg/dry g	
Arsenic (As)	NA	3.973	0.025	0.05	µg/dry g	
Barium (Ba)	NA	30.817	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.196	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.0503	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	19.5479	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	37.3815	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	12119.4	1	5	µg/dry g	
Lead (Pb)	NA	13.3615	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	4.93	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.086	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	61.4	0.025	0.05	µg/dry g	

Sample ID: 22554-R1

B13-8096 Grab

Matrix: Sediment

Sampled: 29-Aug-13 12:34

Received: 29-Aug-13

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13

Mercury (Hg)	NA	0.1652	0.00001	0.00002	µg/dry g	
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Method: EPA 6020

Batch ID: E-7006

Prepared: 12-Oct-13

Analyzed: 22-Oct-13

Aluminum (Al)	NA	13359.9	1	5	µg/dry g	
Antimony (Sb)	NA	0.224	0.025	0.05	µg/dry g	
Arsenic (As)	NA	4.41	0.025	0.05	µg/dry g	
Barium (Ba)	NA	41.869	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.239	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.0664	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	22.8916	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	43.5091	0.0025	0.005	µg/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Iron (Fe)	NA	14013.6	1	5	µg/dry g	
Lead (Pb)	NA	15.3649	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	6.06	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.09	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.26	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	74.326	0.025	0.05	µg/dry g	

Sample ID: 22555-R1

B13-8095 Grab

Matrix: Sediment

Sampled: 29-Aug-13 14:14

Received: 29-Aug-13

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13

Mercury (Hg)	NA	0.668	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 22-Oct-13
Aluminum (Al)	NA	42219.9	1	5	µg/dry g	
Antimony (Sb)	NA	0.53	0.025	0.05	µg/dry g	
Arsenic (As)	NA	13.021	0.025	0.05	µg/dry g	
Barium (Ba)	NA	114.536	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.769	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2723	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	79.8841	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	179.6054	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	40459.5	1	5	µg/dry g	
Lead (Pb)	NA	56.5928	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	20.76	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.415	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.97	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	266.377	0.025	0.05	µg/dry g	

Sample ID: 22556-R1

B13-8087 Grab

Matrix: Sediment

Sampled: 29-Aug-13 15:16

Received: 29-Aug-13

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13

Mercury (Hg)	NA	0.0682	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7007		Prepared: 12-Oct-13		Analyzed: 22-Oct-13
Aluminum (Al)	NA	7390.4	1	5	µg/dry g	
Antimony (Sb)	NA	0.156	0.025	0.05	µg/dry g	
Arsenic (As)	NA	5.299	0.025	0.05	µg/dry g	



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Elements

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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Barium (Ba)	NA	19.784	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.141	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.03	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	12.2231	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	19.4188	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	9900.2	1	5	µg/dry g	
Lead (Pb)	NA	8.9627	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	3.29	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.065	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.08	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	44.844	0.025	0.05	µg/dry g	

Sample ID: 22557-R1

B13-8073 Grab

Matrix: Sediment

Sampled: 29-Aug-13 16:38

Received: 29-Aug-13

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13

Mercury (Hg)	NA	0.2902	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7007		Prepared: 12-Oct-13		Analyzed: 22-Oct-13
Aluminum (Al)	NA	9765	1	5	µg/dry g	
Antimony (Sb)	NA	0.168	0.025	0.05	µg/dry g	
Arsenic (As)	NA	3.968	0.025	0.05	µg/dry g	
Barium (Ba)	NA	22.013	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.174	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1666	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	17.9832	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	65.3327	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	9221.3	1	5	µg/dry g	
Lead (Pb)	NA	16.4354	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	4.25	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.091	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.28	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	96.629	0.025	0.05	µg/dry g	



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CA ELAP #2769

Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22546-R1 B13-8109 Grab Matrix: Sediment Sampled: 28-Aug-13 7:43 Received: 29-Aug-13 Method: EPA 200.8 Batch ID: E-7010 Prepared: 18-Oct-13 Analyzed: 18-Oct-13						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.2778	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0531	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0079	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.7166	0.0015	0.003	µmol/dry g	
Sample ID: 22547-R1 B13-8118 Grab Matrix: Sediment Sampled: 28-Aug-13 10:36 Received: 29-Aug-13 Method: EPA 200.8 Batch ID: E-7010 Prepared: 18-Oct-13 Analyzed: 18-Oct-13						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.7292	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.1142	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0156	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.3469	0.0015	0.003	µmol/dry g	
Sample ID: 22548-R1 B13-8122 Grab Matrix: Sediment Sampled: 28-Aug-13 13:48 Received: 29-Aug-13 Method: EPA 200.8 Batch ID: E-7010 Prepared: 18-Oct-13 Analyzed: 18-Oct-13						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.149	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0394	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0048	0.0033	0.0066	µmol/dry g	J
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.6639	0.0015	0.003	µmol/dry g	
Sample ID: 22549-R1 B13-8033 Grab Matrix: Sediment Sampled: 28-Aug-13 16:58 Received: 29-Aug-13 Method: EPA 200.8 Batch ID: E-7010 Prepared: 18-Oct-13 Analyzed: 18-Oct-13						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.1792	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0626	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0154	0.0033	0.0066	µmol/dry g	



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.2988	0.0015	0.003	µmol/dry g	

Sample ID: 22550-R1**B13-8093 Grab**

Method: EPA 200.8

Matrix: Sediment

Batch ID: E-7010

Sampled: 29-Aug-13 7:34

Prepared: 18-Oct-13

Received: 29-Aug-13

Analyzed: 18-Oct-13

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.273	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0504	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0076	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.7243	0.0015	0.003	µmol/dry g	

Sample ID: 22551-R1**B13-8100 Grab**

Method: EPA 200.8

Matrix: Sediment

Batch ID: E-7010

Sampled: 29-Aug-13 8:44

Prepared: 18-Oct-13

Received: 29-Aug-13

Analyzed: 18-Oct-13

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	1.0528	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.2448	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0318	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	3.0145	0.0015	0.003	µmol/dry g	

Sample ID: 22552-R1**B13-8099 Grab**

Method: EPA 200.8

Matrix: Sediment

Batch ID: E-7010

Sampled: 29-Aug-13 9:55

Prepared: 18-Oct-13

Received: 29-Aug-13

Analyzed: 18-Oct-13

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.3205	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0991	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0142	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.3538	0.0015	0.003	µmol/dry g	

Sample ID: 22553-R1**B13-8098 Grab**

Method: EPA 200.8

Matrix: Sediment

Batch ID: E-7010

Sampled: 29-Aug-13 11:06

Prepared: 18-Oct-13

Received: 29-Aug-13

Analyzed: 18-Oct-13

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.2438	0.0062	0.0124	µmol/dry g	



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CA ELAP #2769

Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Lead (Pb) - SEM	NA	0.0442	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0056	0.0033	0.0066	µmol/dry g	J
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.4958	0.0015	0.003	µmol/dry g	

Sample ID: 22554-R1**B13-8096 Grab**

Method: EPA 200.8

Matrix: Sediment

Batch ID: E-7010

Sampled: 29-Aug-13 12:34

Prepared: 18-Oct-13

Received: 29-Aug-13

Analyzed: 18-Oct-13

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.2659	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0497	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0071	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.6282	0.0015	0.003	µmol/dry g	

Sample ID: 22555-R1**B13-8095 Grab**

Method: EPA 200.8

Matrix: Sediment

Batch ID: E-7010

Sampled: 29-Aug-13 14:14

Prepared: 18-Oct-13

Received: 29-Aug-13

Analyzed: 18-Oct-13

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.6126	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.1716	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0241	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	2.4935	0.0015	0.003	µmol/dry g	

Sample ID: 22556-R1**B13-8087 Grab**

Method: EPA 200.8

Matrix: Sediment

Batch ID: E-7011

Sampled: 29-Aug-13 15:16

Prepared: 18-Oct-13

Received: 29-Aug-13

Analyzed: 18-Oct-13

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.1786	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0243	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0037	0.0033	0.0066	µmol/dry g	J
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.3069	0.0015	0.003	µmol/dry g	

Sample ID: 22557-R1**B13-8073 Grab**

Method: EPA 200.8

Matrix: Sediment

Batch ID: E-7011

Sampled: 29-Aug-13 16:38

Prepared: 18-Oct-13

Received: 29-Aug-13

Analyzed: 18-Oct-13

PHYSIS Project ID: 1307002-012	Client: AMEC	Project: RHMP Bight '13
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CA ELAP #2769

Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	μmol/dry g	
Copper (Cu) - SEM	NA	0.1365	0.0062	0.0124	μmol/dry g	
Lead (Pb) - SEM	NA	0.0498	0.0002	0.0004	μmol/dry g	
Nickel (Ni) - SEM	NA	0.005	0.0033	0.0066	μmol/dry g	J
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	μmol/dry g	
Zinc (Zn) - SEM	NA	1.1146	0.0015	0.003	μmol/dry g	



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CA ELAP #2769

Fipronil & Degradates

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22546-R1 B13-8109 Grab Matrix: Sediment Sampled: 28-Aug-13 7:43 Received: 29-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 10-Nov-13						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22547-R1 B13-8118 Grab Matrix: Sediment Sampled: 28-Aug-13 10:36 Received: 29-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 10-Nov-13						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22548-R1 B13-8122 Grab Matrix: Sediment Sampled: 28-Aug-13 13:48 Received: 29-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 10-Nov-13						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22549-R1 B13-8033 Grab Matrix: Sediment Sampled: 28-Aug-13 16:58 Received: 29-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 10-Nov-13						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22550-R1 B13-8093 Grab Matrix: Sediment Sampled: 29-Aug-13 7:34 Received: 29-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5034 Prepared: 06-Nov-13 Analyzed: 10-Nov-13						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	



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Fipronil & Degradates

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
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Sample ID: 22551-R1**B13-8100 Grab**

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5039

Sampled: 29-Aug-13 8:44

Prepared: 12-Nov-13

Received: 29-Aug-13

Analyzed: 15-Nov-13

Fipronil	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
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Sample ID: 22552-R1**B13-8099 Grab**

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5039

Sampled: 29-Aug-13 9:55

Prepared: 12-Nov-13

Received: 29-Aug-13

Analyzed: 15-Nov-13

Fipronil	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
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Sample ID: 22553-R1**B13-8098 Grab**

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5039

Sampled: 29-Aug-13 11:06

Prepared: 12-Nov-13

Received: 29-Aug-13

Analyzed: 15-Nov-13

Fipronil	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
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Sample ID: 22554-R1**B13-8096 Grab**

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5039

Sampled: 29-Aug-13 12:34

Prepared: 12-Nov-13

Received: 29-Aug-13

Analyzed: 15-Nov-13

Fipronil	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
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Sample ID: 22555-R1**B13-8095 Grab**

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5039

Sampled: 29-Aug-13 14:14

Prepared: 12-Nov-13

Received: 29-Aug-13

Analyzed: 15-Nov-13

Fipronil	NA	ND	0.25	0.5	ng/dry g	
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Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
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CA ELAP #2769

Fipronil & Degradates

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22556-R1**B13-8087 Grab**

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5039

Sampled: 29-Aug-13 15:16

Prepared: 12-Nov-13

Received: 29-Aug-13

Analyzed: 15-Nov-13

Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22557-R1**B13-8073 Grab**

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5039

Sampled: 29-Aug-13 16:38

Prepared: 12-Nov-13

Received: 29-Aug-13

Analyzed: 15-Nov-13

Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22546-R1</div> <div>B13-8109 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5136</div> </div> <div> <div>Sampled: 28-Aug-13 7:43</div> <div>Prepared: 22-Apr-14</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 11-May-14</div> </div>						
PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.23	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.05	0.05	0.1	ng/dry g	J
PCB101	NA	0.34	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.16	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	0.64	0.05	0.1	ng/dry g	
PCB141	NA	0.16	0.05	0.1	ng/dry g	
PCB149	NA	0.35	0.05	0.1	ng/dry g	
PCB151	NA	0.07	0.05	0.1	ng/dry g	J
PCB153	NA	0.51	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.15	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.1	0.1	0.2	ng/dry g	J
PCB169	NA	0.47	0.05	0.1	ng/dry g	
PCB170	NA	0.25	0.05	0.1	ng/dry g	
PCB174	NA	0.09	0.05	0.1	ng/dry g	J
PCB177	NA	0.06	0.05	0.1	ng/dry g	J
PCB180	NA	0.29	0.05	0.1	ng/dry g	
PCB183	NA	0.07	0.05	0.1	ng/dry g	J
PCB187	NA	0.15	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22547-R1**B13-8118 Grab****Matrix: Sediment****Sampled: 28-Aug-13 10:36****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 11-May-14

PCB003	NA	ND	0.05	0.1	ng/dry g	
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PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

PCB Congeners

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	0.17	0.05	0.1	ng/dry g	
PCB095	NA	0.55	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.2	0.05	0.1	ng/dry g	
PCB101	NA	0.76	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.55	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.38	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.7	0.05	0.1	ng/dry g	
PCB141	NA	0.24	0.05	0.1	ng/dry g	
PCB149	NA	0.9	0.05	0.1	ng/dry g	
PCB151	NA	0.24	0.05	0.1	ng/dry g	
PCB153	NA	1.1	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.11	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.3	0.1	0.2	ng/dry g	
PCB169	NA	1.05	0.05	0.1	ng/dry g	
PCB170	NA	0.43	0.05	0.1	ng/dry g	
PCB174	NA	0.27	0.05	0.1	ng/dry g	
PCB177	NA	0.15	0.05	0.1	ng/dry g	
PCB180	NA	0.71	0.05	0.1	ng/dry g	
PCB183	NA	0.18	0.05	0.1	ng/dry g	
PCB187	NA	0.41	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22548-R1**B13-8122 Grab****Matrix: Sediment****Sampled: 28-Aug-13 13:48****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 11-May-14

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

PCB Congeners

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	0.34	0.05	0.1	ng/dry g	
PCB095	NA	0.7	0.05	0.1	ng/dry g	
PCB097	NA	0.25	0.05	0.1	ng/dry g	
PCB099	NA	0.28	0.05	0.1	ng/dry g	
PCB101	NA	0.87	0.05	0.1	ng/dry g	
PCB105	NA	0.16	0.05	0.1	ng/dry g	
PCB110	NA	0.71	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.58	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	0.15	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.25	0.05	0.1	ng/dry g	
PCB141	NA	0.27	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB149	NA	0.72	0.05	0.1	ng/dry g	
PCB151	NA	0.2	0.05	0.1	ng/dry g	
PCB153	NA	1.03	0.05	0.1	ng/dry g	
PCB156	NA	0.08	0.05	0.1	ng/dry g	J
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.07	0.05	0.1	ng/dry g	J
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.3	0.1	0.2	ng/dry g	
PCB169	NA	0.42	0.05	0.1	ng/dry g	
PCB170	NA	0.26	0.05	0.1	ng/dry g	
PCB174	NA	0.19	0.05	0.1	ng/dry g	
PCB177	NA	0.11	0.05	0.1	ng/dry g	
PCB180	NA	0.37	0.05	0.1	ng/dry g	
PCB183	NA	0.1	0.05	0.1	ng/dry g	
PCB187	NA	0.26	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22549-R1**B13-8033 Grab****Matrix: Sediment****Sampled: 28-Aug-13 16:58****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 12-May-14

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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PCB Congeners

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.36	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.32	0.05	0.1	ng/dry g	
PCB101	NA	0.61	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.39	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.55	0.05	0.1	ng/dry g	
PCB141	NA	0.22	0.05	0.1	ng/dry g	
PCB149	NA	1.2	0.05	0.1	ng/dry g	
PCB151	NA	0.3	0.05	0.1	ng/dry g	
PCB153	NA	1.5	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.25	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.3	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	0.41	0.05	0.1	ng/dry g	
PCB174	NA	0.23	0.05	0.1	ng/dry g	
PCB177	NA	0.12	0.05	0.1	ng/dry g	
PCB180	NA	0.71	0.05	0.1	ng/dry g	
PCB183	NA	0.18	0.05	0.1	ng/dry g	
PCB187	NA	0.4	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22550-R1**B13-8093 Grab****Matrix: Sediment****Sampled: 29-Aug-13 7:34****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 12-May-14

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	0.32	0.05	0.1	ng/dry g	
PCB095	NA	0.6	0.05	0.1	ng/dry g	
PCB097	NA	0.16	0.05	0.1	ng/dry g	
PCB099	NA	0.25	0.05	0.1	ng/dry g	
PCB101	NA	0.79	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.61	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.49	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	0.21	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.55	0.05	0.1	ng/dry g	
PCB141	NA	0.36	0.05	0.1	ng/dry g	
PCB149	NA	1.01	0.05	0.1	ng/dry g	
PCB151	NA	0.28	0.05	0.1	ng/dry g	
PCB153	NA	1.19	0.05	0.1	ng/dry g	
PCB156	NA	0.1	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.19	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.3	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	0.2	0.05	0.1	ng/dry g	
PCB174	NA	0.24	0.05	0.1	ng/dry g	
PCB177	NA	0.13	0.05	0.1	ng/dry g	
PCB180	NA	0.51	0.05	0.1	ng/dry g	
PCB183	NA	0.16	0.05	0.1	ng/dry g	
PCB187	NA	0.31	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22551-R1**B13-8100 Grab****Matrix: Sediment****Sampled: 29-Aug-13 8:44****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB052	NA	1.74	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	1.72	0.05	0.1	ng/dry g	
PCB070	NA	1.4	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	2.1	0.05	0.1	ng/dry g	
PCB095	NA	3.94	0.05	0.1	ng/dry g	
PCB097	NA	1.12	0.05	0.1	ng/dry g	
PCB099	NA	1.71	0.05	0.1	ng/dry g	
PCB101	NA	4.14	0.05	0.1	ng/dry g	
PCB105	NA	0.65	0.05	0.1	ng/dry g	
PCB110	NA	4.19	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	2.91	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	4.39	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	3.37	0.05	0.1	ng/dry g	
PCB151	NA	0.62	0.05	0.1	ng/dry g	
PCB153	NA	3.36	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB170	NA	1.62	0.05	0.1	ng/dry g	
PCB174	NA	0.5	0.05	0.1	ng/dry g	
PCB177	NA	0.51	0.05	0.1	ng/dry g	
PCB180	NA	1.84	0.05	0.1	ng/dry g	
PCB183	NA	0.34	0.05	0.1	ng/dry g	
PCB187	NA	1.28	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22552-R1**B13-8099 Grab****Matrix: Sediment****Sampled: 29-Aug-13 9:55****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

PCB Congeners

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.96	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.89	0.05	0.1	ng/dry g	
PCB101	NA	1.51	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	1.52	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.72	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	2.09	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	1.21	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	1.99	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB180	NA	0.98	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	0.69	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22553-R1**B13-8098 Grab****Matrix: Sediment****Sampled: 29-Aug-13 11:06****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

PCB Congeners

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	0.26	0.05	0.1	ng/dry g	
PCB095	NA	0.17	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.21	0.05	0.1	ng/dry g	
PCB101	NA	0.3	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	0.32	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	0.41	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22554-R1**B13-8096 Grab****Matrix: Sediment****Sampled: 29-Aug-13 12:34****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	0.24	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	0.16	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22555-R1**B13-8095 Grab**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-6004

Sampled: 29-Aug-13 14:14

Prepared: 16-May-14

Received: 29-Aug-13

Analyzed: 01-Jun-14

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.96	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.62	0.05	0.1	ng/dry g	
PCB101	NA	1.46	0.05	0.1	ng/dry g	

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.94	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.71	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.91	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	0.96	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	1.84	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	0.63	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	0.54	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22556-R1**B13-8087 Grab****Matrix: Sediment****Sampled: 29-Aug-13 15:16****Received: 29-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	ND	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22557-R1

B13-8073 Grab

Matrix: Sediment

Sampled: 29-Aug-13 16:38

Received: 29-Aug-13

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Method: EPA 8270C		Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 01-Jun-14
PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	0.26	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div> Sample ID: 22546-R1 Method: EPA 8270C-NCI </div> <div> B13-8109 Grab Batch ID: O-5034 </div> <div> Matrix: Sediment Batch ID: O-5034 </div> <div> Sampled: 28-Aug-13 7:43 Prepared: 06-Nov-13 </div> <div> Received: 29-Aug-13 Analyzed: 20-Nov-13 </div> </div>						
(DFPBDE)	NA	65			% Recovery	
(FTBDE)	NA	94			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	
<div> <div> Sample ID: 22547-R1 Method: EPA 8270C-NCI </div> <div> B13-8118 Grab Batch ID: O-5034 </div> <div> Matrix: Sediment Batch ID: O-5034 </div> <div> Sampled: 28-Aug-13 10:36 Prepared: 06-Nov-13 </div> <div> Received: 29-Aug-13 Analyzed: 20-Nov-13 </div> </div>						
(DFPBDE)	NA	64			% Recovery	
(FTBDE)	NA	92			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.07	0.05	0.1	ng/dry g	J
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22548-R1

B13-8122 Grab

Matrix: Sediment

Sampled: 28-Aug-13 13:48

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 20-Nov-13

(DFPBDE)	NA	68			% Recovery	
(FTBDE)	NA	90			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22549-R1

B13-8033 Grab

Matrix: Sediment

Sampled: 28-Aug-13 16:58

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 20-Nov-13

(DFPBDE)	NA	53			% Recovery	
(FTBDE)	NA	99			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.24	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	0.35	0.05	0.1	ng/dry g	
PBDE100	NA	0.07	0.05	0.1	ng/dry g	J
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22550-R1

B13-8093 Grab

Matrix: Sediment

Sampled: 29-Aug-13 7:34

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 20-Nov-13

(DFPBDE)	NA	66			% Recovery
(FTBDE)	NA	92			% Recovery
PBDE017	NA	ND	0.05	0.1	ng/dry g
PBDE028	NA	ND	0.05	0.1	ng/dry g
PBDE047	NA	ND	0.05	0.1	ng/dry g
PBDE049	NA	ND	0.05	0.1	ng/dry g
PBDE066	NA	ND	0.05	0.1	ng/dry g
PBDE071	NA	ND	0.05	0.1	ng/dry g
PBDE085	NA	ND	0.05	0.1	ng/dry g
PBDE099	NA	ND	0.05	0.1	ng/dry g
PBDE100	NA	ND	0.05	0.1	ng/dry g
PBDE138	NA	ND	0.05	0.1	ng/dry g
PBDE153	NA	ND	0.05	0.1	ng/dry g
PBDE154	NA	ND	0.05	0.1	ng/dry g
PBDE183	NA	ND	0.05	0.1	ng/dry g
PBDE190	NA	ND	0.05	0.1	ng/dry g

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22551-R1

B13-8100 Grab

Matrix: Sediment

Sampled: 29-Aug-13 8:44

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13

(DFPBDE)	NA	69			% Recovery	
(FTBDE)	NA	84			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.31	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	0.57	0.05	0.1	ng/dry g	
PBDE100	NA	0.13	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	0.31	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22552-R1

B13-8099 Grab

Matrix: Sediment

Sampled: 29-Aug-13 9:55

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13

(DFPBDE)	NA	85			% Recovery	
(FTBDE)	NA	97			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.3	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE099	NA	0.33	0.05	0.1	ng/dry g	
PBDE100	NA	0.15	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	0.12	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22553-R1

B13-8098 Grab

Matrix: Sediment

Sampled: 29-Aug-13 11:06

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13

(DFPBDE)	NA	82			% Recovery	
(FTBDE)	NA	98			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.1	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	0.05	0.05	0.1	ng/dry g	J
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22554-R1

B13-8096 Grab

Matrix: Sediment

Sampled: 29-Aug-13 12:34

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13

(DFPBDE)	NA	101			% Recovery	
(FTBDE)	NA	94			% Recovery	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.08	0.05	0.1	ng/dry g	J
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	0.12	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22555-R1

B13-8095 Grab

Matrix: Sediment

Sampled: 29-Aug-13 14:14

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13

(DFPBDE)	NA	91			% Recovery
(FTBDE)	NA	95			% Recovery
PBDE017	NA	ND	0.05	0.1	ng/dry g
PBDE028	NA	ND	0.05	0.1	ng/dry g
PBDE047	NA	0.25	0.05	0.1	ng/dry g
PBDE049	NA	ND	0.05	0.1	ng/dry g
PBDE066	NA	ND	0.05	0.1	ng/dry g
PBDE071	NA	ND	0.05	0.1	ng/dry g
PBDE085	NA	ND	0.05	0.1	ng/dry g
PBDE099	NA	ND	0.05	0.1	ng/dry g
PBDE100	NA	ND	0.05	0.1	ng/dry g
PBDE138	NA	ND	0.05	0.1	ng/dry g
PBDE153	NA	ND	0.05	0.1	ng/dry g
PBDE154	NA	ND	0.05	0.1	ng/dry g
PBDE183	NA	ND	0.05	0.1	ng/dry g

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22556-R1

B13-8087 Grab

Matrix: Sediment

Sampled: 29-Aug-13 15:16

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13

(DFPBDE)	NA	58			% Recovery	
(FTBDE)	NA	95			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.06	0.05	0.1	ng/dry g	J
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22557-R1

B13-8073 Grab

Matrix: Sediment

Sampled: 29-Aug-13 16:38

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13

(DFPBDE)	NA	52			% Recovery	
(FTBDE)	NA	96			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.07	0.05	0.1	ng/dry g	J
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	



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PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22546-R1 B13-8109 Grab Method: EPA 8270C		Matrix: Sediment Batch ID: O-5136		Sampled: 28-Aug-13 7:43 Prepared: 22-Apr-14		Received: 29-Aug-13 Analyzed: 11-May-14
(d10-Acenaphthene)	NA	66			% Recovery	
(d10-Phenanthrene)	NA	57			% Recovery	
(d12-Chrysene)	NA	66			% Recovery	
(d8-Naphthalene)	NA	67			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	3.6	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	2.1	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	1.6	1	5	ng/dry g	J
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	6	1	5	ng/dry g	
Anthracene	NA	7.6	1	5	ng/dry g	
Benz[a]anthracene	NA	30	1	5	ng/dry g	
Benzo[a]pyrene	NA	46.4	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	28.7	1	5	ng/dry g	
Benzo[e]pyrene	NA	30.4	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	46.7	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	13.7	1	5	ng/dry g	
Biphenyl	NA	1.5	1	5	ng/dry g	J
Chrysene	NA	36.2	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	6.2	1	5	ng/dry g	
Dibenzothiophene	NA	3.4	1	5	ng/dry g	J
Fluoranthene	NA	59.6	1	5	ng/dry g	
Fluorene	NA	2.4	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	37.2	1	5	ng/dry g	
Naphthalene	NA	3.4	1	5	ng/dry g	J
Perylene	NA	10.1	1	5	ng/dry g	
Phenanthrene	NA	41.6	1	5	ng/dry g	
Pyrene	NA	83.8	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22547-R1 B13-8118 Grab Matrix: Sediment Sampled: 28-Aug-13 10:36 Received: 29-Aug-13 Method: EPA 8270C Batch ID: O-5136 Prepared: 22-Apr-14 Analyzed: 11-May-14						
(d10-Acenaphthene)	NA	81			% Recovery	
(d10-Phenanthrene)	NA	81			% Recovery	
(d12-Chrysene)	NA	85			% Recovery	
(d8-Naphthalene)	NA	72			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	4.8	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	1.7	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	1.6	1	5	ng/dry g	J
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	6.6	1	5	ng/dry g	
Anthracene	NA	7.2	1	5	ng/dry g	
Benz[a]anthracene	NA	54.4	1	5	ng/dry g	
Benzo[a]pyrene	NA	93	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	57.3	1	5	ng/dry g	
Benzo[e]pyrene	NA	61.4	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	73.2	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	29.5	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	70.3	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	12.8	1	5	ng/dry g	
Dibenzothiophene	NA	2.1	1	5	ng/dry g	J
Fluoranthene	NA	53.3	1	5	ng/dry g	
Fluorene	NA	1.8	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	61.3	1	5	ng/dry g	
Naphthalene	NA	3.1	1	5	ng/dry g	J
Perylene	NA	18	1	5	ng/dry g	
Phenanthrene	NA	18.5	1	5	ng/dry g	
Pyrene	NA	83.6	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22548-R1</div> <div>B13-8122 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5136</div> </div> <div> <div>Sampled: 28-Aug-13 13:48</div> <div>Prepared: 22-Apr-14</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 11-May-14</div> </div>						
(d10-Acenaphthene)	NA	62			% Recovery	
(d10-Phenanthrene)	NA	56			% Recovery	
(d12-Chrysene)	NA	75			% Recovery	
(d8-Naphthalene)	NA	67			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	1.5	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	1.1	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	1.1	1	5	ng/dry g	J
Anthracene	NA	1.2	1	5	ng/dry g	J
Benz[a]anthracene	NA	8.7	1	5	ng/dry g	
Benzo[a]pyrene	NA	17.4	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	11.4	1	5	ng/dry g	
Benzo[e]pyrene	NA	12.1	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	16.7	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	6.1	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	11.9	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	2.7	1	5	ng/dry g	J
Dibenzothiophene	NA	1	1	5	ng/dry g	J
Fluoranthene	NA	12.2	1	5	ng/dry g	
Fluorene	NA	ND	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	13.4	1	5	ng/dry g	
Naphthalene	NA	1.5	1	5	ng/dry g	J
Perylene	NA	3.4	1	5	ng/dry g	J
Phenanthrene	NA	6.9	1	5	ng/dry g	
Pyrene	NA	16	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22549-R1</div> <div>B13-8033 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5136</div> </div> <div> <div>Sampled: 28-Aug-13 16:58</div> <div>Prepared: 22-Apr-14</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 12-May-14</div> </div>						
(d10-Acenaphthene)	NA	76			% Recovery	
(d10-Phenanthrene)	NA	65			% Recovery	
(d12-Chrysene)	NA	87			% Recovery	
(d8-Naphthalene)	NA	75			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	2.3	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	1.3	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	1.3	1	5	ng/dry g	J
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	2.6	1	5	ng/dry g	J
Anthracene	NA	6.4	1	5	ng/dry g	
Benz[a]anthracene	NA	11.7	1	5	ng/dry g	
Benzo[a]pyrene	NA	22.7	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	21.5	1	5	ng/dry g	
Benzo[e]pyrene	NA	21	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	20.6	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	11.5	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	23	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	3.3	1	5	ng/dry g	J
Dibenzothiophene	NA	1.6	1	5	ng/dry g	J
Fluoranthene	NA	22.5	1	5	ng/dry g	
Fluorene	NA	1.9	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	15.5	1	5	ng/dry g	
Naphthalene	NA	2.3	1	5	ng/dry g	J
Perylene	NA	7.1	1	5	ng/dry g	
Phenanthrene	NA	12.3	1	5	ng/dry g	
Pyrene	NA	26.1	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22550-R1 B13-8093 Grab Method: EPA 8270C		Matrix: Sediment Batch ID: O-5136		Sampled: 29-Aug-13 7:34 Prepared: 22-Apr-14		Received: 29-Aug-13 Analyzed: 12-May-14
(d10-Acenaphthene)	NA	65			% Recovery	
(d10-Phenanthrene)	NA	60			% Recovery	
(d12-Chrysene)	NA	83			% Recovery	
(d8-Naphthalene)	NA	70			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	1.6	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	1.1	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	1.5	1	5	ng/dry g	J
Anthracene	NA	2.7	1	5	ng/dry g	J
Benz[a]anthracene	NA	11.5	1	5	ng/dry g	
Benzo[a]pyrene	NA	18.8	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	15.7	1	5	ng/dry g	
Benzo[e]pyrene	NA	14	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	14.4	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	8.3	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	16	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	2.5	1	5	ng/dry g	J
Dibenzothiophene	NA	1.1	1	5	ng/dry g	J
Fluoranthene	NA	17.9	1	5	ng/dry g	
Fluorene	NA	1.2	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	12.2	1	5	ng/dry g	
Naphthalene	NA	1.6	1	5	ng/dry g	J
Perylene	NA	4.1	1	5	ng/dry g	J
Phenanthrene	NA	9.3	1	5	ng/dry g	
Pyrene	NA	20	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22551-R1</div> <div>B13-8100 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-6004</div> </div> <div> <div>Sampled: 29-Aug-13 8:44</div> <div>Prepared: 16-May-14</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 01-Jun-14</div> </div>						
(d10-Acenaphthene)	NA	94			% Recovery	
(d10-Phenanthrene)	NA	90			% Recovery	
(d12-Chrysene)	NA	79			% Recovery	
(d8-Naphthalene)	NA	96			% Recovery	
1-Methylnaphthalene	NA	1.7	1	5	ng/dry g	J
1-Methylphenanthrene	NA	14.6	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	3.8	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	2.2	1	5	ng/dry g	J
2-Methylnaphthalene	NA	4.7	1	5	ng/dry g	J
Acenaphthene	NA	2.5	1	5	ng/dry g	J
Acenaphthylene	NA	35.1	1	5	ng/dry g	
Anthracene	NA	40.4	1	5	ng/dry g	
Benz[a]anthracene	NA	123.3	1	5	ng/dry g	
Benzo[a]pyrene	NA	182.5	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	131.9	1	5	ng/dry g	
Benzo[e]pyrene	NA	124.2	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	211.3	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	77.4	1	5	ng/dry g	
Biphenyl	NA	2.3	1	5	ng/dry g	J
Chrysene	NA	188	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	42.1	1	5	ng/dry g	
Dibenzothiophene	NA	5	1	5	ng/dry g	
Fluoranthene	NA	174.2	1	5	ng/dry g	
Fluorene	NA	3.9	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	186.4	1	5	ng/dry g	
Naphthalene	NA	11.4	1	5	ng/dry g	
Perylene	NA	36.9	1	5	ng/dry g	
Phenanthrene	NA	68	1	5	ng/dry g	
Pyrene	NA	312.5	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22552-R1 B13-8099 Grab Method: EPA 8270C		Matrix: Sediment Batch ID: O-6004		Sampled: 29-Aug-13 9:55 Prepared: 16-May-14		Received: 29-Aug-13 Analyzed: 01-Jun-14
(d10-Acenaphthene)	NA	76			% Recovery	
(d10-Phenanthrene)	NA	74			% Recovery	
(d12-Chrysene)	NA	65			% Recovery	
(d8-Naphthalene)	NA	84			% Recovery	
1-Methylnaphthalene	NA	1.7	1	5	ng/dry g	J
1-Methylphenanthrene	NA	8.3	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	2.3	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	1.8	1	5	ng/dry g	J
2-Methylnaphthalene	NA	4.3	1	5	ng/dry g	J
Acenaphthene	NA	3.3	1	5	ng/dry g	J
Acenaphthylene	NA	21.4	1	5	ng/dry g	
Anthracene	NA	22.8	1	5	ng/dry g	
Benz[a]anthracene	NA	86.8	1	5	ng/dry g	
Benzo[a]pyrene	NA	165.6	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	104.6	1	5	ng/dry g	
Benzo[e]pyrene	NA	109.6	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	181.7	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	60.3	1	5	ng/dry g	
Biphenyl	NA	2.8	1	5	ng/dry g	J
Chrysene	NA	119	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	32.7	1	5	ng/dry g	
Dibenzothiophene	NA	3.7	1	5	ng/dry g	J
Fluoranthene	NA	148	1	5	ng/dry g	
Fluorene	NA	4.5	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	153.2	1	5	ng/dry g	
Naphthalene	NA	14.1	1	5	ng/dry g	
Perylene	NA	31.3	1	5	ng/dry g	
Phenanthrene	NA	50.6	1	5	ng/dry g	
Pyrene	NA	298.4	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22553-R1</div> <div>B13-8098 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-6004</div> </div> <div> <div>Sampled: 29-Aug-13 11:06</div> <div>Prepared: 16-May-14</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 01-Jun-14</div> </div>						
(d10-Acenaphthene)	NA	89			% Recovery	
(d10-Phenanthrene)	NA	86			% Recovery	
(d12-Chrysene)	NA	83			% Recovery	
(d8-Naphthalene)	NA	100			% Recovery	
1-Methylnaphthalene	NA	1.4	1	5	ng/dry g	J
1-Methylphenanthrene	NA	7.5	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	1.5	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	1.1	1	5	ng/dry g	J
2-Methylnaphthalene	NA	3.9	1	5	ng/dry g	J
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	12.4	1	5	ng/dry g	
Anthracene	NA	8.2	1	5	ng/dry g	
Benz[a]anthracene	NA	48.7	1	5	ng/dry g	
Benzo[a]pyrene	NA	82.1	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	41.5	1	5	ng/dry g	
Benzo[e]pyrene	NA	51.2	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	77	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	24.6	1	5	ng/dry g	
Biphenyl	NA	2	1	5	ng/dry g	J
Chrysene	NA	54.8	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	14	1	5	ng/dry g	
Dibenzothiophene	NA	1.5	1	5	ng/dry g	J
Fluoranthene	NA	82.1	1	5	ng/dry g	
Fluorene	NA	1.1	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	63.4	1	5	ng/dry g	
Naphthalene	NA	8.6	1	5	ng/dry g	
Perylene	NA	14.1	1	5	ng/dry g	
Phenanthrene	NA	16.8	1	5	ng/dry g	
Pyrene	NA	189	1	5	ng/dry g	



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22554-R1	B13-8096 Grab Method: EPA 8270C	Matrix: Sediment Batch ID: O-6004		Sampled: 29-Aug-13 12:34 Prepared: 16-May-14		Received: 29-Aug-13 Analyzed: 01-Jun-14
(d10-Acenaphthene)	NA	93			% Recovery	
(d10-Phenanthrene)	NA	87			% Recovery	
(d12-Chrysene)	NA	81			% Recovery	
(d8-Naphthalene)	NA	103			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	5	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	1.5	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	1.3	1	5	ng/dry g	J
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	7.3	1	5	ng/dry g	
Anthracene	NA	5.9	1	5	ng/dry g	
Benz[a]anthracene	NA	28.1	1	5	ng/dry g	
Benzo[a]pyrene	NA	42.6	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	21.1	1	5	ng/dry g	
Benzo[e]pyrene	NA	26.4	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	42	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	13.5	1	5	ng/dry g	
Biphenyl	NA	1.4	1	5	ng/dry g	J
Chrysene	NA	33.8	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	8	1	5	ng/dry g	
Dibenzothiophene	NA	1.5	1	5	ng/dry g	J
Fluoranthene	NA	39.5	1	5	ng/dry g	
Fluorene	NA	ND	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	34.9	1	5	ng/dry g	
Naphthalene	NA	4.4	1	5	ng/dry g	J
Perylene	NA	7.3	1	5	ng/dry g	
Phenanthrene	NA	16	1	5	ng/dry g	
Pyrene	NA	96.4	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22555-R1</div> <div>B13-8095 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-6004</div> </div> <div> <div>Sampled: 29-Aug-13 14:14</div> <div>Prepared: 16-May-14</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 01-Jun-14</div> </div>						
(d10-Acenaphthene)	NA	89			% Recovery	
(d10-Phenanthrene)	NA	87			% Recovery	
(d12-Chrysene)	NA	84			% Recovery	
(d8-Naphthalene)	NA	82			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	3.4	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	1.3	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	1.5	1	5	ng/dry g	J
Acenaphthene	NA	1.2	1	5	ng/dry g	J
Acenaphthylene	NA	15.2	1	5	ng/dry g	
Anthracene	NA	26.1	1	5	ng/dry g	
Benz[a]anthracene	NA	48.9	1	5	ng/dry g	
Benzo[a]pyrene	NA	84.5	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	76.7	1	5	ng/dry g	
Benzo[e]pyrene	NA	62.9	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	95.9	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	48.4	1	5	ng/dry g	
Biphenyl	NA	1.6	1	5	ng/dry g	J
Chrysene	NA	88	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	19.7	1	5	ng/dry g	
Dibenzothiophene	NA	2.8	1	5	ng/dry g	J
Fluoranthene	NA	63.3	1	5	ng/dry g	
Fluorene	NA	3	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	87.3	1	5	ng/dry g	
Naphthalene	NA	4.7	1	5	ng/dry g	J
Perylene	NA	18.9	1	5	ng/dry g	
Phenanthrene	NA	28.8	1	5	ng/dry g	
Pyrene	NA	83.5	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22556-R1	B13-8087 Grab Method: EPA 8270C	Matrix: Sediment Batch ID: O-6004		Sampled: 29-Aug-13 15:16 Prepared: 16-May-14		Received: 29-Aug-13 Analyzed: 01-Jun-14
(d10-Acenaphthene)	NA	100			% Recovery	
(d10-Phenanthrene)	NA	92			% Recovery	
(d12-Chrysene)	NA	86			% Recovery	
(d8-Naphthalene)	NA	105			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	1	1	5	ng/dry g	J
Anthracene	NA	ND	1	5	ng/dry g	
Benz[a]anthracene	NA	3.2	1	5	ng/dry g	J
Benzo[a]pyrene	NA	6.7	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	4.8	1	5	ng/dry g	J
Benzo[e]pyrene	NA	5	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	10.7	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	3.5	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	4.9	1	5	ng/dry g	J
Dibenz[a,h]anthracene	NA	1.3	1	5	ng/dry g	J
Dibenzothiophene	NA	ND	1	5	ng/dry g	
Fluoranthene	NA	4.7	1	5	ng/dry g	J
Fluorene	NA	ND	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	8.5	1	5	ng/dry g	
Naphthalene	NA	2.1	1	5	ng/dry g	J
Perylene	NA	1.3	1	5	ng/dry g	J
Phenanthrene	NA	3.8	1	5	ng/dry g	J
Pyrene	NA	5.7	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22557-R1</div> <div>B13-8073 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-6004</div> </div> <div> <div>Sampled: 29-Aug-13 16:38</div> <div>Prepared: 16-May-14</div> </div> <div> <div>Received: 29-Aug-13</div> <div>Analyzed: 01-Jun-14</div> </div>						
(d10-Acenaphthene)	NA	64			% Recovery	
(d10-Phenanthrene)	NA	72			% Recovery	
(d12-Chrysene)	NA	72			% Recovery	
(d8-Naphthalene)	NA	36			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	ND	1	5	ng/dry g	
Benz[a]anthracene	NA	1.3	1	5	ng/dry g	J
Benzo[a]pyrene	NA	1.7	1	5	ng/dry g	J
Benzo[b]fluoranthene	NA	2.5	1	5	ng/dry g	J
Benzo[e]pyrene	NA	1.8	1	5	ng/dry g	J
Benzo[g,h,i]perylene	NA	4.8	1	5	ng/dry g	J
Benzo[k]fluoranthene	NA	1.3	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	2	1	5	ng/dry g	J
Dibenz[a,h]anthracene	NA	ND	1	5	ng/dry g	
Dibenzothiophene	NA	ND	1	5	ng/dry g	
Fluoranthene	NA	3.5	1	5	ng/dry g	J
Fluorene	NA	ND	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	3.3	1	5	ng/dry g	J
Naphthalene	NA	ND	1	5	ng/dry g	
Perylene	NA	ND	1	5	ng/dry g	
Phenanthrene	NA	3.8	1	5	ng/dry g	J
Pyrene	NA	3.8	1	5	ng/dry g	J



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div> Sample ID: 22546-R1 Method: EPA 8270C-NCI </div> <div> B13-8109 Grab Matrix: Sediment Batch ID: O-5136 </div> <div> Sampled: 28-Aug-13 7:43 Prepared: 22-Apr-14 </div> <div> Received: 29-Aug-13 Analyzed: 30-Apr-14 </div> </div>						
Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	
<div> <div> Sample ID: 22547-R1 Method: EPA 8270C-NCI </div> <div> B13-8118 Grab Matrix: Sediment Batch ID: O-5136 </div> <div> Sampled: 28-Aug-13 10:36 Prepared: 22-Apr-14 </div> <div> Received: 29-Aug-13 Analyzed: 30-Apr-14 </div> </div>						
Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Resmethrin	NA	ND	0.25	0.5	ng/dry g	
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Sample ID: 22548-R1

B13-8122 Grab

Matrix: Sediment

Sampled: 28-Aug-13 13:48

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 30-Apr-14

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22549-R1

B13-8033 Grab

Matrix: Sediment

Sampled: 28-Aug-13 16:58

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 30-Apr-14

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22550-R1

B13-8093 Grab

Matrix: Sediment

Sampled: 29-Aug-13 7:34

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 30-Apr-14

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22551-R1

B13-8100 Grab

Matrix: Sediment

Sampled: 29-Aug-13 8:44

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22552-R1

B13-8099 Grab

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-6004

Sampled: 29-Aug-13 9:55

Prepared: 16-May-14

Received: 29-Aug-13

Analyzed: 28-May-14

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22553-R1

B13-8098 Grab

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-6004

Sampled: 29-Aug-13 11:06

Prepared: 16-May-14

Received: 29-Aug-13

Analyzed: 28-May-14

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22554-R1

B13-8096 Grab

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-6004

Sampled: 29-Aug-13 12:34

Prepared: 16-May-14

Received: 29-Aug-13

Analyzed: 28-May-14

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22555-R1

B13-8095 Grab

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-6004

Sampled: 29-Aug-13 14:14

Prepared: 16-May-14

Received: 29-Aug-13

Analyzed: 28-May-14

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22556-R1

B13-8087 Grab

Matrix: Sediment

Sampled: 29-Aug-13 15:16

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22557-R1

B13-8073 Grab

Matrix: Sediment

Sampled: 29-Aug-13 16:38

Received: 29-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

QUALITY CONTROL REPORT

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CA ELAP #2769

Aroclor PCBs**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22544-B1**QAQC Procedural Blank**

Method: EPA 8270C

Matrix: DI Water

Batch ID: O-5136

Sampled:

Prepared: 22-Apr-14

Received:

Analyzed: 09-May-14

Aroclor 1016	NA	ND	1	2	ng/dry g			PASS		
Aroclor 1221	NA	ND	1	2	ng/dry g			PASS		
Aroclor 1232	NA	ND	1	2	ng/dry g			PASS		
Aroclor 1242	NA	ND	1	2	ng/dry g			PASS		
Aroclor 1248	NA	ND	1	2	ng/dry g			PASS		
Aroclor 1254	NA	ND	1	2	ng/dry g			PASS		
Aroclor 1260	NA	ND	1	2	ng/dry g			PASS		
Aroclor 1262	NA	ND	1	2	ng/dry g			PASS		
Aroclor 1268	NA	ND	1	2	ng/dry g			PASS		

Sample ID: 22545-B1**QAQC Procedural Blank**

Method: EPA 8270C

Matrix: DI Water

Batch ID: O-6004

Sampled:

Prepared: 16-May-14

Received:

Analyzed: 31-May-14

Aroclor 1016	NA	ND	1	2	ng/dry g			PASS		
Aroclor 1221	NA	ND	1	2	ng/dry g			PASS		
Aroclor 1232	NA	ND	1	2	ng/dry g			PASS		
Aroclor 1242	NA	ND	1	2	ng/dry g			PASS		
Aroclor 1248	NA	ND	1	2	ng/dry g			PASS		
Aroclor 1254	NA	ND	1	2	ng/dry g			PASS		
Aroclor 1260	NA	ND	1	2	ng/dry g			PASS		
Aroclor 1262	NA	ND	1	2	ng/dry g			PASS		
Aroclor 1268	NA	ND	1	2	ng/dry g			PASS		



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Chlorinated Pesticides**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22544-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C-NCI		Batch ID: O-5034		Prepared: 06-Nov-13		Analyzed: 09-Nov-13		
Toxaphene	NA	ND	0.1	0.2	ng/dry g				PASS	
		Method: EPA 8270C		Batch ID: O-5136		Prepared: 22-Apr-14		Analyzed: 09-May-14		
(PCB030)	NA	105			% Recovery	100		105 50 - 150%	PASS	
(PCB198)	NA	104			% Recovery	100		104 50 - 150%	PASS	
(TCMX)	NA	101			% Recovery	100		101 50 - 150%	PASS	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g				PASS	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g				PASS	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g				PASS	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g				PASS	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g				PASS	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g				PASS	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g				PASS	
Aldrin	NA	ND	0.05	0.1	ng/dry g				PASS	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g				PASS	
BHC-beta	NA	ND	0.05	0.1	ng/dry g				PASS	
BHC-delta	NA	ND	0.05	0.1	ng/dry g				PASS	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g				PASS	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g				PASS	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g				PASS	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g				PASS	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g				PASS	
Dicofol	NA	ND	0.05	0.1	ng/dry g				PASS	
Dieldrin	NA	ND	0.05	0.1	ng/dry g				PASS	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g				PASS	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g				PASS	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g				PASS	
Endrin	NA	ND	0.05	0.1	ng/dry g				PASS	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g				PASS	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g				PASS	



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Heptachlor	NA	ND	0.05	0.1	ng/dry g					PASS
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g					PASS
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g					PASS
Methoxychlor	NA	ND	0.05	0.1	ng/dry g					PASS
Mirex	NA	ND	0.05	0.1	ng/dry g					PASS
Oxychlorane	NA	ND	0.05	0.1	ng/dry g					PASS
Perthane	NA	ND	0.05	0.1	ng/dry g					PASS
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g					PASS

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 09-May-14

(PCB112)	NA	102			% Recovery	100		102	50 - 150%	PASS
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Sample ID: 22544-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 09-Nov-13

Toxaphene	NA	11990.4	0.1	0.2	ng/dry g	10000	0	120	70 - 130%	PASS
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Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 09-May-14

(PCB030)	NA	104			% Recovery	100	0	104	70 - 130%	PASS
(PCB198)	NA	105			% Recovery	100	0	105	70 - 130%	PASS
(TCMX)	NA	101			% Recovery	100	0	101	70 - 130%	PASS
2,4'-DDD	NA	986.17	0.05	0.1	ng/dry g	1000	0	99	70 - 130%	PASS
2,4'-DDE	NA	888.08	0.05	0.1	ng/dry g	1000	0	89	70 - 130%	PASS
2,4'-DDT	NA	1214.34	0.05	0.1	ng/dry g	1000	0	121	70 - 130%	PASS
4,4'-DDD	NA	1065.48	0.05	0.1	ng/dry g	1000	0	107	70 - 130%	PASS
4,4'-DDE	NA	905.8	0.05	0.1	ng/dry g	1000	0	91	70 - 130%	PASS
4,4'-DDMU	NA	938.5	0.05	0.1	ng/dry g	1000	0	94	70 - 130%	PASS
4,4'-DDT	NA	1231.14	0.05	0.1	ng/dry g	1000	0	123	70 - 130%	PASS
Aldrin	NA	949.95	0.05	0.1	ng/dry g	1000	0	95	70 - 130%	PASS
BHC-alpha	NA	1025.55	0.05	0.1	ng/dry g	1000	0	103	70 - 130%	PASS
BHC-beta	NA	1117.09	0.05	0.1	ng/dry g	1000	0	112	70 - 130%	PASS
BHC-delta	NA	976.62	0.05	0.1	ng/dry g	1000	0	98	70 - 130%	PASS
BHC-gamma	NA	1104.62	0.05	0.1	ng/dry g	1000	0	110	70 - 130%	PASS
Chlordane-alpha	NA	954.34	0.05	0.1	ng/dry g	1000	0	95	70 - 130%	PASS
Chlordane-gamma	NA	995.13	0.05	0.1	ng/dry g	1000	0	100	70 - 130%	PASS



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
cis-Nonachlor	NA	905.66	0.05	0.1	ng/dry g	1000	0	91	70 - 130%	PASS		
DCPA (Dacthal)	NA	998.28	0.05	0.1	ng/dry g	1000	0	100	70 - 130%	PASS		
Dicofol	NA	1118.59	0.05	0.1	ng/dry g	1000	0	112	70 - 130%	PASS		
Dieldrin	NA	821.76	0.05	0.1	ng/dry g	1000	0	82	70 - 130%	PASS		
Endosulfan sulfate	NA	952.42	0.05	0.1	ng/dry g	1000	0	95	70 - 130%	PASS		
Endosulfan-I	NA	455.29	0.05	0.1	ng/dry g	1000	0	46	70 - 130%	FAIL		*
Endosulfan-II	NA	601.66	0.05	0.1	ng/dry g	1000	0	60	70 - 130%	FAIL		*
Endrin	NA	1217.6	0.05	0.1	ng/dry g	1000	0	122	70 - 130%	PASS		
Endrin aldehyde	NA	38.61	0.05	0.1	ng/dry g	1000	0	4	70 - 130%	FAIL		*
Endrin ketone	NA	1012.14	0.05	0.1	ng/dry g	1000	0	101	70 - 130%	PASS		
Heptachlor	NA	1243.31	0.05	0.1	ng/dry g	1000	0	124	70 - 130%	PASS		
Heptachlor epoxide	NA	1067.72	0.05	0.1	ng/dry g	1000	0	107	70 - 130%	PASS		
Hexachlorobenzene	NA	924.51	0.05	0.1	ng/dry g	1000	0	92	70 - 130%	PASS		
Methoxychlor	NA	1212	0.05	0.1	ng/dry g	1000	0	121	70 - 130%	PASS		
Mirex	NA	976.05	0.05	0.1	ng/dry g	1000	0	98	70 - 130%	PASS		
Oxychlorane	NA	1002.21	0.05	0.1	ng/dry g	1000	0	100	70 - 130%	PASS		
Perthane	NA	1192.26	0.05	0.1	ng/dry g	1000	0	119	70 - 130%	PASS		
trans-Nonachlor	NA	969.3	0.05	0.1	ng/dry g	1000	0	97	70 - 130%	PASS		

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 09-May-14

(PCB112)	NA	101			% Recovery	100	0	101	70 - 130%	PASS		
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Sample ID: 22544-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 09-Nov-13

Toxaphene	NA	9145	0.1	0.2	ng/dry g	10000	0	91	70 - 130%	PASS	27	25	FAIL	R
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Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 09-May-14

(PCB030)	NA	105			% Recovery	100	0	105	70 - 130%	PASS	1	25	PASS	
(PCB198)	NA	107			% Recovery	100	0	107	70 - 130%	PASS	2	25	PASS	
(TCMX)	NA	102			% Recovery	100	0	102	70 - 130%	PASS	1	25	PASS	
2,4'-DDD	NA	978.51	0.05	0.1	ng/dry g	1000	0	98	70 - 130%	PASS	1	25	PASS	
2,4'-DDE	NA	879.91	0.05	0.1	ng/dry g	1000	0	88	70 - 130%	PASS	1	25	PASS	
2,4'-DDT	NA	1197.64	0.05	0.1	ng/dry g	1000	0	120	70 - 130%	PASS	1	25	PASS	
4,4'-DDD	NA	1060.48	0.05	0.1	ng/dry g	1000	0	106	70 - 130%	PASS	1	25	PASS	

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY			PRECISION			QA CODE
								%	LIMITS		%	LIMITS		
4,4'-DDE	NA	900.88	0.05	0.1	ng/dry g	1000	0	90	70 - 130% PASS	1	25	PASS		
4,4'-DDMU	NA	932.26	0.05	0.1	ng/dry g	1000	0	93	70 - 130% PASS	1	25	PASS		
4,4'-DDT	NA	1245.92	0.05	0.1	ng/dry g	1000	0	125	70 - 130% PASS	2	25	PASS		
Aldrin	NA	949.89	0.05	0.1	ng/dry g	1000	0	95	70 - 130% PASS	0	25	PASS		
BHC-alpha	NA	1028.01	0.05	0.1	ng/dry g	1000	0	103	70 - 130% PASS	0	25	PASS		
BHC-beta	NA	1115.94	0.05	0.1	ng/dry g	1000	0	112	70 - 130% PASS	0	25	PASS		
BHC-delta	NA	1048.49	0.05	0.1	ng/dry g	1000	0	105	70 - 130% PASS	7	25	PASS		
BHC-gamma	NA	1126.67	0.05	0.1	ng/dry g	1000	0	113	70 - 130% PASS	3	25	PASS		
Chlordane-alpha	NA	946.84	0.05	0.1	ng/dry g	1000	0	95	70 - 130% PASS	0	25	PASS		
Chlordane-gamma	NA	989.98	0.05	0.1	ng/dry g	1000	0	99	70 - 130% PASS	1	25	PASS		
cis-Nonachlor	NA	910.62	0.05	0.1	ng/dry g	1000	0	91	70 - 130% PASS	0	25	PASS		
DCPA (Dacthal)	NA	1003.38	0.05	0.1	ng/dry g	1000	0	100	70 - 130% PASS	0	25	PASS		
Dicofol	NA	1414.76	0.05	0.1	ng/dry g	1000	0	141	70 - 130% FAIL	23	25	PASS	R	
Dieldrin	NA	842.17	0.05	0.1	ng/dry g	1000	0	84	70 - 130% PASS	2	25	PASS		
Endosulfan sulfate	NA	1001.98	0.05	0.1	ng/dry g	1000	0	100	70 - 130% PASS	5	25	PASS		
Endosulfan-I	NA	511.83	0.05	0.1	ng/dry g	1000	0	51	70 - 130% FAIL	10	25	PASS	*	
Endosulfan-II	NA	661.57	0.05	0.1	ng/dry g	1000	0	66	70 - 130% FAIL	10	25	PASS	*	
Endrin	NA	1232.39	0.05	0.1	ng/dry g	1000	0	123	70 - 130% PASS	1	25	PASS		
Endrin aldehyde	NA	259.86	0.05	0.1	ng/dry g	1000	0	26	70 - 130% FAIL	147	25	FAIL	*	
Endrin ketone	NA	1111.61	0.05	0.1	ng/dry g	1000	0	111	70 - 130% PASS	9	25	PASS		
Heptachlor	NA	1243.44	0.05	0.1	ng/dry g	1000	0	124	70 - 130% PASS	0	25	PASS		
Heptachlor epoxide	NA	1078.81	0.05	0.1	ng/dry g	1000	0	108	70 - 130% PASS	1	25	PASS		
Hexachlorobenzene	NA	923.09	0.05	0.1	ng/dry g	1000	0	92	70 - 130% PASS	0	25	PASS		
Methoxychlor	NA	1267	0.05	0.1	ng/dry g	1000	0	127	70 - 130% PASS	5	25	PASS		
Mirex	NA	1027.35	0.05	0.1	ng/dry g	1000	0	103	70 - 130% PASS	5	25	PASS		
Oxychlordane	NA	1097.5	0.05	0.1	ng/dry g	1000	0	110	70 - 130% PASS	10	25	PASS		
Perthane	NA	1205.84	0.05	0.1	ng/dry g	1000	0	121	70 - 130% PASS	2	25	PASS		
trans-Nonachlor	NA	966.18	0.05	0.1	ng/dry g	1000	0	97	70 - 130% PASS	0	25	PASS		
Method: EPA 8270C-NCI					Batch ID: O-5136			Prepared: 22-Apr-14			Analyzed: 09-May-14			
(PCB112)	NA	102			% Recovery	100	0	102	70 - 130% PASS	1	25	PASS		

Sample ID: 22545-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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Chlorinated Pesticides**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
<div> <div>Method: EPA 8270C-NCI</div> <div>Batch ID: O-5039</div> <div>Prepared: 12-Nov-13</div> <div>Analyzed: 15-Nov-13</div> </div>										
Toxaphene	NA	ND	0.1	0.2	ng/dry g			PASS		
<div> <div>Method: EPA 8270C</div> <div>Batch ID: O-6004</div> <div>Prepared: 16-May-14</div> <div>Analyzed: 31-May-14</div> </div>										
(PCB030)	NA	100			% Recovery	100		100 50 - 150%	PASS	
(PCB112)	NA	107			% Recovery	100		107 50 - 150%	PASS	
(PCB198)	NA	97			% Recovery	100		97 50 - 150%	PASS	
(TCMX)	NA	94			% Recovery	100		94 50 - 150%	PASS	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g			PASS		
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g			PASS		
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g			PASS		
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g			PASS		
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g			PASS		
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g			PASS		
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g			PASS		
Aldrin	NA	ND	0.05	0.1	ng/dry g			PASS		
BHC-alpha	NA	ND	0.05	0.1	ng/dry g			PASS		
BHC-beta	NA	ND	0.05	0.1	ng/dry g			PASS		
BHC-delta	NA	ND	0.05	0.1	ng/dry g			PASS		
BHC-gamma	NA	ND	0.05	0.1	ng/dry g			PASS		
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g			PASS		
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g			PASS		
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g			PASS		
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g			PASS		
Dicofol	NA	ND	0.05	0.1	ng/dry g			PASS		
Dieldrin	NA	ND	0.05	0.1	ng/dry g			PASS		
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g			PASS		
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g			PASS		
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g			PASS		
Endrin	NA	ND	0.05	0.1	ng/dry g			PASS		
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g			PASS		
Endrin ketone	NA	ND	0.05	0.1	ng/dry g			PASS		



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Chlorinated Pesticides**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Heptachlor	NA	ND	0.05	0.1	ng/dry g					PASS
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g					PASS
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g					PASS
Methoxychlor	NA	ND	0.05	0.1	ng/dry g					PASS
Mirex	NA	ND	0.05	0.1	ng/dry g					PASS
Oxychlorane	NA	ND	0.05	0.1	ng/dry g					PASS
Perthane	NA	ND	0.05	0.1	ng/dry g					PASS
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g					PASS

Sample ID: 22545-BS1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13

Toxaphene	NA	9366	0.1	0.2	ng/dry g	10000	0	94	70 - 130%	PASS
Method: EPA 8270C Batch ID: O-6004 Prepared: 16-May-14 Analyzed: 31-May-14										
(PCB030)	NA	108			% Recovery	100	0	108	70 - 130%	PASS
(PCB112)	NA	114			% Recovery	100	0	114	70 - 130%	PASS
(PCB198)	NA	97			% Recovery	100	0	97	70 - 130%	PASS
(TCMX)	NA	111			% Recovery	100	0	111	70 - 130%	PASS
2,4'-DDD	NA	1278.4	0.05	0.1	ng/dry g	1000	0	128	70 - 130%	PASS
2,4'-DDE	NA	1128.51	0.05	0.1	ng/dry g	1000	0	113	70 - 130%	PASS
2,4'-DDT	NA	1203.52	0.05	0.1	ng/dry g	1000	0	120	70 - 130%	PASS
4,4'-DDD	NA	1226.55	0.05	0.1	ng/dry g	1000	0	123	70 - 130%	PASS
4,4'-DDE	NA	1119.38	0.05	0.1	ng/dry g	1000	0	112	70 - 130%	PASS
4,4'-DDMU	NA	1010	0.05	0.1	ng/dry g	1000	0	101	70 - 130%	PASS
4,4'-DDT	NA	1195.76	0.05	0.1	ng/dry g	1000	0	120	70 - 130%	PASS
Aldrin	NA	1210.54	0.05	0.1	ng/dry g	1000	0	121	70 - 130%	PASS
BHC-alpha	NA	1228.76	0.05	0.1	ng/dry g	1000	0	123	70 - 130%	PASS
BHC-beta	NA	934.51	0.05	0.1	ng/dry g	1000	0	93	70 - 130%	PASS
BHC-delta	NA	1108.68	0.05	0.1	ng/dry g	1000	0	111	70 - 130%	PASS
BHC-gamma	NA	1281.95	0.05	0.1	ng/dry g	1000	0	128	70 - 130%	PASS
Chlordane-alpha	NA	1192.68	0.05	0.1	ng/dry g	1000	0	119	70 - 130%	PASS
Chlordane-gamma	NA	1259.1	0.05	0.1	ng/dry g	1000	0	126	70 - 130%	PASS
cis-Nonachlor	NA	1130.26	0.05	0.1	ng/dry g	1000	0	113	70 - 130%	PASS

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13

CA ELAP #2769

QUALITY CONTROL REPORT

Sample ID: 22545-BS2		QAQC Procedural Blank			Matrix: DI Water			Sampled:			Received:		
		Method: EPA 8270C-NCI			Batch ID: O-5039			Prepared: 12-Nov-13			Analyzed: 15-Nov-13		
Toxaphene	NA	9874	0.1	0.2	ng/dry g	10000	0	99	70 - 130%	PASS	5	25	PASS
		Method: EPA 8270C			Batch ID: O-6004			Prepared: 16-May-14			Analyzed: 01-Jun-14		
(PCB030)	NA	101			% Recovery	100	0	101	70 - 130%	PASS	7	25	PASS
(PCB112)	NA	105			% Recovery	100	0	105	70 - 130%	PASS	8	25	PASS
(PCB198)	NA	93			% Recovery	100	0	93	70 - 130%	PASS	4	25	PASS
(TCMX)	NA	103			% Recovery	100	0	103	70 - 130%	PASS	7	25	PASS
2,4'-DDD	NA	1112.38	0.05	0.1	ng/dry g	1000	0	111	70 - 130%	PASS	14	25	PASS
2,4'-DDE	NA	1006.37	0.05	0.1	ng/dry g	1000	0	101	70 - 130%	PASS	11	25	PASS
2,4'-DDT	NA	1233.04	0.05	0.1	ng/dry g	1000	0	123	70 - 130%	PASS	2	25	PASS
4,4'-DDD	NA	1042.23	0.05	0.1	ng/dry g	1000	0	104	70 - 130%	PASS	17	25	PASS
4,4'-DDE	NA	996.8	0.05	0.1	ng/dry g	1000	0	100	70 - 130%	PASS	11	25	PASS
4,4'-DDMU	NA	1130	0.05	0.1	ng/dry g	1000	0	113	70 - 130%	PASS	11	25	PASS

Project: RHMP Bight '13



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
4,4'-DDT	NA	1182.73	0.05	0.1	ng/dry g	1000	0	118	70 - 130% PASS	2	25	PASS
Aldrin	NA	1193.48	0.05	0.1	ng/dry g	1000	0	119	70 - 130% PASS	2	25	PASS
BHC-alpha	NA	1136.6	0.05	0.1	ng/dry g	1000	0	114	70 - 130% PASS	8	25	PASS
BHC-beta	NA	865.1	0.05	0.1	ng/dry g	1000	0	87	70 - 130% PASS	7	25	PASS
BHC-delta	NA	979.66	0.05	0.1	ng/dry g	1000	0	98	70 - 130% PASS	12	25	PASS
BHC-gamma	NA	1232.16	0.05	0.1	ng/dry g	1000	0	123	70 - 130% PASS	4	25	PASS
Chlordane-alpha	NA	1083.85	0.05	0.1	ng/dry g	1000	0	108	70 - 130% PASS	10	25	PASS
Chlordane-gamma	NA	1141.53	0.05	0.1	ng/dry g	1000	0	114	70 - 130% PASS	10	25	PASS
cis-Nonachlor	NA	1060.62	0.05	0.1	ng/dry g	1000	0	106	70 - 130% PASS	6	25	PASS
DCPA (Dacthal)	NA	1120.07	0.05	0.1	ng/dry g	1000	0	112	70 - 130% PASS	6	25	PASS
Dicofol	NA	810.84	0.05	0.1	ng/dry g	1000	0	81	70 - 130% PASS	14	25	PASS
Dieldrin	NA	1050.79	0.05	0.1	ng/dry g	1000	0	105	70 - 130% PASS	11	25	PASS
Endosulfan sulfate	NA	1021.52	0.05	0.1	ng/dry g	1000	0	102	70 - 130% PASS	4	25	PASS
Endosulfan-I	NA	268.16	0.05	0.1	ng/dry g	1000	0	27	70 - 130% FAIL	50	25	FAIL R
Endosulfan-II	NA	579.93	0.05	0.1	ng/dry g	1000	0	58	70 - 130% FAIL	16	25	PASS *
Endrin	NA	1210.72	0.05	0.1	ng/dry g	1000	0	121	70 - 130% PASS	7	25	PASS
Endrin aldehyde	NA	158.43	0.05	0.1	ng/dry g	1000	0	16	70 - 130% FAIL	29	25	FAIL *
Endrin ketone	NA	1086.45	0.05	0.1	ng/dry g	1000	0	109	70 - 130% PASS	4	25	PASS
Heptachlor	NA	1274.29	0.05	0.1	ng/dry g	1000	0	127	70 - 130% PASS	1	25	PASS
Heptachlor epoxide	NA	1233.05	0.05	0.1	ng/dry g	1000	0	123	70 - 130% PASS	0	25	PASS
Hexachlorobenzene	NA	1057.26	0.05	0.1	ng/dry g	1000	0	106	70 - 130% PASS	6	25	PASS
Methoxychlor	NA	1195.72	0.05	0.1	ng/dry g	1000	0	120	70 - 130% PASS	2	25	PASS
Mirex	NA	1112.94	0.05	0.1	ng/dry g	1000	0	111	70 - 130% PASS	2	25	PASS
Oxychlordane	NA	1246.19	0.05	0.1	ng/dry g	1000	0	125	70 - 130% PASS	4	25	PASS
Perthane	NA	1197.12	0.05	0.1	ng/dry g	1000	0	120	70 - 130% PASS	1	25	PASS
trans-Nonachlor	NA	1120.33	0.05	0.1	ng/dry g	1000	0	112	70 - 130% PASS	9	25	PASS

Sample ID: 22558-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14

(PCB030)	NA	117	% Recovery	100	117	60 - 140% PASS
(PCB112)	NA	108	% Recovery	100	108	60 - 140% PASS
(PCB198)	NA	66	% Recovery	100	66	60 - 140% PASS



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
(TCMX)	NA	119			% Recovery	100		119 60 - 140% PASS		
2,4'-DDD	NA	38.22	0.05	0.1	ng/dry g	38		101 60 - 140% PASS		
2,4'-DDE	NA	24.84	0.05	0.1	ng/dry g	19		131 60 - 140% PASS		
4,4'-DDD	NA	90.66	0.05	0.1	ng/dry g	108		84 60 - 140% PASS		
4,4'-DDE	NA	94.36	0.05	0.1	ng/dry g	86		110 60 - 140% PASS		
4,4'-DDT	NA	136.47	0.05	0.1	ng/dry g	170		80 60 - 140% PASS		
Chlordane-alpha	NA	16.09	0.05	0.1	ng/dry g	16.5		98 60 - 140% PASS		
Chlordane-gamma	NA	21.25	0.05	0.1	ng/dry g	19		112 60 - 140% PASS		
cis-Nonachlor	NA	3.58	0.05	0.1	ng/dry g	3.7		97 60 - 140% PASS		
Hexachlorobenzene	NA	6.5	0.05	0.1	ng/dry g	6		108 60 - 140% PASS		
trans-Nonachlor	NA	9.83	0.05	0.1	ng/dry g	8.2		120 60 - 140% PASS		



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Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Acid Volatile Sulfides		Method: Plumb, 1981 and TERL		Fraction: NA		Prepared: 15-Oct-13		Analyzed: 15-Oct-13				
22544-B1	QAQC Procedural Blank	C-14065	ND	0.05	0.1	mg/dry kg			PASS			
22544-BS1	QAQC Procedural Blank	C-14065	7.17	0.05	0.1	mg/dry kg	7.75	0	93	80 - 120%	PASS	
22544-BS2	QAQC Procedural Blank	C-14065	6.72	0.05	0.1	mg/dry kg	7.75	0	87	80 - 120%	PASS	7 25 PASS
22546-MS1	B13-8109	C-14065	15.35	0.05	0.1	mg/dry kg	8.07	5.49	122	50 - 130%	PASS	
22546-MS2	B13-8109	C-14065	14.9	0.05	0.1	mg/dry kg	8.42	5.49	112	50 - 130%	PASS	9 25 PASS
22546-R2	B13-8109	C-14065	5.01	0.05	0.1	mg/dry kg			PASS	17	25	PASS
Ammonia as N		Method: SM 4500-NH₃ D		Fraction: NA		Prepared: 16-Oct-13		Analyzed: 16-Oct-13				
22544-B1	QAQC Procedural Blank	C-14071	ND	0.02	0.03	mg/dry kg			PASS			
22544-BS1	QAQC Procedural Blank	C-14071	4.11	0.02	0.03	mg/dry kg	3.98	0	103	80 - 120%	PASS	
22544-BS2	QAQC Procedural Blank	C-14071	3.98	0.02	0.03	mg/dry kg	3.98	0	100	80 - 120%	PASS	3 25 PASS
22546-MS1	B13-8109	C-14071	4.06	0.02	0.03	mg/dry kg	3.79	0.5	94	70 - 130%	PASS	
22546-MS2	B13-8109	C-14071	4.08	0.02	0.03	mg/dry kg	3.8	0.5	94	70 - 130%	PASS	0 25 PASS
22546-R2	B13-8109	C-14071	0.52	0.02	0.03	mg/dry kg			PASS	8	25	PASS
Percent Solids		Method: SM 2540B		Fraction: NA		Prepared: 14-Oct-13		Analyzed: 14-Oct-13				
22544-B1	QAQC Procedural Blank	E-7004	ND	0.1	0.1	% Dry Weight			PASS			
22546-R2	B13-8109	E-7004	64.9	0.1	0.1	% Dry Weight			PASS	0	25	PASS
22556-R2	B13-8087	E-7004	74.3	0.1	0.1	% Dry Weight			PASS	0	25	PASS
Total Phosphorus		Method: EPA 6020		Fraction: NA		Prepared: 12-Oct-13		Analyzed: 21-Oct-13				
22544-B1	QAQC Procedural Blank	E-7006	ND	0.016	0.05	µg/dry g			PASS			
22544-BS1	QAQC Procedural Blank	E-7006	48.811	0.016	0.05	µg/dry g	50	0	98	80 - 120%	PASS	
22544-BS2	QAQC Procedural Blank	E-7006	48.862	0.016	0.05	µg/dry g	50	0	98	80 - 120%	PASS	0 25 PASS
22546-MS1	B13-8109	E-7006	1678.429	0.016	0.05	µg/dry g	1293	309.402	106	70 - 130%	PASS	
22546-MS2	B13-8109	E-7006	1679.541	0.016	0.05	µg/dry g	1293	309.402	106	70 - 130%	PASS	0 25 PASS
22546-R2	B13-8109	E-7006	305.367	0.016	0.05	µg/dry g			PASS	3	25	PASS
22545-B1	QAQC Procedural Blank	E-7007	ND	0.016	0.05	µg/dry g			PASS			
22545-BS1	QAQC Procedural Blank	E-7007	49.805	0.016	0.05	µg/dry g	50	0	100	80 - 120%	PASS	
22545-BS2	QAQC Procedural Blank	E-7007	49.18	0.016	0.05	µg/dry g	50	0	98	80 - 120%	PASS	2 25 PASS
22556-MS1	B13-8087	E-7007	1161.931	0.016	0.05	µg/dry g	944.5	238.118	98	70 - 130%	PASS	



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QUALITY CONTROL REPORT

SAMPLE ID		BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
22556-MS2	B13-8087	E-7007	1135.839	0.016	0.05	µg/dry g	944.5	238.118	95	70 - 130% PASS	3	25	PASS
22556-R2	B13-8087	E-7007	232.29	0.016	0.05	µg/dry g				PASS	5	25	PASS



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22544-B1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13

Mercury (Hg)	NA	ND	0.00001	0.00002	µg/dry g					PASS
Method: EPA 6020										
						Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 22-Oct-13
Aluminum (Al)	NA	ND	1	5	µg/dry g					PASS
Antimony (Sb)	NA	ND	0.025	0.05	µg/dry g					PASS
Arsenic (As)	NA	ND	0.025	0.05	µg/dry g					PASS
Barium (Ba)	NA	ND	0.025	0.05	µg/dry g					PASS
Beryllium (Be)	NA	ND	0.025	0.05	µg/dry g					PASS
Cadmium (Cd)	NA	ND	0.0025	0.005	µg/dry g					PASS
Chromium (Cr)	NA	ND	0.0025	0.005	µg/dry g					PASS
Copper (Cu)	NA	ND	0.0025	0.005	µg/dry g					PASS
Iron (Fe)	NA	ND	1	5	µg/dry g					PASS
Lead (Pb)	NA	ND	0.0025	0.005	µg/dry g					PASS
Nickel (Ni)	NA	ND	0.01	0.02	µg/dry g					PASS
Selenium (Se)	NA	ND	0.025	0.05	µg/dry g					PASS
Silver (Ag)	NA	ND	0.01	0.02	µg/dry g					PASS
Zinc (Zn)	NA	ND	0.025	0.05	µg/dry g					PASS

Sample ID: 22544-BS1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13

Mercury (Hg)	NA	0.949	0.00001	0.00002	µg/dry g	1	0	95	80 - 120%	PASS
Method: EPA 6020										
						Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 22-Oct-13
Aluminum (Al)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS
Antimony (Sb)	NA	2.234	0.025	0.05	µg/dry g	2	0	112	80 - 120%	PASS
Arsenic (As)	NA	2.16	0.025	0.05	µg/dry g	2	0	108	80 - 120%	PASS
Barium (Ba)	NA	2.118	0.025	0.05	µg/dry g	2	0	106	80 - 120%	PASS
Beryllium (Be)	NA	1.888	0.025	0.05	µg/dry g	2	0	94	80 - 120%	PASS
Cadmium (Cd)	NA	2.1034	0.0025	0.005	µg/dry g	2	0	105	80 - 120%	PASS
Chromium (Cr)	NA	2.0206	0.0025	0.005	µg/dry g	2	0	101	80 - 120%	PASS
Copper (Cu)	NA	2.0268	0.0025	0.005	µg/dry g	2	0	101	80 - 120%	PASS



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS		
Lead (Pb)	NA	2.0486	0.0025	0.005	µg/dry g	2	0	102	80 - 120%	PASS		
Nickel (Ni)	NA	1.96	0.01	0.02	µg/dry g	2	0	98	80 - 120%	PASS		
Selenium (Se)	NA	2.121	0.025	0.05	µg/dry g	2	0	106	80 - 120%	PASS		
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	0.2	0	100	80 - 120%	PASS		
Zinc (Zn)	NA	2.288	0.025	0.05	µg/dry g	2	0	114	80 - 120%	PASS		

Sample ID: 22544-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13

Mercury (Hg)	NA	0.903	0.00001	0.00002	µg/dry g	1	0	90	80 - 120%	PASS	5	25	PASS
Method: EPA 6020													
Batch ID: E-7006													
Prepared: 12-Oct-13													
Analyzed: 22-Oct-13													
Aluminum (Al)	NA	2	1	5	µg/dry g	2	0	100	80 - 120%	PASS	5	25	PASS
Antimony (Sb)	NA	2.148	0.025	0.05	µg/dry g	2	0	107	80 - 120%	PASS	5	25	PASS
Arsenic (As)	NA	2.137	0.025	0.05	µg/dry g	2	0	107	80 - 120%	PASS	1	25	PASS
Barium (Ba)	NA	2.065	0.025	0.05	µg/dry g	2	0	103	80 - 120%	PASS	3	25	PASS
Beryllium (Be)	NA	1.899	0.025	0.05	µg/dry g	2	0	95	80 - 120%	PASS	1	25	PASS
Cadmium (Cd)	NA	2.1398	0.0025	0.005	µg/dry g	2	0	107	80 - 120%	PASS	2	25	PASS
Chromium (Cr)	NA	2.0109	0.0025	0.005	µg/dry g	2	0	101	80 - 120%	PASS	0	25	PASS
Copper (Cu)	NA	2.0223	0.0025	0.005	µg/dry g	2	0	101	80 - 120%	PASS	0	25	PASS
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS	0	25	PASS
Lead (Pb)	NA	2.0386	0.0025	0.005	µg/dry g	2	0	102	80 - 120%	PASS	0	25	PASS
Nickel (Ni)	NA	1.97	0.01	0.02	µg/dry g	2	0	99	80 - 120%	PASS	0	25	PASS
Selenium (Se)	NA	2.129	0.025	0.05	µg/dry g	2	0	106	80 - 120%	PASS	0	25	PASS
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	0.2	0	100	80 - 120%	PASS	0	25	PASS
Zinc (Zn)	NA	2.322	0.025	0.05	µg/dry g	2	0	116	80 - 120%	PASS	2	25	PASS

Sample ID: 22545-B1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 6020

Batch ID: E-7007

Prepared: 12-Oct-13

Analyzed: 22-Oct-13

Aluminum (Al)	NA	ND	1	5	µg/dry g					PASS			
Antimony (Sb)	NA	ND	0.025	0.05	µg/dry g					PASS			
Arsenic (As)	NA	ND	0.025	0.05	µg/dry g					PASS			
Barium (Ba)	NA	ND	0.025	0.05	µg/dry g					PASS			



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Beryllium (Be)	NA	ND	0.025	0.05	µg/dry g				PASS	
Cadmium (Cd)	NA	ND	0.0025	0.005	µg/dry g				PASS	
Chromium (Cr)	NA	ND	0.0025	0.005	µg/dry g				PASS	
Copper (Cu)	NA	ND	0.0025	0.005	µg/dry g				PASS	
Iron (Fe)	NA	ND	1	5	µg/dry g				PASS	
Lead (Pb)	NA	ND	0.0025	0.005	µg/dry g				PASS	
Nickel (Ni)	NA	ND	0.01	0.02	µg/dry g				PASS	
Selenium (Se)	NA	ND	0.025	0.05	µg/dry g				PASS	
Silver (Ag)	NA	ND	0.01	0.02	µg/dry g				PASS	
Zinc (Zn)	NA	ND	0.025	0.05	µg/dry g				PASS	

Sample ID: 22545-BS1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 6020

Batch ID: E-7007

Prepared: 12-Oct-13

Analyzed: 22-Oct-13

Aluminum (Al)	NA	2	1	5	µg/dry g	2	0	100	80 - 120%	PASS	
Antimony (Sb)	NA	2.171	0.025	0.05	µg/dry g	2	0	109	80 - 120%	PASS	
Arsenic (As)	NA	2.113	0.025	0.05	µg/dry g	2	0	106	80 - 120%	PASS	
Barium (Ba)	NA	2.142	0.025	0.05	µg/dry g	2	0	107	80 - 120%	PASS	
Beryllium (Be)	NA	1.918	0.025	0.05	µg/dry g	2	0	96	80 - 120%	PASS	
Cadmium (Cd)	NA	2.1215	0.0025	0.005	µg/dry g	2	0	106	80 - 120%	PASS	
Chromium (Cr)	NA	1.9645	0.0025	0.005	µg/dry g	2	0	98	80 - 120%	PASS	
Copper (Cu)	NA	1.9528	0.0025	0.005	µg/dry g	2	0	98	80 - 120%	PASS	
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS	
Lead (Pb)	NA	2.0667	0.0025	0.005	µg/dry g	2	0	103	80 - 120%	PASS	
Nickel (Ni)	NA	1.92	0.01	0.02	µg/dry g	2	0	96	80 - 120%	PASS	
Selenium (Se)	NA	2.087	0.025	0.05	µg/dry g	2	0	104	80 - 120%	PASS	
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	0.2	0	100	80 - 120%	PASS	
Zinc (Zn)	NA	2.243	0.025	0.05	µg/dry g	2	0	112	80 - 120%	PASS	

Sample ID: 22545-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 6020

Batch ID: E-7007

Prepared: 12-Oct-13

Analyzed: 22-Oct-13

Aluminum (Al)	NA	2	1	5	µg/dry g	2	0	100	80 - 120%	PASS	0	25	PASS
Antimony (Sb)	NA	2.144	0.025	0.05	µg/dry g	2	0	107	80 - 120%	PASS	2	25	PASS



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Arsenic (As)	NA	2.116	0.025	0.05	µg/dry g	2	0	106	80 - 120% PASS	0	25	PASS
Barium (Ba)	NA	2.094	0.025	0.05	µg/dry g	2	0	105	80 - 120% PASS	2	25	PASS
Beryllium (Be)	NA	1.906	0.025	0.05	µg/dry g	2	0	95	80 - 120% PASS	1	25	PASS
Cadmium (Cd)	NA	2.162	0.0025	0.005	µg/dry g	2	0	108	80 - 120% PASS	2	25	PASS
Chromium (Cr)	NA	1.9647	0.0025	0.005	µg/dry g	2	0	98	80 - 120% PASS	0	25	PASS
Copper (Cu)	NA	1.9475	0.0025	0.005	µg/dry g	2	0	97	80 - 120% PASS	1	25	PASS
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120% PASS	0	25	PASS
Lead (Pb)	NA	2.056	0.0025	0.005	µg/dry g	2	0	103	80 - 120% PASS	0	25	PASS
Nickel (Ni)	NA	1.92	0.01	0.02	µg/dry g	2	0	96	80 - 120% PASS	0	25	PASS
Selenium (Se)	NA	2.076	0.025	0.05	µg/dry g	2	0	104	80 - 120% PASS	0	25	PASS
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	0.2	0	100	80 - 120% PASS	0	25	PASS
Zinc (Zn)	NA	2.265	0.025	0.05	µg/dry g	2	0	113	80 - 120% PASS	1	25	PASS

Sample ID: 22546-MS1**B13-8109 Grab****Matrix: Sediment****Sampled: 28-Aug-13 7:43****Received: 29-Aug-13**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13

Mercury (Hg)	NA	0.50168	0.00001	0.00002	µg/dry g	0.2586	0.2253	107	75 - 125% PASS			
Method: EPA 6020												
Batch ID: E-7006												
Aluminum (Al)	NA	15790.3	1	5	µg/dry g	1034	14663.6	109	75 - 125% PASS			
Antimony (Sb)	NA	54.655	0.025	0.05	µg/dry g	51.72	0.17	105	75 - 125% PASS			
Arsenic (As)	NA	60.953	0.025	0.05	µg/dry g	51.72	5.373	107	75 - 125% PASS			
Barium (Ba)	NA	106.787	0.025	0.05	µg/dry g	51.72	53.227	104	75 - 125% PASS			
Beryllium (Be)	NA	52.856	0.025	0.05	µg/dry g	51.72	0.279	102	75 - 125% PASS			
Cadmium (Cd)	NA	51.9859	0.0025	0.005	µg/dry g	51.72	0.1165	100	75 - 125% PASS			
Chromium (Cr)	NA	83.7617	0.0025	0.005	µg/dry g	51.72	26.842	110	75 - 125% PASS			
Copper (Cu)	NA	97.2436	0.0025	0.005	µg/dry g	51.72	45.5277	100	75 - 125% PASS			
Iron (Fe)	NA	17407.2	1	5	µg/dry g	1034	16099	127	75 - 125% FAIL			SH
Lead (Pb)	NA	68.7863	0.0025	0.005	µg/dry g	51.72	18.8785	96	75 - 125% PASS			
Nickel (Ni)	NA	60.43	0.01	0.02	µg/dry g	51.72	7.13	103	75 - 125% PASS			
Selenium (Se)	NA	57.992	0.025	0.05	µg/dry g	51.72	0.146	112	75 - 125% PASS			
Silver (Ag)	NA	5.52	0.01	0.02	µg/dry g	5.17	0.34	100	75 - 125% PASS			
Zinc (Zn)	NA	142.158	0.025	0.05	µg/dry g	51.72	90.851	99	75 - 125% PASS			



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22546-MS2

B13-8109 Grab

Matrix: Sediment

Sampled: 28-Aug-13 7:43

Received: 29-Aug-13

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13

Mercury (Hg)	NA	0.4991	0.00001	0.00002	µg/dry g	0.2586	0.2253	106	75 - 125%	PASS	1	25	PASS
		Method: EPA 6020		Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 22-Oct-13					
Aluminum (Al)	NA	15563.3	1	5	µg/dry g	1034	14663.6	87	75 - 125%	PASS	22	25	PASS
Antimony (Sb)	NA	54.287	0.025	0.05	µg/dry g	51.72	0.17	105	75 - 125%	PASS	0	25	PASS
Arsenic (As)	NA	61.305	0.025	0.05	µg/dry g	51.72	5.373	108	75 - 125%	PASS	1	25	PASS
Barium (Ba)	NA	106.22	0.025	0.05	µg/dry g	51.72	53.227	102	75 - 125%	PASS	2	25	PASS
Beryllium (Be)	NA	52.479	0.025	0.05	µg/dry g	51.72	0.279	101	75 - 125%	PASS	1	25	PASS
Cadmium (Cd)	NA	51.5306	0.0025	0.005	µg/dry g	51.72	0.1165	99	75 - 125%	PASS	1	25	PASS
Chromium (Cr)	NA	83.9153	0.0025	0.005	µg/dry g	51.72	26.842	110	75 - 125%	PASS	0	25	PASS
Copper (Cu)	NA	97.4263	0.0025	0.005	µg/dry g	51.72	45.5277	100	75 - 125%	PASS	0	25	PASS
Iron (Fe)	NA	17201.6	1	5	µg/dry g	1034	16099	107	75 - 125%	PASS	17	25	PASS
Lead (Pb)	NA	68.5338	0.0025	0.005	µg/dry g	51.72	18.8785	96	75 - 125%	PASS	0	25	PASS
Nickel (Ni)	NA	60.28	0.01	0.02	µg/dry g	51.72	7.13	103	75 - 125%	PASS	0	25	PASS
Selenium (Se)	NA	57.695	0.025	0.05	µg/dry g	51.72	0.146	111	75 - 125%	PASS	1	25	PASS
Silver (Ag)	NA	5.49	0.01	0.02	µg/dry g	5.17	0.34	100	75 - 125%	PASS	0	25	PASS
Zinc (Zn)	NA	142.338	0.025	0.05	µg/dry g	51.72	90.851	100	75 - 125%	PASS	1	25	PASS

Sample ID: 22546-R2

B13-8109 Grab

Matrix: Sediment

Sampled: 28-Aug-13 7:43

Received: 29-Aug-13

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13

Mercury (Hg)	NA	0.2163	0.00001	0.00002	µg/dry g					PASS	8	25	PASS
		Method: EPA 6020		Batch ID: E-7006		Prepared: 12-Oct-13		Analyzed: 22-Oct-13					
Aluminum (Al)	NA	14852.5	1	5	µg/dry g					PASS	3	25	PASS
Antimony (Sb)	NA	0.167	0.025	0.05	µg/dry g					PASS	4	25	PASS
Arsenic (As)	NA	5.233	0.025	0.05	µg/dry g					PASS	5	25	PASS
Barium (Ba)	NA	54.556	0.025	0.05	µg/dry g					PASS	5	25	PASS
Beryllium (Be)	NA	0.268	0.025	0.05	µg/dry g					PASS	8	25	PASS
Cadmium (Cd)	NA	0.1126	0.0025	0.005	µg/dry g					PASS	7	25	PASS
Chromium (Cr)	NA	26.4514	0.0025	0.005	µg/dry g					PASS	3	25	PASS
Copper (Cu)	NA	45.0959	0.0025	0.005	µg/dry g					PASS	2	25	PASS



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Iron (Fe)	NA	16167.4	1	5	µg/dry g			PASS	1 25	PASS
Lead (Pb)	NA	17.1888	0.0025	0.005	µg/dry g			PASS	18 25	PASS
Nickel (Ni)	NA	7.04	0.01	0.02	µg/dry g			PASS	3 25	PASS
Selenium (Se)	NA	0.139	0.025	0.05	µg/dry g			PASS	10 25	PASS
Silver (Ag)	NA	0.33	0.01	0.02	µg/dry g			PASS	6 25	PASS
Zinc (Zn)	NA	89.215	0.025	0.05	µg/dry g			PASS	4 25	PASS

Sample ID: 22556-MS1**B13-8087 Grab****Matrix: Sediment****Sampled: 29-Aug-13 15:16****Received: 29-Aug-13**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13

Mercury (Hg)	NA	0.24935	0.00001	0.00002	µg/dry g	0.1889	0.0764	92 75 - 125%	PASS	
Method: EPA 6020 Batch ID: E-7007 Prepared: 12-Oct-13 Analyzed: 22-Oct-13										
Aluminum (Al)	NA	8179	1	5	µg/dry g	756	7287.8	118 75 - 125%	PASS	
Antimony (Sb)	NA	36.473	0.025	0.05	µg/dry g	37.78	0.142	96 75 - 125%	PASS	
Arsenic (As)	NA	44.363	0.025	0.05	µg/dry g	37.78	5.363	103 75 - 125%	PASS	
Barium (Ba)	NA	57.27	0.025	0.05	µg/dry g	37.78	19.105	101 75 - 125%	PASS	
Beryllium (Be)	NA	36.39	0.025	0.05	µg/dry g	37.78	0.138	96 75 - 125%	PASS	
Cadmium (Cd)	NA	38.5587	0.0025	0.005	µg/dry g	37.78	0.031	102 75 - 125%	PASS	
Chromium (Cr)	NA	51.5454	0.0025	0.005	µg/dry g	37.78	12.0667	104 75 - 125%	PASS	
Copper (Cu)	NA	54.3083	0.0025	0.005	µg/dry g	37.78	19.366	92 75 - 125%	PASS	
Iron (Fe)	NA	10794.4	1	5	µg/dry g	756	9860.3	124 75 - 125%	PASS	
Lead (Pb)	NA	44.0715	0.0025	0.005	µg/dry g	37.78	9.0894	93 75 - 125%	PASS	
Nickel (Ni)	NA	38.98	0.01	0.02	µg/dry g	37.78	3.2	95 75 - 125%	PASS	
Selenium (Se)	NA	41.133	0.025	0.05	µg/dry g	37.78	0.072	109 75 - 125%	PASS	
Silver (Ag)	NA	3.8	0.01	0.02	µg/dry g	3.78	0.07	99 75 - 125%	PASS	
Zinc (Zn)	NA	79.496	0.025	0.05	µg/dry g	37.78	44.11	94 75 - 125%	PASS	

Sample ID: 22556-MS2**B13-8087 Grab****Matrix: Sediment****Sampled: 29-Aug-13 15:16****Received: 29-Aug-13**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13

Mercury (Hg)	NA	0.24746	0.00001	0.00002	µg/dry g	0.1889	0.0764	91 75 - 125%	PASS	1 25 PASS
Method: EPA 6020 Batch ID: E-7007 Prepared: 12-Oct-13 Analyzed: 22-Oct-13										
Aluminum (Al)	NA	8183.6	1	5	µg/dry g	756	7287.8	118 75 - 125%	PASS	0 25 PASS
Antimony (Sb)	NA	36.71	0.025	0.05	µg/dry g	37.78	0.142	97 75 - 125%	PASS	1 25 PASS

CA ELAP #2769

QUALITY CONTROL REPORT

Sample ID: 22556-R2		B13-8087 Grab			Matrix: Sediment	Sampled: 29-Aug-13	15:16	Received: 29-Aug-13		
		Method: EPA 245.7			Batch ID: E-6038	Prepared: 22-Oct-13		Analyzed: 22-Oct-13		
Mercury (Hg)	NA	0.0846	0.00001	0.00002	µg/dry g		PASS	21	25	PASS
		Method: EPA 6020			Batch ID: E-7007	Prepared: 12-Oct-13		Analyzed: 22-Oct-13		
Aluminum (Al)	NA	7185.2	1	5	µg/dry g		PASS	3	25	PASS
Antimony (Sb)	NA	0.128	0.025	0.05	µg/dry g		PASS	20	25	PASS
Arsenic (As)	NA	5.427	0.025	0.05	µg/dry g		PASS	2	25	PASS
Barium (Ba)	NA	18.427	0.025	0.05	µg/dry g		PASS	7	25	PASS
Beryllium (Be)	NA	0.135	0.025	0.05	µg/dry g		PASS	4	25	PASS
Cadmium (Cd)	NA	0.032	0.0025	0.005	µg/dry g		PASS	6	25	PASS
Chromium (Cr)	NA	11.9103	0.0025	0.005	µg/dry g		PASS	3	25	PASS
Copper (Cu)	NA	19.3132	0.0025	0.005	µg/dry g		PASS	1	25	PASS
Iron (Fe)	NA	9820.3	1	5	µg/dry g		PASS	1	25	PASS
Lead (Pb)	NA	9.2162	0.0025	0.005	µg/dry g		PASS	3	25	PASS
Nickel (Ni)	NA	3.1	0.01	0.02	µg/dry g		PASS	6	25	PASS
Selenium (Se)	NA	0.079	0.025	0.05	µg/dry g		PASS	19	25	PASS
Silver (Ag)	NA	0.07	0.01	0.02	µg/dry g		PASS	13	25	PASS
Zinc (Zn)	NA	43.376	0.025	0.05	µg/dry g		PASS	3	25	PASS

CA ELAP #2769

QUALITY CONTROL REPORT

Sample ID: 22560-CRM1		QA/QC CRM - RTC 016-050			Matrix: Sediment		Sampled:			Received:	
		Method: EPA 6020			Batch ID: E-7007		Prepared: 12-Oct-13			Analyzed: 22-Oct-13	
Aluminum (Al)	NA	24039.7	1	5	µg/dry g	8920	270	80 - 120%	FAIL		*
Arsenic (As)	NA	8.789	0.025	0.05	µg/dry g	7.76	113	80 - 120%	PASS		
Beryllium (Be)	NA	0.785	0.025	0.05	µg/dry g	0.49	160	80 - 120%	FAIL		*
Cadmium (Cd)	NA	0.2721	0.0025	0.005	µg/dry g	0.47	58	80 - 120%	FAIL		R
Chromium (Cr)	NA	35.9891	0.0025	0.005	µg/dry g	14.5	248	80 - 120%	FAIL		*
Copper (Cu)	NA	14.0242	0.0025	0.005	µg/dry g	15.5	90	80 - 120%	PASS		
Iron (Fe)	NA	19693.8	1	5	µg/dry g	16800	117	80 - 120%	PASS		
Lead (Pb)	NA	14.6779	0.0025	0.005	µg/dry g	14.01	105	80 - 120%	PASS		
Nickel (Ni)	NA	19.18	0.01	0.02	µg/dry g	16.7	115	80 - 120%	PASS		
Zinc (Zn)	NA	72.095	0.025	0.05	µg/dry g	69.7	103	80 - 120%	PASS		



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22561-CRM1

QAQC CRM - ERA 540

Matrix: Sediment

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13

Mercury (Hg)	NA	8.223	0.00001	0.00002	µg/dry g	9.25	89	80 - 120%	PASS	
Method: EPA 6020 Batch ID: E-7006 Prepared: 12-Oct-13 Analyzed: 22-Oct-13										
Aluminum (Al)	NA	13525.4	1	5	µg/dry g	9060	149	80 - 120%	FAIL	*
Antimony (Sb)	NA	179.648	0.025	0.05	µg/dry g	106	169	80 - 120%	FAIL	*
Arsenic (As)	NA	182.13	0.025	0.05	µg/dry g	182	100	80 - 120%	PASS	
Beryllium (Be)	NA	89.107	0.025	0.05	µg/dry g	98.3	91	80 - 120%	PASS	
Cadmium (Cd)	NA	56.2548	0.0025	0.005	µg/dry g	60.4	93	80 - 120%	PASS	
Chromium (Cr)	NA	134.6213	0.0025	0.005	µg/dry g	125	108	80 - 120%	PASS	
Copper (Cu)	NA	75.7329	0.0025	0.005	µg/dry g	80.1	95	80 - 120%	PASS	
Iron (Fe)	NA	17142	1	5	µg/dry g	12900	133	80 - 120%	FAIL	*
Lead (Pb)	NA	123.3085	0.0025	0.005	µg/dry g	136	91	80 - 120%	PASS	
Nickel (Ni)	NA	123.21	0.01	0.02	µg/dry g	128	96	80 - 120%	PASS	
Selenium (Se)	NA	89.702	0.025	0.05	µg/dry g	85.9	104	80 - 120%	PASS	
Silver (Ag)	NA	58.38	0.01	0.02	µg/dry g	61.3	95	80 - 120%	PASS	
Zinc (Zn)	NA	200.443	0.025	0.05	µg/dry g	204	98	80 - 120%	PASS	

Sample ID: 22561-CRM2

QAQC CRM - ERA 540

Matrix: Sediment

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13

Mercury (Hg)	NA	7.1713	0.00001	0.00002	µg/dry g	9.25	78	80 - 120%	FAIL	14 25 PASS R
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Sample ID: 22562-CRM1

QAQC CRM - ERA 540

Matrix: Sediment

Sampled:

Received:

Method: EPA 6020

Batch ID: E-7007

Prepared: 12-Oct-13

Analyzed: 22-Oct-13

Aluminum (Al)	NA	9887.3	1	5	µg/dry g	9060	109	80 - 120%	PASS	
Antimony (Sb)	NA	152.007	0.025	0.05	µg/dry g	106	143	80 - 120%	FAIL	*
Arsenic (As)	NA	158.942	0.025	0.05	µg/dry g	182	87	80 - 120%	PASS	
Beryllium (Be)	NA	81.283	0.025	0.05	µg/dry g	98.3	83	80 - 120%	PASS	
Cadmium (Cd)	NA	51.5203	0.0025	0.005	µg/dry g	60.4	85	80 - 120%	PASS	
Chromium (Cr)	NA	112.2602	0.0025	0.005	µg/dry g	125	90	80 - 120%	PASS	
Copper (Cu)	NA	64.7235	0.0025	0.005	µg/dry g	80.1	81	80 - 120%	PASS	



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Iron (Fe)	NA	13130.2	1	5	µg/dry g	12900		102 80 - 120% PASS		
Lead (Pb)	NA	110.7675	0.0025	0.005	µg/dry g	136		81 80 - 120% PASS		
Nickel (Ni)	NA	107.1	0.01	0.02	µg/dry g	128		84 80 - 120% PASS		
Selenium (Se)	NA	79.084	0.025	0.05	µg/dry g	85.9		92 80 - 120% PASS		
Silver (Ag)	NA	52.13	0.01	0.02	µg/dry g	61.3		85 80 - 120% PASS		
Zinc (Zn)	NA	171.38	0.025	0.05	µg/dry g	204		84 80 - 120% PASS		



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Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22544-B1**QAQC Procedural Blank**

Method: EPA 200.8

Matrix: DI Water

Batch ID: E-7010

Sampled:

Prepared: 18-Oct-13

Received:

Analyzed: 18-Oct-13

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g					PASS
Copper (Cu) - SEM	NA	ND	0.0062	0.0124	µmol/dry g					PASS
Lead (Pb) - SEM	NA	ND	0.0002	0.0004	µmol/dry g					PASS
Nickel (Ni) - SEM	NA	ND	0.0033	0.0066	µmol/dry g					PASS
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g					PASS
Zinc (Zn) - SEM	NA	ND	0.0015	0.003	µmol/dry g					PASS

Sample ID: 22544-BS1**QAQC Procedural Blank**

Method: EPA 200.8

Matrix: DI Water

Batch ID: E-7010

Sampled:

Prepared: 18-Oct-13

Received:

Analyzed: 18-Oct-13

Cadmium (Cd) - SEM	NA	0.0187	0.0018	0.0036	µmol/dry g	0.0178	0	105	75 - 130%	PASS
Copper (Cu) - SEM	NA	0.032	0.0062	0.0124	µmol/dry g	0.0315	0	102	70 - 130%	PASS
Lead (Pb) - SEM	NA	0.0098	0.0002	0.0004	µmol/dry g	0.0097	0	101	65 - 135%	PASS
Nickel (Ni) - SEM	NA	0.0343	0.0033	0.0066	µmol/dry g	0.0341	0	101	70 - 130%	PASS
Silver (Ag) - SEM	NA	0.0019	0.0047	0.0094	µmol/dry g	0.0019	0	100	50 - 155%	PASS
Zinc (Zn) - SEM	NA	0.0355	0.0015	0.003	µmol/dry g	0.0306	0	116	50 - 150%	PASS

Sample ID: 22544-BS2**QAQC Procedural Blank**

Method: EPA 200.8

Matrix: DI Water

Batch ID: E-7010

Sampled:

Prepared: 18-Oct-13

Received:

Analyzed: 18-Oct-13

Cadmium (Cd) - SEM	NA	0.0187	0.0018	0.0036	µmol/dry g	0.0178	0	105	75 - 130%	PASS	0	25	PASS
Copper (Cu) - SEM	NA	0.0317	0.0062	0.0124	µmol/dry g	0.0315	0	101	70 - 130%	PASS	1	25	PASS
Lead (Pb) - SEM	NA	0.0097	0.0002	0.0004	µmol/dry g	0.0097	0	100	65 - 135%	PASS	1	25	PASS
Nickel (Ni) - SEM	NA	0.0339	0.0033	0.0066	µmol/dry g	0.0341	0	99	70 - 130%	PASS	2	25	PASS
Silver (Ag) - SEM	NA	0.0018	0.0047	0.0094	µmol/dry g	0.0019	0	95	50 - 155%	PASS	5	25	PASS
Zinc (Zn) - SEM	NA	0.0356	0.0015	0.003	µmol/dry g	0.0306	0	116	50 - 150%	PASS	0	25	PASS

Sample ID: 22545-B1**QAQC Procedural Blank**

Method: EPA 200.8

Matrix: DI Water

Batch ID: E-7011

Sampled:

Prepared: 18-Oct-13

Received:

Analyzed: 18-Oct-13

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g					PASS
Copper (Cu) - SEM	NA	ND	0.0062	0.0124	µmol/dry g					PASS
Lead (Pb) - SEM	NA	ND	0.0002	0.0004	µmol/dry g					PASS



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Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Nickel (Ni) - SEM	NA	ND	0.0033	0.0066	µmol/dry g					PASS
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g					PASS
Zinc (Zn) - SEM	NA	ND	0.0015	0.003	µmol/dry g					PASS

Sample ID: 22545-BS1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 200.8

Batch ID: E-7011

Prepared: 18-Oct-13

Analyzed: 18-Oct-13

Cadmium (Cd) - SEM	NA	0.0188	0.0018	0.0036	µmol/dry g	0.0178	0	106	75 - 130%	PASS
Copper (Cu) - SEM	NA	0.0319	0.0062	0.0124	µmol/dry g	0.0315	0	101	70 - 130%	PASS
Lead (Pb) - SEM	NA	0.0098	0.0002	0.0004	µmol/dry g	0.0097	0	101	65 - 135%	PASS
Nickel (Ni) - SEM	NA	0.0341	0.0033	0.0066	µmol/dry g	0.0341	0	100	70 - 130%	PASS
Silver (Ag) - SEM	NA	0.0019	0.0047	0.0094	µmol/dry g	0.0019	0	100	50 - 155%	PASS
Zinc (Zn) - SEM	NA	0.0353	0.0015	0.003	µmol/dry g	0.0306	0	115	50 - 150%	PASS

Sample ID: 22545-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 200.8

Batch ID: E-7011

Prepared: 18-Oct-13

Analyzed: 18-Oct-13

Cadmium (Cd) - SEM	NA	0.0189	0.0018	0.0036	µmol/dry g	0.0178	0	106	75 - 130%	PASS	0	25	PASS
Copper (Cu) - SEM	NA	0.032	0.0062	0.0124	µmol/dry g	0.0315	0	102	70 - 130%	PASS	1	25	PASS
Lead (Pb) - SEM	NA	0.0098	0.0002	0.0004	µmol/dry g	0.0097	0	101	65 - 135%	PASS	0	25	PASS
Nickel (Ni) - SEM	NA	0.0342	0.0033	0.0066	µmol/dry g	0.0341	0	100	70 - 130%	PASS	0	25	PASS
Silver (Ag) - SEM	NA	0.0019	0.0047	0.0094	µmol/dry g	0.0019	0	100	50 - 155%	PASS	0	25	PASS
Zinc (Zn) - SEM	NA	0.0356	0.0015	0.003	µmol/dry g	0.0306	0	116	50 - 150%	PASS	1	25	PASS

Sample ID: 22546-MS1**B13-8109 Grab****Matrix: Sediment****Sampled: 28-Aug-13 7:43****Received: 29-Aug-13**

Method: EPA 200.8

Batch ID: E-7010

Prepared: 18-Oct-13

Analyzed: 18-Oct-13

Cadmium (Cd) - SEM	NA	0.3477	0.0018	0.0036	µmol/dry g	0.3338	0	104	75 - 130%	PASS
Copper (Cu) - SEM	NA	0.8767	0.0062	0.0124	µmol/dry g	0.5905	0.2729	102	70 - 130%	PASS
Lead (Pb) - SEM	NA	0.2265	0.0002	0.0004	µmol/dry g	0.1811	0.052	96	65 - 135%	PASS
Nickel (Ni) - SEM	NA	0.6563	0.0033	0.0066	µmol/dry g	0.6393	0.0078	101	70 - 130%	PASS
Silver (Ag) - SEM	NA	0.0332	0.0047	0.0094	µmol/dry g	0.0348	0	95	50 - 155%	PASS
Zinc (Zn) - SEM	NA	1.3555	0.0015	0.003	µmol/dry g	0.5739	0.6884	116	50 - 150%	PASS

Sample ID: 22546-MS2**B13-8109 Grab****Matrix: Sediment****Sampled: 28-Aug-13 7:43****Received: 29-Aug-13**

Method: EPA 200.8

Batch ID: E-7010

Prepared: 18-Oct-13

Analyzed: 18-Oct-13



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Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Cadmium (Cd) - SEM	NA	0.3479	0.0018	0.0036	µmol/dry g	0.3338	0	104	75 - 130% PASS	0	25	PASS
Copper (Cu) - SEM	NA	0.8797	0.0062	0.0124	µmol/dry g	0.5905	0.2729	103	70 - 130% PASS	1	25	PASS
Lead (Pb) - SEM	NA	0.2257	0.0002	0.0004	µmol/dry g	0.1811	0.052	96	65 - 135% PASS	0	25	PASS
Nickel (Ni) - SEM	NA	0.6634	0.0033	0.0066	µmol/dry g	0.6393	0.0078	103	70 - 130% PASS	2	25	PASS
Silver (Ag) - SEM	NA	0.0332	0.0047	0.0094	µmol/dry g	0.0348	0	95	50 - 155% PASS	0	25	PASS
Zinc (Zn) - SEM	NA	1.3601	0.0015	0.003	µmol/dry g	0.5739	0.6884	117	50 - 150% PASS	1	25	PASS

Sample ID: 22546-R2**B13-8109 Grab****Matrix: Sediment****Sampled: 28-Aug-13 7:43****Received: 29-Aug-13**

Method: EPA 200.8

Batch ID: E-7010

Prepared: 18-Oct-13

Analyzed: 18-Oct-13

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g				PASS	0	25	PASS
Copper (Cu) - SEM	NA	0.268	0.0062	0.0124	µmol/dry g				PASS	4	25	PASS
Lead (Pb) - SEM	NA	0.0509	0.0002	0.0004	µmol/dry g				PASS	4	25	PASS
Nickel (Ni) - SEM	NA	0.0076	0.0033	0.0066	µmol/dry g				PASS	4	25	PASS
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g				PASS	0	25	PASS
Zinc (Zn) - SEM	NA	0.6602	0.0015	0.003	µmol/dry g				PASS	8	25	PASS



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CA ELAP #2769

Fipronil & Degradates**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22544-B1**QAQC Procedural Blank**

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5034

Sampled:

Prepared: 06-Nov-13

Received:

Analyzed: 09-Nov-13

Fipronil	NA	ND	0.25	0.5	ng/dry g				PASS	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g				PASS	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g				PASS	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g				PASS	

Sample ID: 22544-BS1**QAQC Procedural Blank**

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5034

Sampled:

Prepared: 06-Nov-13

Received:

Analyzed: 09-Nov-13

Fipronil	NA	1109.2	0.25	0.5	ng/dry g	1000	0	111	50 - 150%	PASS
Fipronil Desulfinyl	NA	866.25	0.25	0.5	ng/dry g	1000	0	87	50 - 150%	PASS
Fipronil Sulfide	NA	1117.54	0.25	0.5	ng/dry g	1000	0	112	50 - 150%	PASS
Fipronil Sulfone	NA	1215.67	0.25	0.5	ng/dry g	1000	0	122	50 - 150%	PASS

Sample ID: 22544-BS2**QAQC Procedural Blank**

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5034

Sampled:

Prepared: 06-Nov-13

Received:

Analyzed: 09-Nov-13

Fipronil	NA	1055	0.25	0.5	ng/dry g	1000	0	105	50 - 150%	PASS	6	25	PASS	
Fipronil Desulfinyl	NA	1216.78	0.25	0.5	ng/dry g	1000	0	122	50 - 150%	PASS	33	25	FAIL	R
Fipronil Sulfide	NA	1256.14	0.25	0.5	ng/dry g	1000	0	126	50 - 150%	PASS	12	25	PASS	
Fipronil Sulfone	NA	1443.58	0.25	0.5	ng/dry g	1000	0	144	50 - 150%	PASS	17	25	PASS	

Sample ID: 22545-B1**QAQC Procedural Blank**

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5039

Sampled:

Prepared: 12-Nov-13

Received:

Analyzed: 15-Nov-13

Fipronil	NA	ND	0.25	0.5	ng/dry g					PASS				
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g					PASS				
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g					PASS				
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g					PASS				

Sample ID: 22545-BS1**QAQC Procedural Blank**

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5039

Sampled:

Prepared: 12-Nov-13

Received:

Analyzed: 15-Nov-13

Fipronil	NA	1009	0.25	0.5	ng/dry g	1000	0	101	50 - 150%	PASS				
Fipronil Desulfinyl	NA	955	0.25	0.5	ng/dry g	1000	0	95	50 - 150%	PASS				



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Fipronil & Degradates

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Fipronil Sulfide	NA	1014	0.25	0.5	ng/dry g	1000	0	101	50 - 150%	PASS		
Fipronil Sulfone	NA	1077	0.25	0.5	ng/dry g	1000	0	108	50 - 150%	PASS		

Sample ID: 22545-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13

Fipronil	NA	1022	0.25	0.5	ng/dry g	1000	0	102	50 - 150%	PASS	1	25	PASS
Fipronil Desulfinyl	NA	1050	0.25	0.5	ng/dry g	1000	0	105	50 - 150%	PASS	9	25	PASS
Fipronil Sulfide	NA	1093	0.25	0.5	ng/dry g	1000	0	109	50 - 150%	PASS	8	25	PASS
Fipronil Sulfone	NA	1073	0.25	0.5	ng/dry g	1000	0	107	50 - 150%	PASS	1	25	PASS



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22544-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-5136		Prepared: 22-Apr-14		Analyzed: 09-May-14		
PCB003	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB005	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB008	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB015	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB018	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB027	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB028	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB029	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB031	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB033	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB037	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB044	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB049	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB052	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g				PASS	
PCB066	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB070	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB074	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB077	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB081	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB087	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB095	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB097	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB099	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB101	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB105	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB110	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB114	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB118	NA	ND	0.05	0.1	ng/dry g				PASS	



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB119	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB123	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB126	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB128	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB137	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB138	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB141	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB149	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB151	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB153	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB156	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB157	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB158	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB167	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB168+132	NA	ND	0.1	0.2	ng/dry g				PASS	
PCB169	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB170	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB174	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB177	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB180	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB183	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB187	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB189	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB194	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB195	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g				PASS	
PCB201	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB203	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB206	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB209	NA	ND	0.05	0.1	ng/dry g				PASS	

Sample ID: 22544-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION LIMITS	QA CODE
Method: EPA 8270C			Batch ID: O-5136			Prepared: 22-Apr-14			Analyzed: 09-May-14	
PCB003	NA	200.25	0.05	0.1	ng/dry g	200	0	100	70 - 130% PASS	
PCB005	NA	199.67	0.05	0.1	ng/dry g	200	0	100	70 - 130% PASS	
PCB008	NA	163.17	0.05	0.1	ng/dry g	200	0	82	70 - 130% PASS	
PCB015	NA	211.67	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	
PCB018	NA	171.62	0.05	0.1	ng/dry g	200	0	86	70 - 130% PASS	
PCB027	NA	165.75	0.05	0.1	ng/dry g	200	0	83	70 - 130% PASS	
PCB028	NA	176.32	0.05	0.1	ng/dry g	200	0	88	70 - 130% PASS	
PCB029	NA	195.51	0.05	0.1	ng/dry g	200	0	98	70 - 130% PASS	
PCB031	NA	249	0.05	0.1	ng/dry g	200	0	125	70 - 130% PASS	
PCB033	NA	206.79	0.05	0.1	ng/dry g	200	0	103	70 - 130% PASS	
PCB037	NA	249.22	0.05	0.1	ng/dry g	200	0	125	70 - 130% PASS	
PCB044	NA	187.38	0.05	0.1	ng/dry g	200	0	94	70 - 130% PASS	
PCB049	NA	189.49	0.05	0.1	ng/dry g	200	0	95	70 - 130% PASS	
PCB052	NA	176.57	0.05	0.1	ng/dry g	200	0	88	70 - 130% PASS	
PCB056(060)	NA	233.8	0.1	0.2	ng/dry g	200	0	117	70 - 130% PASS	
PCB066	NA	215.34	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	
PCB070	NA	212.52	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	
PCB074	NA	223.17	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	
PCB077	NA	256.7	0.05	0.1	ng/dry g	200	0	128	70 - 130% PASS	
PCB081	NA	249.3	0.05	0.1	ng/dry g	200	0	125	70 - 130% PASS	
PCB087	NA	209.53	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	
PCB095	NA	172.11	0.05	0.1	ng/dry g	200	0	86	70 - 130% PASS	
PCB097	NA	221.8	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	
PCB099	NA	205.87	0.05	0.1	ng/dry g	200	0	103	70 - 130% PASS	
PCB101	NA	200.1	0.05	0.1	ng/dry g	200	0	100	70 - 130% PASS	
PCB105	NA	216.89	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	
PCB110	NA	208.57	0.05	0.1	ng/dry g	200	0	104	70 - 130% PASS	
PCB114	NA	247.51	0.05	0.1	ng/dry g	200	0	124	70 - 130% PASS	
PCB118	NA	226.7	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	
PCB119	NA	230.12	0.05	0.1	ng/dry g	200	0	115	70 - 130% PASS	



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
PCB123	NA	242.84	0.05	0.1	ng/dry g	200	0	121	70 - 130%	PASS		
PCB126	NA	257.98	0.05	0.1	ng/dry g	200	0	129	70 - 130%	PASS		
PCB128	NA	237.93	0.05	0.1	ng/dry g	200	0	119	70 - 130%	PASS		
PCB137	NA	220.02	0.05	0.1	ng/dry g	200	0	110	70 - 130%	PASS		
PCB138	NA	216.48	0.05	0.1	ng/dry g	200	0	108	70 - 130%	PASS		
PCB141	NA	194.02	0.05	0.1	ng/dry g	200	0	97	70 - 130%	PASS		
PCB149	NA	186.39	0.05	0.1	ng/dry g	200	0	93	70 - 130%	PASS		
PCB151	NA	195.44	0.05	0.1	ng/dry g	200	0	98	70 - 130%	PASS		
PCB153	NA	223.58	0.05	0.1	ng/dry g	200	0	112	70 - 130%	PASS		
PCB156	NA	248.4	0.05	0.1	ng/dry g	200	0	124	70 - 130%	PASS		
PCB157	NA	229.38	0.05	0.1	ng/dry g	200	0	115	70 - 130%	PASS		
PCB158	NA	200.58	0.05	0.1	ng/dry g	200	0	100	70 - 130%	PASS		
PCB167	NA	228.4	0.05	0.1	ng/dry g	200	0	114	70 - 130%	PASS		
PCB168+132	NA	384	0.1	0.2	ng/dry g	400	0	96	70 - 130%	PASS		
PCB169	NA	305.94	0.05	0.1	ng/dry g	200	0	153	70 - 130%	FAIL		R
PCB170	NA	234	0.05	0.1	ng/dry g	200	0	117	70 - 130%	PASS		
PCB174	NA	196.37	0.05	0.1	ng/dry g	200	0	98	70 - 130%	PASS		
PCB177	NA	192.66	0.05	0.1	ng/dry g	200	0	96	70 - 130%	PASS		
PCB180	NA	223.85	0.05	0.1	ng/dry g	200	0	112	70 - 130%	PASS		
PCB183	NA	194.13	0.05	0.1	ng/dry g	200	0	97	70 - 130%	PASS		
PCB187	NA	196.75	0.05	0.1	ng/dry g	200	0	98	70 - 130%	PASS		
PCB189	NA	245.46	0.05	0.1	ng/dry g	200	0	123	70 - 130%	PASS		
PCB194	NA	216.02	0.05	0.1	ng/dry g	200	0	108	70 - 130%	PASS		
PCB195	NA	192.73	0.05	0.1	ng/dry g	200	0	96	70 - 130%	PASS		
PCB199(200)	NA	158	0.1	0.2	ng/dry g	200	0	79	70 - 130%	PASS		
PCB201	NA	191.85	0.05	0.1	ng/dry g	200	0	96	70 - 130%	PASS		
PCB203	NA	188.27	0.05	0.1	ng/dry g	200	0	94	70 - 130%	PASS		
PCB206	NA	210.75	0.05	0.1	ng/dry g	200	0	105	70 - 130%	PASS		
PCB209	NA	168.99	0.05	0.1	ng/dry g	200	0	84	70 - 130%	PASS		

Sample ID: 22544-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 09-May-14

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
PCB003	NA	204.92	0.05	0.1	ng/dry g	200	0	102	70 - 130% PASS	2	25	PASS
PCB005	NA	212.07	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	6	25	PASS
PCB008	NA	170.98	0.05	0.1	ng/dry g	200	0	85	70 - 130% PASS	4	25	PASS
PCB015	NA	217.54	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	3	25	PASS
PCB018	NA	175.64	0.05	0.1	ng/dry g	200	0	88	70 - 130% PASS	2	25	PASS
PCB027	NA	167.58	0.05	0.1	ng/dry g	200	0	84	70 - 130% PASS	1	25	PASS
PCB028	NA	189.3	0.05	0.1	ng/dry g	200	0	95	70 - 130% PASS	8	25	PASS
PCB029	NA	201.91	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS	3	25	PASS
PCB031	NA	245.68	0.05	0.1	ng/dry g	200	0	123	70 - 130% PASS	1	25	PASS
PCB033	NA	213.56	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	4	25	PASS
PCB037	NA	255.68	0.05	0.1	ng/dry g	200	0	128	70 - 130% PASS	2	25	PASS
PCB044	NA	197.99	0.05	0.1	ng/dry g	200	0	99	70 - 130% PASS	5	25	PASS
PCB049	NA	196.57	0.05	0.1	ng/dry g	200	0	98	70 - 130% PASS	3	25	PASS
PCB052	NA	182.43	0.05	0.1	ng/dry g	200	0	91	70 - 130% PASS	3	25	PASS
PCB056(060)	NA	240.5	0.1	0.2	ng/dry g	200	0	120	70 - 130% PASS	3	25	PASS
PCB066	NA	222.43	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	3	25	PASS
PCB070	NA	219.96	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	4	25	PASS
PCB074	NA	227.65	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	2	25	PASS
PCB077	NA	246.62	0.05	0.1	ng/dry g	200	0	123	70 - 130% PASS	4	25	PASS
PCB081	NA	242.11	0.05	0.1	ng/dry g	200	0	121	70 - 130% PASS	3	25	PASS
PCB087	NA	219.18	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	5	25	PASS
PCB095	NA	179.04	0.05	0.1	ng/dry g	200	0	90	70 - 130% PASS	5	25	PASS
PCB097	NA	232.23	0.05	0.1	ng/dry g	200	0	116	70 - 130% PASS	4	25	PASS
PCB099	NA	213.42	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	4	25	PASS
PCB101	NA	208.85	0.05	0.1	ng/dry g	200	0	104	70 - 130% PASS	4	25	PASS
PCB105	NA	221.29	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	3	25	PASS
PCB110	NA	217.37	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	5	25	PASS
PCB114	NA	249.98	0.05	0.1	ng/dry g	200	0	125	70 - 130% PASS	1	25	PASS
PCB118	NA	238.22	0.05	0.1	ng/dry g	200	0	119	70 - 130% PASS	5	25	PASS
PCB119	NA	238.38	0.05	0.1	ng/dry g	200	0	119	70 - 130% PASS	3	25	PASS
PCB123	NA	273.24	0.05	0.1	ng/dry g	200	0	137	70 - 130% FAIL	12	25	PASS R



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY			PRECISION			QA CODE
								%	LIMITS		%	LIMITS		
PCB126	NA	261.53	0.05	0.1	ng/dry g	200	0	131	70 - 130% FAIL	2	25	PASS	R	
PCB128	NA	248.99	0.05	0.1	ng/dry g	200	0	124	70 - 130% PASS	4	25	PASS		
PCB137	NA	227.92	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	4	25	PASS		
PCB138	NA	223.52	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	4	25	PASS		
PCB141	NA	199.03	0.05	0.1	ng/dry g	200	0	100	70 - 130% PASS	3	25	PASS		
PCB149	NA	195.95	0.05	0.1	ng/dry g	200	0	98	70 - 130% PASS	5	25	PASS		
PCB151	NA	205.31	0.05	0.1	ng/dry g	200	0	103	70 - 130% PASS	5	25	PASS		
PCB153	NA	228.5	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	2	25	PASS		
PCB156	NA	259.88	0.05	0.1	ng/dry g	200	0	130	70 - 130% PASS	5	25	PASS		
PCB157	NA	239.94	0.05	0.1	ng/dry g	200	0	120	70 - 130% PASS	4	25	PASS		
PCB158	NA	208.42	0.05	0.1	ng/dry g	200	0	104	70 - 130% PASS	4	25	PASS		
PCB167	NA	239.86	0.05	0.1	ng/dry g	200	0	120	70 - 130% PASS	5	25	PASS		
PCB168+132	NA	393.7	0.1	0.2	ng/dry g	400	0	98	70 - 130% PASS	2	25	PASS		
PCB169	NA	315	0.05	0.1	ng/dry g	200	0	158	70 - 130% FAIL	3	25	PASS	R	
PCB170	NA	230.45	0.05	0.1	ng/dry g	200	0	115	70 - 130% PASS	2	25	PASS		
PCB174	NA	201.08	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS	3	25	PASS		
PCB177	NA	200.32	0.05	0.1	ng/dry g	200	0	100	70 - 130% PASS	4	25	PASS		
PCB180	NA	234.09	0.05	0.1	ng/dry g	200	0	117	70 - 130% PASS	4	25	PASS		
PCB183	NA	202.48	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS	4	25	PASS		
PCB187	NA	204.06	0.05	0.1	ng/dry g	200	0	102	70 - 130% PASS	4	25	PASS		
PCB189	NA	251.94	0.05	0.1	ng/dry g	200	0	126	70 - 130% PASS	2	25	PASS		
PCB194	NA	225.57	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	5	25	PASS		
PCB195	NA	204.96	0.05	0.1	ng/dry g	200	0	102	70 - 130% PASS	6	25	PASS		
PCB199(200)	NA	147.3	0.1	0.2	ng/dry g	200	0	74	70 - 130% PASS	7	25	PASS		
PCB201	NA	202.9	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS	5	25	PASS		
PCB203	NA	202.37	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS	7	25	PASS		
PCB206	NA	214.13	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	2	25	PASS		
PCB209	NA	179.96	0.05	0.1	ng/dry g	200	0	90	70 - 130% PASS	7	25	PASS		

Sample ID: 22545-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 31-May-14

PCB003	NA	ND	0.05	0.1	ng/dry g	PASS
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PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB005	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB008	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB015	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB018	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB027	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB028	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB029	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB031	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB033	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB037	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB044	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB049	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB052	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB056(060)	NA	ND	0.1	0.2	ng/dry g			PASS		
PCB066	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB070	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB074	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB077	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB081	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB087	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB095	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB097	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB099	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB101	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB105	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB110	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB114	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB118	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB119	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB123	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB126	NA	ND	0.05	0.1	ng/dry g			PASS		



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB128	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB137	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB138	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB141	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB149	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB151	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB153	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB156	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB157	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB158	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB167	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB168+132	NA	ND	0.1	0.2	ng/dry g				PASS	
PCB169	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB170	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB174	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB177	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB180	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB183	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB187	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB189	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB194	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB195	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g				PASS	
PCB201	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB203	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB206	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB209	NA	ND	0.05	0.1	ng/dry g				PASS	

Sample ID: 22545-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 31-May-14

PCB003	NA	239.86	0.05	0.1	ng/dry g	200	0	120	70 - 130%	PASS
PCB008	NA	246.09	0.05	0.1	ng/dry g	200	0	123	70 - 130%	PASS

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB018	NA	246.87	0.05	0.1	ng/dry g	200	0	123 70 - 130% PASS		
PCB028	NA	239.19	0.05	0.1	ng/dry g	200	0	120 70 - 130% PASS		
PCB031	NA	234.62	0.05	0.1	ng/dry g	200	0	117 70 - 130% PASS		
PCB033	NA	237.85	0.05	0.1	ng/dry g	200	0	119 70 - 130% PASS		
PCB037	NA	225.22	0.05	0.1	ng/dry g	200	0	113 70 - 130% PASS		
PCB044	NA	234.09	0.05	0.1	ng/dry g	200	0	117 70 - 130% PASS		
PCB049	NA	240.7	0.05	0.1	ng/dry g	200	0	120 70 - 130% PASS		
PCB052	NA	220.54	0.05	0.1	ng/dry g	200	0	110 70 - 130% PASS		
PCB056(060)	NA	229.3	0.1	0.2	ng/dry g	200	0	115 70 - 130% PASS		
PCB066	NA	198.71	0.05	0.1	ng/dry g	200	0	99 70 - 130% PASS		
PCB070	NA	222.3	0.05	0.1	ng/dry g	200	0	111 70 - 130% PASS		
PCB074	NA	215.67	0.05	0.1	ng/dry g	200	0	108 70 - 130% PASS		
PCB077	NA	219.44	0.05	0.1	ng/dry g	200	0	110 70 - 130% PASS		
PCB081	NA	231.88	0.05	0.1	ng/dry g	200	0	116 70 - 130% PASS		
PCB087	NA	222.51	0.05	0.1	ng/dry g	200	0	111 70 - 130% PASS		
PCB095	NA	230.19	0.05	0.1	ng/dry g	200	0	115 70 - 130% PASS		
PCB097	NA	218.46	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS		
PCB099	NA	217.94	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS		
PCB101	NA	225.09	0.05	0.1	ng/dry g	200	0	113 70 - 130% PASS		
PCB105	NA	222.64	0.05	0.1	ng/dry g	200	0	111 70 - 130% PASS		
PCB110	NA	227.74	0.05	0.1	ng/dry g	200	0	114 70 - 130% PASS		
PCB114	NA	225.58	0.05	0.1	ng/dry g	200	0	113 70 - 130% PASS		
PCB118	NA	215.98	0.05	0.1	ng/dry g	200	0	108 70 - 130% PASS		
PCB119	NA	211.28	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS		
PCB123	NA	216.39	0.05	0.1	ng/dry g	200	0	108 70 - 130% PASS		
PCB126	NA	216.81	0.05	0.1	ng/dry g	200	0	108 70 - 130% PASS		
PCB128	NA	227.15	0.05	0.1	ng/dry g	200	0	114 70 - 130% PASS		
PCB138	NA	231.76	0.05	0.1	ng/dry g	200	0	116 70 - 130% PASS		
PCB141	NA	228.18	0.05	0.1	ng/dry g	200	0	114 70 - 130% PASS		
PCB149	NA	224.92	0.05	0.1	ng/dry g	200	0	112 70 - 130% PASS		
PCB151	NA	227.84	0.05	0.1	ng/dry g	200	0	114 70 - 130% PASS		



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB153	NA	226.18	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	
PCB156	NA	217.14	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	
PCB157	NA	220.11	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	
PCB158	NA	223.16	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	
PCB167	NA	212.68	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	
PCB168+132	NA	471.8	0.1	0.2	ng/dry g	400	0	118	70 - 130% PASS	
PCB169	NA	194.72	0.05	0.1	ng/dry g	200	0	97	70 - 130% PASS	
PCB170	NA	222.22	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	
PCB174	NA	230.31	0.05	0.1	ng/dry g	200	0	115	70 - 130% PASS	
PCB177	NA	221.95	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	
PCB180	NA	221.86	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	
PCB183	NA	224.94	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	
PCB187	NA	225.72	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	
PCB189	NA	195.53	0.05	0.1	ng/dry g	200	0	98	70 - 130% PASS	
PCB194	NA	213.39	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	
PCB195	NA	209.88	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	
PCB199(200)	NA	240.3	0.1	0.2	ng/dry g	200	0	120	70 - 130% PASS	
PCB201	NA	241.37	0.05	0.1	ng/dry g	200	0	121	70 - 130% PASS	
PCB206	NA	202.61	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS	
PCB209	NA	202.26	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS	

Sample ID: 22545-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14

PCB003	NA	215.21	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	11	25	PASS
PCB008	NA	233.59	0.05	0.1	ng/dry g	200	0	117	70 - 130% PASS	5	25	PASS
PCB018	NA	223.5	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	9	25	PASS
PCB028	NA	257.7	0.05	0.1	ng/dry g	200	0	129	70 - 130% PASS	7	25	PASS
PCB031	NA	184.71	0.05	0.1	ng/dry g	200	0	92	70 - 130% PASS	24	25	PASS
PCB033	NA	216.19	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	10	25	PASS
PCB037	NA	202.1	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS	11	25	PASS
PCB044	NA	216.17	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	8	25	PASS
PCB049	NA	223.33	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	7	25	PASS

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
PCB052	NA	200.83	0.05	0.1	ng/dry g	200	0	100	70 - 130% PASS	10	25	PASS
PCB056(060)	NA	211.9	0.1	0.2	ng/dry g	200	0	106	70 - 130% PASS	8	25	PASS
PCB066	NA	194.24	0.05	0.1	ng/dry g	200	0	97	70 - 130% PASS	2	25	PASS
PCB070	NA	206.27	0.05	0.1	ng/dry g	200	0	103	70 - 130% PASS	7	25	PASS
PCB074	NA	202.27	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS	7	25	PASS
PCB077	NA	212.94	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	4	25	PASS
PCB081	NA	222.64	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	4	25	PASS
PCB087	NA	222.44	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	0	25	PASS
PCB095	NA	218.44	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	5	25	PASS
PCB097	NA	209.62	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	4	25	PASS
PCB099	NA	217.9	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	0	25	PASS
PCB101	NA	216.35	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	5	25	PASS
PCB105	NA	201.2	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS	9	25	PASS
PCB110	NA	219.61	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	4	25	PASS
PCB114	NA	216.61	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	5	25	PASS
PCB118	NA	209.91	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	3	25	PASS
PCB119	NA	192.9	0.05	0.1	ng/dry g	200	0	96	70 - 130% PASS	10	25	PASS
PCB123	NA	207.77	0.05	0.1	ng/dry g	200	0	104	70 - 130% PASS	4	25	PASS
PCB126	NA	193.47	0.05	0.1	ng/dry g	200	0	97	70 - 130% PASS	11	25	PASS
PCB128	NA	202.06	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS	12	25	PASS
PCB138	NA	210.41	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	10	25	PASS
PCB141	NA	210.39	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	8	25	PASS
PCB149	NA	224.76	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	0	25	PASS
PCB151	NA	226.07	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	1	25	PASS
PCB153	NA	198.57	0.05	0.1	ng/dry g	200	0	99	70 - 130% PASS	13	25	PASS
PCB156	NA	203.16	0.05	0.1	ng/dry g	200	0	102	70 - 130% PASS	7	25	PASS
PCB157	NA	211.63	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	4	25	PASS
PCB158	NA	211.94	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	6	25	PASS
PCB167	NA	203.28	0.05	0.1	ng/dry g	200	0	102	70 - 130% PASS	4	25	PASS
PCB168+132	NA	438	0.1	0.2	ng/dry g	400	0	110	70 - 130% PASS	7	25	PASS
PCB169	NA	193.43	0.05	0.1	ng/dry g	200	0	97	70 - 130% PASS	0	25	PASS



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB170	NA	213.76	0.05	0.1	ng/dry g	200	0	107 70 - 130% PASS	4 25 PASS	
PCB174	NA	215.93	0.05	0.1	ng/dry g	200	0	108 70 - 130% PASS	6 25 PASS	
PCB177	NA	220.7	0.05	0.1	ng/dry g	200	0	110 70 - 130% PASS	1 25 PASS	
PCB180	NA	211.07	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS	5 25 PASS	
PCB183	NA	211.44	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS	6 25 PASS	
PCB187	NA	215.17	0.05	0.1	ng/dry g	200	0	108 70 - 130% PASS	5 25 PASS	
PCB189	NA	187.54	0.05	0.1	ng/dry g	200	0	94 70 - 130% PASS	4 25 PASS	
PCB194	NA	212.64	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS	1 25 PASS	
PCB195	NA	207.02	0.05	0.1	ng/dry g	200	0	104 70 - 130% PASS	1 25 PASS	
PCB199(200)	NA	230.9	0.1	0.2	ng/dry g	200	0	115 70 - 130% PASS	4 25 PASS	
PCB201	NA	241.04	0.05	0.1	ng/dry g	200	0	121 70 - 130% PASS	0 25 PASS	
PCB206	NA	202.03	0.05	0.1	ng/dry g	200	0	101 70 - 130% PASS	0 25 PASS	
PCB209	NA	214.25	0.05	0.1	ng/dry g	200	0	107 70 - 130% PASS	6 25 PASS	

Sample ID: 22558-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14

PCB008	NA	21.14	0.05	0.1	ng/dry g	22.3	95	60 - 140% PASS	
PCB018	NA	49.31	0.05	0.1	ng/dry g	51	97	60 - 140% PASS	
PCB028	NA	78.72	0.05	0.1	ng/dry g	80.8	97	60 - 140% PASS	
PCB031	NA	80.02	0.05	0.1	ng/dry g	78.7	102	60 - 140% PASS	
PCB044	NA	52.12	0.05	0.1	ng/dry g	60.2	87	60 - 140% PASS	
PCB049	NA	59.24	0.05	0.1	ng/dry g	53	112	60 - 140% PASS	
PCB052	NA	79.92	0.05	0.1	ng/dry g	79.4	101	60 - 140% PASS	
PCB066	NA	47.66	0.05	0.1	ng/dry g	71.9	66	60 - 140% PASS	
PCB087	NA	24.14	0.05	0.1	ng/dry g	29.9	81	60 - 140% PASS	
PCB095	NA	55.69	0.05	0.1	ng/dry g	65	86	60 - 140% PASS	
PCB099	NA	35	0.05	0.1	ng/dry g	37.5	93	60 - 140% PASS	
PCB101	NA	70.45	0.05	0.1	ng/dry g	73.4	96	60 - 140% PASS	
PCB105	NA	23.2	0.05	0.1	ng/dry g	24.5	95	60 - 140% PASS	
PCB110	NA	57.41	0.05	0.1	ng/dry g	63.5	90	60 - 140% PASS	
PCB118	NA	43.9	0.05	0.1	ng/dry g	58	76	60 - 140% PASS	
PCB128	NA	7.65	0.05	0.1	ng/dry g	8.5	90	60 - 140% PASS	



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB138	NA	67.61	0.05	0.1	ng/dry g	62.1		109 60 - 140% PASS		
PCB149	NA	47.37	0.05	0.1	ng/dry g	49.7		95 60 - 140% PASS		
PCB151	NA	17.61	0.05	0.1	ng/dry g	16.9		104 60 - 140% PASS		
PCB153	NA	63.09	0.05	0.1	ng/dry g	74		85 60 - 140% PASS		
PCB156	NA	5.34	0.05	0.1	ng/dry g	6.5		82 60 - 140% PASS		
PCB170	NA	24.6	0.05	0.1	ng/dry g	22.6		109 60 - 140% PASS		
PCB180	NA	43.2	0.05	0.1	ng/dry g	44.3		98 60 - 140% PASS		
PCB183	NA	10.26	0.05	0.1	ng/dry g	12.2		84 60 - 140% PASS		
PCB187	NA	26.83	0.05	0.1	ng/dry g	25.1		107 60 - 140% PASS		
PCB194	NA	8.45	0.05	0.1	ng/dry g	11.2		75 60 - 140% PASS		
PCB195	NA	3.86	0.05	0.1	ng/dry g	3.8		102 60 - 140% PASS		
PCB206	NA	10.84	0.05	0.1	ng/dry g	9.2		118 60 - 140% PASS		
PCB209	NA	6.26	0.05	0.1	ng/dry g	6.8		92 60 - 140% PASS		



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22544-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C-NCI		Batch ID: O-5034		Prepared: 06-Nov-13		Analyzed: 19-Nov-13		
(DFPBDE)	NA	97			% Recovery	100		97	50 - 150%	PASS
(FTBDE)	NA	91			% Recovery	100		91	50 - 150%	PASS
PBDE017	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE028	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE047	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE049	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE066	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE071	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE085	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE099	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE100	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE138	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE153	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE154	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE183	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE190	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE209	NA	ND	0.05	0.1	ng/dry g					PASS

Sample ID: 22544-B51		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C-NCI		Batch ID: O-5034		Prepared: 06-Nov-13		Analyzed: 19-Nov-13		
(DFPBDE)	NA	118			% Recovery	100	0	118	70 - 130%	PASS
(FTBDE)	NA	120			% Recovery	100	0	120	70 - 130%	PASS
PBDE017	NA	129.71	0.05	0.1	ng/dry g	100	0	130	70 - 130%	PASS
PBDE028	NA	128.09	0.05	0.1	ng/dry g	100	0	128	70 - 130%	PASS
PBDE047	NA	124.94	0.05	0.1	ng/dry g	100	0	125	70 - 130%	PASS
PBDE049	NA	84.96	0.05	0.1	ng/dry g	100	0	85	70 - 130%	PASS
PBDE066	NA	127.51	0.05	0.1	ng/dry g	100	0	128	70 - 130%	PASS
PBDE071	NA	106.88	0.05	0.1	ng/dry g	100	0	107	70 - 130%	PASS
PBDE085	NA	123.37	0.05	0.1	ng/dry g	100	0	123	70 - 130%	PASS



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PBDE099	NA	124.85	0.05	0.1	ng/dry g	100	0	125 70 - 130% PASS		
PBDE100	NA	129.77	0.05	0.1	ng/dry g	100	0	130 70 - 130% PASS		
PBDE138	NA	99.02	0.05	0.1	ng/dry g	100	0	99 70 - 130% PASS		
PBDE153	NA	124.34	0.05	0.1	ng/dry g	100	0	124 70 - 130% PASS		
PBDE154	NA	125.86	0.05	0.1	ng/dry g	100	0	126 70 - 130% PASS		
PBDE183	NA	102.56	0.05	0.1	ng/dry g	100	0	103 70 - 130% PASS		
PBDE190	NA	72.43	0.05	0.1	ng/dry g	100	0	72 70 - 130% PASS		
PBDE209	NA	441	0.05	0.1	ng/dry g	500	0	88 70 - 130% PASS		

Sample ID: 22544-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5034

Prepared: 06-Nov-13

Analyzed: 19-Nov-13

(DFPBDE)	NA	115			% Recovery	100	0	115 70 - 130% PASS	3	25	PASS
(FTBDE)	NA	119			% Recovery	100	0	119 70 - 130% PASS	1	25	PASS
PBDE017	NA	129.18	0.05	0.1	ng/dry g	100	0	129 70 - 130% PASS	1	25	PASS
PBDE028	NA	128.08	0.05	0.1	ng/dry g	100	0	128 70 - 130% PASS	0	25	PASS
PBDE047	NA	125.93	0.05	0.1	ng/dry g	100	0	126 70 - 130% PASS	1	25	PASS
PBDE049	NA	84.53	0.05	0.1	ng/dry g	100	0	85 70 - 130% PASS	0	25	PASS
PBDE066	NA	127.8	0.05	0.1	ng/dry g	100	0	128 70 - 130% PASS	0	25	PASS
PBDE071	NA	103.59	0.05	0.1	ng/dry g	100	0	104 70 - 130% PASS	3	25	PASS
PBDE085	NA	127.57	0.05	0.1	ng/dry g	100	0	128 70 - 130% PASS	4	25	PASS
PBDE099	NA	127.97	0.05	0.1	ng/dry g	100	0	128 70 - 130% PASS	2	25	PASS
PBDE100	NA	129.22	0.05	0.1	ng/dry g	100	0	129 70 - 130% PASS	1	25	PASS
PBDE138	NA	109.1	0.05	0.1	ng/dry g	100	0	109 70 - 130% PASS	10	25	PASS
PBDE153	NA	128.86	0.05	0.1	ng/dry g	100	0	129 70 - 130% PASS	4	25	PASS
PBDE154	NA	129.9	0.05	0.1	ng/dry g	100	0	130 70 - 130% PASS	3	25	PASS
PBDE183	NA	121.08	0.05	0.1	ng/dry g	100	0	121 70 - 130% PASS	16	25	PASS
PBDE190	NA	86.97	0.05	0.1	ng/dry g	100	0	87 70 - 130% PASS	19	25	PASS
PBDE209	NA	446	0.05	0.1	ng/dry g	500	0	89 70 - 130% PASS	1	25	PASS

Sample ID: 22545-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13

(DFPBDE)	NA	73			% Recovery	100		73 50 - 150% PASS			
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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
(FTBDE)	NA	93			% Recovery	100		93 50 - 150%	PASS	
PBDE017	NA	ND	0.05	0.1	ng/dry g				PASS	
PBDE028	NA	ND	0.05	0.1	ng/dry g				PASS	
PBDE047	NA	ND	0.05	0.1	ng/dry g				PASS	
PBDE049	NA	ND	0.05	0.1	ng/dry g				PASS	
PBDE066	NA	ND	0.05	0.1	ng/dry g				PASS	
PBDE071	NA	ND	0.05	0.1	ng/dry g				PASS	
PBDE085	NA	ND	0.05	0.1	ng/dry g				PASS	
PBDE099	NA	ND	0.05	0.1	ng/dry g				PASS	
PBDE100	NA	ND	0.05	0.1	ng/dry g				PASS	
PBDE138	NA	ND	0.05	0.1	ng/dry g				PASS	
PBDE153	NA	ND	0.05	0.1	ng/dry g				PASS	
PBDE154	NA	ND	0.05	0.1	ng/dry g				PASS	
PBDE183	NA	ND	0.05	0.1	ng/dry g				PASS	
PBDE190	NA	ND	0.05	0.1	ng/dry g				PASS	
PBDE209	NA	ND	0.05	0.1	ng/dry g				PASS	

Sample ID: 22545-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13

(DFPBDE)	NA	108			% Recovery	100	0	108 70 - 130%	PASS	
(FTBDE)	NA	114			% Recovery	100	0	114 70 - 130%	PASS	
PBDE017	NA	128	0.05	0.1	ng/dry g	100	0	128 70 - 130%	PASS	
PBDE028	NA	112	0.05	0.1	ng/dry g	100	0	112 70 - 130%	PASS	
PBDE047	NA	104	0.05	0.1	ng/dry g	100	0	104 70 - 130%	PASS	
PBDE049	NA	71	0.05	0.1	ng/dry g	100	0	71 70 - 130%	PASS	
PBDE066	NA	113	0.05	0.1	ng/dry g	100	0	113 70 - 130%	PASS	
PBDE071	NA	90	0.05	0.1	ng/dry g	100	0	90 70 - 130%	PASS	
PBDE085	NA	110	0.05	0.1	ng/dry g	100	0	110 70 - 130%	PASS	
PBDE099	NA	109	0.05	0.1	ng/dry g	100	0	109 70 - 130%	PASS	
PBDE100	NA	115	0.05	0.1	ng/dry g	100	0	115 70 - 130%	PASS	
PBDE138	NA	86	0.05	0.1	ng/dry g	100	0	86 70 - 130%	PASS	
PBDE153	NA	122	0.05	0.1	ng/dry g	100	0	122 70 - 130%	PASS	

PHYSIS Project ID: 1307002-012

Client: AMEC

Project: RHMP Bight '13



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PBDE154	NA	110.18	0.05	0.1	ng/dry g	100	0	110 70 - 130% PASS		
PBDE183	NA	103	0.05	0.1	ng/dry g	100	0	103 70 - 130% PASS		
PBDE190	NA	103	0.05	0.1	ng/dry g	100	0	103 70 - 130% PASS		
PBDE209	NA	450	0.05	0.1	ng/dry g	500	0	90 70 - 130% PASS		

Sample ID: 22545-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13

(DFPBDE)	NA	116			% Recovery	100	0	116 70 - 130% PASS	7	25	PASS
(FTBDE)	NA	110			% Recovery	100	0	110 70 - 130% PASS	4	25	PASS
PBDE017	NA	125	0.05	0.1	ng/dry g	100	0	125 70 - 130% PASS	2	25	PASS
PBDE028	NA	113	0.05	0.1	ng/dry g	100	0	113 70 - 130% PASS	1	25	PASS
PBDE047	NA	109	0.05	0.1	ng/dry g	100	0	109 70 - 130% PASS	5	25	PASS
PBDE049	NA	71	0.05	0.1	ng/dry g	100	0	71 70 - 130% PASS	0	25	PASS
PBDE066	NA	121	0.05	0.1	ng/dry g	100	0	121 70 - 130% PASS	7	25	PASS
PBDE071	NA	94	0.05	0.1	ng/dry g	100	0	94 70 - 130% PASS	4	25	PASS
PBDE085	NA	120	0.05	0.1	ng/dry g	100	0	120 70 - 130% PASS	9	25	PASS
PBDE099	NA	119	0.05	0.1	ng/dry g	100	0	119 70 - 130% PASS	9	25	PASS
PBDE100	NA	119	0.05	0.1	ng/dry g	100	0	119 70 - 130% PASS	3	25	PASS
PBDE138	NA	93	0.05	0.1	ng/dry g	100	0	93 70 - 130% PASS	8	25	PASS
PBDE153	NA	110	0.05	0.1	ng/dry g	100	0	110 70 - 130% PASS	10	25	PASS
PBDE154	NA	119.45	0.05	0.1	ng/dry g	100	0	119 70 - 130% PASS	8	25	PASS
PBDE183	NA	116	0.05	0.1	ng/dry g	100	0	116 70 - 130% PASS	12	25	PASS
PBDE190	NA	83	0.05	0.1	ng/dry g	100	0	83 70 - 130% PASS	22	25	PASS
PBDE209	NA	474	0.05	0.1	ng/dry g	500	0	95 70 - 130% PASS	5	25	PASS

Sample ID: 22558-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13

PBDE047	NA	2.33	0.05	0.1	ng/dry g	1.72		135 60 - 140% PASS			
PBDE099	NA	2.02	0.05	0.1	ng/dry g	2		101 60 - 140% PASS			
PBDE100	NA	0.5	0.05	0.1	ng/dry g	0.4		125 60 - 140% PASS			
PBDE153	NA	5.41	0.05	0.1	ng/dry g	6.44		84 60 - 140% PASS			
PBDE154	NA	0.79	0.05	0.1	ng/dry g	1.06		75 60 - 140% PASS			



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PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PBDE183	NA	38.71	0.05	0.1	ng/dry g	31.8		122 60 - 140% PASS		
PBDE209	NA	127.26	0.05	0.1	ng/dry g	93.5		136 60 - 140% PASS		



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22544-B1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5136		Prepared: 22-Apr-14		Analyzed: 09-May-14	
(d10-Acenaphthene)	NA	84			% Recovery	100		84 50 - 150%	PASS	
(d10-Phenanthrene)	NA	86			% Recovery	100		86 50 - 150%	PASS	
(d12-Chrysene)	NA	94			% Recovery	100		94 50 - 150%	PASS	
(d8-Naphthalene)	NA	80			% Recovery	100		80 25 - 125%	PASS	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g				PASS	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g				PASS	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g				PASS	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g				PASS	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g				PASS	
Acenaphthene	NA	ND	1	5	ng/dry g				PASS	
Acenaphthylene	NA	ND	1	5	ng/dry g				PASS	
Anthracene	NA	ND	1	5	ng/dry g				PASS	
Benz[a]anthracene	NA	ND	1	5	ng/dry g				PASS	
Benzo[a]pyrene	NA	ND	1	5	ng/dry g				PASS	
Benzo[b]fluoranthene	NA	ND	1	5	ng/dry g				PASS	
Benzo[e]pyrene	NA	ND	1	5	ng/dry g				PASS	
Benzo[g,h,i]perylene	NA	ND	1	5	ng/dry g				PASS	
Benzo[k]fluoranthene	NA	ND	1	5	ng/dry g				PASS	
Biphenyl	NA	ND	1	5	ng/dry g				PASS	
Chrysene	NA	ND	1	5	ng/dry g				PASS	
Dibenz[a,h]anthracene	NA	ND	1	5	ng/dry g				PASS	
Dibenzothiophene	NA	ND	1	5	ng/dry g				PASS	
Fluoranthene	NA	ND	1	5	ng/dry g				PASS	
Fluorene	NA	ND	1	5	ng/dry g				PASS	
Indeno[1,2,3-c,d]pyrene	NA	ND	1	5	ng/dry g				PASS	
Naphthalene	NA	ND	1	5	ng/dry g				PASS	
Perylene	NA	ND	1	5	ng/dry g				PASS	
Phenanthrene	NA	ND	1	5	ng/dry g				PASS	
Pyrene	NA	ND	1	5	ng/dry g				PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22544-BS1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5136		Prepared: 22-Apr-14		Analyzed: 09-May-14	
(d10-Acenaphthene)	NA	88			% Recovery	100	0	88 70 - 130%	PASS	
(d10-Phenanthrene)	NA	93			% Recovery	100	0	93 70 - 130%	PASS	
(d12-Chrysene)	NA	92			% Recovery	100	0	92 70 - 130%	PASS	
(d8-Naphthalene)	NA	84			% Recovery	100	0	84 70 - 130%	PASS	
1-Methylnaphthalene	NA	767.4	1	5	ng/dry g	1000	0	77 70 - 130%	PASS	
1-Methylphenanthrene	NA	1057.7	1	5	ng/dry g	1000	0	106 70 - 130%	PASS	
2,3,5-Trimethylnaphthalene	NA	1029.4	1	5	ng/dry g	1000	0	103 70 - 130%	PASS	
2,6-Dimethylnaphthalene	NA	829.8	1	5	ng/dry g	1000	0	83 70 - 130%	PASS	
2-Methylnaphthalene	NA	768.1	1	5	ng/dry g	1000	0	77 70 - 130%	PASS	
Acenaphthene	NA	863.2	1	5	ng/dry g	1000	0	86 70 - 130%	PASS	
Acenaphthylene	NA	902	1	5	ng/dry g	1000	0	90 70 - 130%	PASS	
Anthracene	NA	1031.4	1	5	ng/dry g	1000	0	103 70 - 130%	PASS	
Benz[a]anthracene	NA	1021.5	1	5	ng/dry g	1000	0	102 70 - 130%	PASS	
Benzo[a]pyrene	NA	905.2	1	5	ng/dry g	1000	0	91 70 - 130%	PASS	
Benzo[b]fluoranthene	NA	937.8	1	5	ng/dry g	1000	0	94 70 - 130%	PASS	
Benzo[e]pyrene	NA	923.7	1	5	ng/dry g	1000	0	92 70 - 130%	PASS	
Benzo[g,h,i]perylene	NA	1086	1	5	ng/dry g	1000	0	109 70 - 130%	PASS	
Benzo[k]fluoranthene	NA	899.4	1	5	ng/dry g	1000	0	90 70 - 130%	PASS	
Biphenyl	NA	795.1	1	5	ng/dry g	1000	0	80 70 - 130%	PASS	
Chrysene	NA	988.7	1	5	ng/dry g	1000	0	99 70 - 130%	PASS	
Dibenz[a,h]anthracene	NA	951.6	1	5	ng/dry g	1000	0	95 70 - 130%	PASS	
Dibenzothiophene	NA	996.1	1	5	ng/dry g	1000	0	100 70 - 130%	PASS	
Fluoranthene	NA	1035.2	1	5	ng/dry g	1000	0	104 70 - 130%	PASS	
Fluorene	NA	1039.5	1	5	ng/dry g	1000	0	104 70 - 130%	PASS	
Indeno[1,2,3-c,d]pyrene	NA	1044.3	1	5	ng/dry g	1000	0	104 70 - 130%	PASS	
Naphthalene	NA	697.4	1	5	ng/dry g	1000	0	70 70 - 130%	PASS	
Perylene	NA	918.2	1	5	ng/dry g	1000	0	92 70 - 130%	PASS	
Phenanthrene	NA	1046.3	1	5	ng/dry g	1000	0	105 70 - 130%	PASS	
Pyrene	NA	1053	1	5	ng/dry g	1000	0	105 70 - 130%	PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Sample ID: 22544-BS2		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5136		Prepared: 22-Apr-14		Analyzed: 09-May-14	
(d10-Acenaphthene)	NA	93			% Recovery	100	0	93 70 - 130% PASS	6 25 PASS	
(d10-Phenanthrene)	NA	98			% Recovery	100	0	98 70 - 130% PASS	5 25 PASS	
(d12-Chrysene)	NA	104			% Recovery	100	0	104 70 - 130% PASS	12 25 PASS	
(d8-Naphthalene)	NA	93			% Recovery	100	0	93 70 - 130% PASS	10 25 PASS	
1-Methylnaphthalene	NA	848.3	1	5	ng/dry g	1000	0	85 70 - 130% PASS	10 25 PASS	
1-Methylphenanthrene	NA	1136.8	1	5	ng/dry g	1000	0	114 70 - 130% PASS	7 25 PASS	
2,3,5-Trimethylnaphthalene	NA	1100.5	1	5	ng/dry g	1000	0	110 70 - 130% PASS	7 25 PASS	
2,6-Dimethylnaphthalene	NA	901.9	1	5	ng/dry g	1000	0	90 70 - 130% PASS	8 25 PASS	
2-Methylnaphthalene	NA	848.9	1	5	ng/dry g	1000	0	85 70 - 130% PASS	10 25 PASS	
Acenaphthene	NA	930.7	1	5	ng/dry g	1000	0	93 70 - 130% PASS	8 25 PASS	
Acenaphthylene	NA	966.1	1	5	ng/dry g	1000	0	97 70 - 130% PASS	7 25 PASS	
Anthracene	NA	1084	1	5	ng/dry g	1000	0	108 70 - 130% PASS	5 25 PASS	
Benz[a]anthracene	NA	1174.1	1	5	ng/dry g	1000	0	117 70 - 130% PASS	14 25 PASS	
Benzo[a]pyrene	NA	1068.9	1	5	ng/dry g	1000	0	107 70 - 130% PASS	16 25 PASS	
Benzo[b]fluoranthene	NA	1120.6	1	5	ng/dry g	1000	0	112 70 - 130% PASS	17 25 PASS	
Benzo[e]pyrene	NA	1092	1	5	ng/dry g	1000	0	109 70 - 130% PASS	17 25 PASS	
Benzo[g,h,i]perylene	NA	1148.7	1	5	ng/dry g	1000	0	115 70 - 130% PASS	5 25 PASS	
Benzo[k]fluoranthene	NA	1084.8	1	5	ng/dry g	1000	0	108 70 - 130% PASS	18 25 PASS	
Biphenyl	NA	866.8	1	5	ng/dry g	1000	0	87 70 - 130% PASS	8 25 PASS	
Chrysene	NA	1140.7	1	5	ng/dry g	1000	0	114 70 - 130% PASS	14 25 PASS	
Dibenz[a,h]anthracene	NA	1154.6	1	5	ng/dry g	1000	0	115 70 - 130% PASS	19 25 PASS	
Dibenzothiophene	NA	1072.5	1	5	ng/dry g	1000	0	107 70 - 130% PASS	7 25 PASS	
Fluoranthene	NA	1132.2	1	5	ng/dry g	1000	0	113 70 - 130% PASS	8 25 PASS	
Fluorene	NA	1113.5	1	5	ng/dry g	1000	0	111 70 - 130% PASS	7 25 PASS	
Indeno[1,2,3-c,d]pyrene	NA	1154.1	1	5	ng/dry g	1000	0	115 70 - 130% PASS	10 25 PASS	
Naphthalene	NA	786.1	1	5	ng/dry g	1000	0	79 70 - 130% PASS	12 25 PASS	
Perylene	NA	1079	1	5	ng/dry g	1000	0	108 70 - 130% PASS	16 25 PASS	
Phenanthrene	NA	1120.6	1	5	ng/dry g	1000	0	112 70 - 130% PASS	6 25 PASS	
Pyrene	NA	1152.5	1	5	ng/dry g	1000	0	115 70 - 130% PASS	9 25 PASS	



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22545-B1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 31-May-14	
(d10-Acenaphthene)	NA	92			% Recovery	100		92 50 - 150%	PASS	
(d10-Phenanthrene)	NA	89			% Recovery	100		89 50 - 150%	PASS	
(d12-Chrysene)	NA	74			% Recovery	100		74 50 - 150%	PASS	
(d8-Naphthalene)	NA	88			% Recovery	100		88 25 - 125%	PASS	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g				PASS	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g				PASS	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g				PASS	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g				PASS	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g				PASS	
Acenaphthene	NA	ND	1	5	ng/dry g				PASS	
Acenaphthylene	NA	ND	1	5	ng/dry g				PASS	
Anthracene	NA	ND	1	5	ng/dry g				PASS	
Benz[a]anthracene	NA	ND	1	5	ng/dry g				PASS	
Benzo[a]pyrene	NA	ND	1	5	ng/dry g				PASS	
Benzo[b]fluoranthene	NA	ND	1	5	ng/dry g				PASS	
Benzo[e]pyrene	NA	ND	1	5	ng/dry g				PASS	
Benzo[g,h,i]perylene	NA	ND	1	5	ng/dry g				PASS	
Benzo[k]fluoranthene	NA	ND	1	5	ng/dry g				PASS	
Biphenyl	NA	ND	1	5	ng/dry g				PASS	
Chrysene	NA	ND	1	5	ng/dry g				PASS	
Dibenz[a,h]anthracene	NA	ND	1	5	ng/dry g				PASS	
Dibenzothiophene	NA	ND	1	5	ng/dry g				PASS	
Fluoranthene	NA	ND	1	5	ng/dry g				PASS	
Fluorene	NA	ND	1	5	ng/dry g				PASS	
Indeno[1,2,3-c,d]pyrene	NA	ND	1	5	ng/dry g				PASS	
Naphthalene	NA	ND	1	5	ng/dry g				PASS	
Perylene	NA	ND	1	5	ng/dry g				PASS	
Phenanthrene	NA	ND	1	5	ng/dry g				PASS	
Pyrene	NA	ND	1	5	ng/dry g				PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22545-BS1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 31-May-14	
(d10-Acenaphthene)	NA	109			% Recovery	100	0	109	70 - 130% PASS	
(d10-Phenanthrene)	NA	102			% Recovery	100	0	102	70 - 130% PASS	
(d12-Chrysene)	NA	83			% Recovery	100	0	83	70 - 130% PASS	
(d8-Naphthalene)	NA	118			% Recovery	100	0	118	70 - 130% PASS	
1-Methylnaphthalene	NA	1211.5	1	5	ng/dry g	1000	0	121	70 - 130% PASS	
1-Methylphenanthrene	NA	1258.8	1	5	ng/dry g	1000	0	126	70 - 130% PASS	
2,3,5-Trimethylnaphthalene	NA	1276	1	5	ng/dry g	1000	0	128	70 - 130% PASS	
2,6-Dimethylnaphthalene	NA	1271.5	1	5	ng/dry g	1000	0	127	70 - 130% PASS	
2-Methylnaphthalene	NA	1228.9	1	5	ng/dry g	1000	0	123	70 - 130% PASS	
Acenaphthene	NA	1208.7	1	5	ng/dry g	1000	0	121	70 - 130% PASS	
Acenaphthylene	NA	1274.7	1	5	ng/dry g	1000	0	127	70 - 130% PASS	
Anthracene	NA	1297.6	1	5	ng/dry g	1000	0	130	70 - 130% PASS	
Benz[a]anthracene	NA	1097.2	1	5	ng/dry g	1000	0	110	70 - 130% PASS	
Benzo[a]pyrene	NA	834.9	1	5	ng/dry g	1000	0	83	70 - 130% PASS	
Benzo[b]fluoranthene	NA	858.2	1	5	ng/dry g	1000	0	86	70 - 130% PASS	
Benzo[e]pyrene	NA	835.5	1	5	ng/dry g	1000	0	84	70 - 130% PASS	
Benzo[g,h,i]perylene	NA	1284.9	1	5	ng/dry g	1000	0	128	70 - 130% PASS	
Benzo[k]fluoranthene	NA	877.7	1	5	ng/dry g	1000	0	88	70 - 130% PASS	
Biphenyl	NA	1229.8	1	5	ng/dry g	1000	0	123	70 - 130% PASS	
Chrysene	NA	1105.8	1	5	ng/dry g	1000	0	111	70 - 130% PASS	
Dibenz[a,h]anthracene	NA	1257.7	1	5	ng/dry g	1000	0	126	70 - 130% PASS	
Dibenzothiophene	NA	1286.9	1	5	ng/dry g	1000	0	129	70 - 130% PASS	
Fluoranthene	NA	1293.3	1	5	ng/dry g	1000	0	129	70 - 130% PASS	
Fluorene	NA	1272.6	1	5	ng/dry g	1000	0	127	70 - 130% PASS	
Indeno[1,2,3-c,d]pyrene	NA	1288.7	1	5	ng/dry g	1000	0	129	70 - 130% PASS	
Naphthalene	NA	1194.5	1	5	ng/dry g	1000	0	119	70 - 130% PASS	
Perylene	NA	825.9	1	5	ng/dry g	1000	0	83	70 - 130% PASS	
Phenanthrene	NA	1281.4	1	5	ng/dry g	1000	0	128	70 - 130% PASS	
Pyrene	NA	1297.4	1	5	ng/dry g	1000	0	130	70 - 130% PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Sample ID: 22545-BS2		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 01-Jun-14	
(d10-Acenaphthene)	NA	110			% Recovery	100	0	110 70 - 130% PASS	1 25 PASS	
(d10-Phenanthrene)	NA	102			% Recovery	100	0	102 70 - 130% PASS	0 25 PASS	
(d12-Chrysene)	NA	100			% Recovery	100	0	100 70 - 130% PASS	19 25 PASS	
(d8-Naphthalene)	NA	116			% Recovery	100	0	116 70 - 130% PASS	2 25 PASS	
1-Methylnaphthalene	NA	774.3	1	5	ng/dry g	1000	0	77 70 - 130% PASS	44 25 FAIL	*
1-Methylphenanthrene	NA	945.6	1	5	ng/dry g	1000	0	95 70 - 130% PASS	28 25 FAIL	*
2,3,5-Trimethylnaphthalene	NA	992.6	1	5	ng/dry g	1000	0	99 70 - 130% PASS	26 25 FAIL	*
2,6-Dimethylnaphthalene	NA	831	1	5	ng/dry g	1000	0	83 70 - 130% PASS	42 25 FAIL	*
2-Methylnaphthalene	NA	794.4	1	5	ng/dry g	1000	0	79 70 - 130% PASS	44 25 FAIL	*
Acenaphthene	NA	874.3	1	5	ng/dry g	1000	0	87 70 - 130% PASS	33 25 FAIL	*
Acenaphthylene	NA	855.9	1	5	ng/dry g	1000	0	86 70 - 130% PASS	38 25 FAIL	*
Anthracene	NA	922.5	1	5	ng/dry g	1000	0	92 70 - 130% PASS	34 25 FAIL	*
Benz[a]anthracene	NA	853.2	1	5	ng/dry g	1000	0	85 70 - 130% PASS	26 25 FAIL	*
Benzo[a]pyrene	NA	756.8	1	5	ng/dry g	1000	0	76 70 - 130% PASS	9 25 PASS	
Benzo[b]fluoranthene	NA	748.9	1	5	ng/dry g	1000	0	75 70 - 130% PASS	14 25 PASS	
Benzo[e]pyrene	NA	750.1	1	5	ng/dry g	1000	0	75 70 - 130% PASS	11 25 PASS	
Benzo[g,h,i]perylene	NA	949.5	1	5	ng/dry g	1000	0	95 70 - 130% PASS	30 25 FAIL	*
Benzo[k]fluoranthene	NA	788.9	1	5	ng/dry g	1000	0	79 70 - 130% PASS	11 25 PASS	
Biphenyl	NA	804.7	1	5	ng/dry g	1000	0	80 70 - 130% PASS	42 25 FAIL	*
Chrysene	NA	893.3	1	5	ng/dry g	1000	0	89 70 - 130% PASS	22 25 PASS	
Dibenz[a,h]anthracene	NA	896.7	1	5	ng/dry g	1000	0	90 70 - 130% PASS	33 25 FAIL	*
Dibenzothiophene	NA	921.9	1	5	ng/dry g	1000	0	92 70 - 130% PASS	33 25 FAIL	*
Fluoranthene	NA	922.5	1	5	ng/dry g	1000	0	92 70 - 130% PASS	33 25 FAIL	*
Fluorene	NA	951.3	1	5	ng/dry g	1000	0	95 70 - 130% PASS	29 25 FAIL	*
Indeno[1,2,3-c,d]pyrene	NA	847.2	1	5	ng/dry g	1000	0	85 70 - 130% PASS	41 25 FAIL	*
Naphthalene	NA	781.8	1	5	ng/dry g	1000	0	78 70 - 130% PASS	42 25 FAIL	*
Perylene	NA	768	1	5	ng/dry g	1000	0	77 70 - 130% PASS	8 25 PASS	
Phenanthrene	NA	931.3	1	5	ng/dry g	1000	0	93 70 - 130% PASS	32 25 FAIL	*
Pyrene	NA	951.2	1	5	ng/dry g	1000	0	95 70 - 130% PASS	31 25 FAIL	*



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22558-CRM1		QAQC CRM - SRM 1944			Matrix: Sediment		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 01-Jun-14	
(d10-Acenaphthene)	NA	127			% Recovery	100	127	60 - 140%	PASS	
(d10-Phenanthrene)	NA	116			% Recovery	100	116	60 - 140%	PASS	
(d12-Chrysene)	NA	82			% Recovery	100	82	60 - 140%	PASS	
(d8-Naphthalene)	NA	127			% Recovery	100	127	60 - 140%	PASS	
1-Methylnaphthalene	NA	450.3	1	5	ng/dry g	470	96	60 - 140%	PASS	
1-Methylphenanthrene	NA	1473.3	1	5	ng/dry g	1700	87	60 - 140%	PASS	
2,6-Dimethylnaphthalene	NA	666.7	1	5	ng/dry g	790	84	60 - 140%	PASS	
2-Methylnaphthalene	NA	616	1	5	ng/dry g	740	83	60 - 140%	PASS	
Acenaphthene	NA	329.8	1	5	ng/dry g	390	85	60 - 140%	PASS	
Anthracene	NA	1174	1	5	ng/dry g	1130	104	60 - 140%	PASS	
Benz[a]anthracene	NA	3557	1	5	ng/dry g	4720	75	60 - 140%	PASS	
Benzo[a]pyrene	NA	3320	1	5	ng/dry g	4300	77	60 - 140%	PASS	
Benzo[b]fluoranthene	NA	2485.6	1	5	ng/dry g	3870	64	60 - 140%	PASS	
Benzo[e]pyrene	NA	2138.1	1	5	ng/dry g	3280	65	60 - 140%	PASS	
Benzo[g,h,i]perylene	NA	2884.9	1	5	ng/dry g	2840	102	60 - 140%	PASS	
Benzo[k]fluoranthene	NA	1494.6	1	5	ng/dry g	2300	65	60 - 140%	PASS	
Biphenyl	NA	199.5	1	5	ng/dry g	250	80	60 - 140%	PASS	
Chrysene	NA	4767.1	1	5	ng/dry g	4860	98	60 - 140%	PASS	
Dibenz[a,h]anthracene	NA	402	1	5	ng/dry g	424	95	60 - 140%	PASS	
Dibenzothiophene	NA	658.5	1	5	ng/dry g	500	132	60 - 140%	PASS	
Fluoranthene	NA	8522.7	1	5	ng/dry g	8920	96	60 - 140%	PASS	
Fluorene	NA	369.5	1	5	ng/dry g	480	77	60 - 140%	PASS	
Indeno[1,2,3-c,d]pyrene	NA	2868.1	1	5	ng/dry g	2780	103	60 - 140%	PASS	
Naphthalene	NA	1156.6	1	5	ng/dry g	1280	90	60 - 140%	PASS	
Perylene	NA	1072	1	5	ng/dry g	1170	92	60 - 140%	PASS	
Phenanthrene	NA	5460.9	1	5	ng/dry g	5270	104	60 - 140%	PASS	
Pyrene	NA	8761	1	5	ng/dry g	9700	90	60 - 140%	PASS	



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CA ELAP #2769

Pyrethroids**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
---------	----------	--------	-----	----	-------	----------------	------------------	----------------------	-----------------------	---------

Sample ID: 22544-B1**QAQC Procedural Blank**

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5136

Sampled:

Prepared: 22-Apr-14

Received:

Analyzed: 29-Apr-14

Allethrin	NA	ND	0.25	0.5	ng/dry g				PASS	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g				PASS	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g				PASS	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g				PASS	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g				PASS	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g				PASS	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g				PASS	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g				PASS	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g				PASS	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g				PASS	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g				PASS	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g				PASS	
Prallethrin	NA	ND	0.25	0.5	ng/dry g				PASS	
Resmethrin	NA	ND	0.25	0.5	ng/dry g				PASS	

Sample ID: 22544-BS1**QAQC Procedural Blank**

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5136

Sampled:

Prepared: 22-Apr-14

Received:

Analyzed: 29-Apr-14

Allethrin	NA	940.12	0.25	0.5	ng/dry g	1000	0	94	70 - 130%	PASS	
Bifenthrin	NA	1069.36	0.25	0.5	ng/dry g	1000	0	107	70 - 130%	PASS	
Cyfluthrin	NA	829.21	0.25	0.5	ng/dry g	1000	0	83	70 - 130%	PASS	
Cyhalothrin, Total Lambda	NA	1127.68	0.25	0.5	ng/dry g	1000	0	113	70 - 130%	PASS	
Cypermethrin	NA	815.21	0.25	0.5	ng/dry g	1000	0	82	70 - 130%	PASS	
Danitol (Fenpropathrin)	NA	1026.7	0.25	0.5	ng/dry g	1000	0	103	70 - 130%	PASS	
Deltamethrin/Tralomethrin	NA	1418.94	0.25	0.5	ng/dry g	2000	0	71	70 - 130%	PASS	
Esfenvalerate	NA	866.06	0.25	0.5	ng/dry g	1000	0	87	70 - 130%	PASS	
Fenvalerate	NA	781.16	0.25	0.5	ng/dry g	1000	0	78	70 - 130%	PASS	
Fluvalinate	NA	906.21	0.25	0.5	ng/dry g	1000	0	91	70 - 130%	PASS	
Permethrin, cis-	NA	186.12	0.25	0.5	ng/dry g	267	0	70	70 - 130%	PASS	
Permethrin, trans-	NA	489.36	0.25	0.5	ng/dry g	716	0	68	70 - 130%	FAIL	R



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Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Prallethrin	NA	1147.74	0.25	0.5	ng/dry g	1000	0	115 70 - 130%	PASS	
Resmethrin	NA	1192.95	0.25	0.5	ng/dry g	1000	0	119 70 - 130%	PASS	

Sample ID: 22544-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5136

Prepared: 22-Apr-14

Analyzed: 29-Apr-14

Allethrin	NA	1187.68	0.25	0.5	ng/dry g	1000	0	119 70 - 130%	PASS	23 25 PASS
Bifenthrin	NA	1109.76	0.25	0.5	ng/dry g	1000	0	111 70 - 130%	PASS	4 25 PASS
Cyfluthrin	NA	854.85	0.25	0.5	ng/dry g	1000	0	85 70 - 130%	PASS	2 25 PASS
Cyhalothrin, Total Lambda	NA	1175.98	0.25	0.5	ng/dry g	1000	0	118 70 - 130%	PASS	4 25 PASS
Cypermethrin	NA	848.83	0.25	0.5	ng/dry g	1000	0	85 70 - 130%	PASS	4 25 PASS
Danitol (Fenpropathrin)	NA	1080.16	0.25	0.5	ng/dry g	1000	0	108 70 - 130%	PASS	5 25 PASS
Deltamethrin/Tralomethrin	NA	1484.15	0.25	0.5	ng/dry g	2000	0	74 70 - 130%	PASS	4 25 PASS
Esfenvalerate	NA	895.58	0.25	0.5	ng/dry g	1000	0	90 70 - 130%	PASS	3 25 PASS
Fenvalerate	NA	801.01	0.25	0.5	ng/dry g	1000	0	80 70 - 130%	PASS	3 25 PASS
Fluvalinate	NA	925.83	0.25	0.5	ng/dry g	1000	0	93 70 - 130%	PASS	2 25 PASS
Permethrin, cis-	NA	191.67	0.25	0.5	ng/dry g	267	0	72 70 - 130%	PASS	3 25 PASS
Permethrin, trans-	NA	507.22	0.25	0.5	ng/dry g	716	0	71 70 - 130%	PASS	4 25 PASS
Prallethrin	NA	1139.51	0.25	0.5	ng/dry g	1000	0	114 70 - 130%	PASS	1 25 PASS
Resmethrin	NA	1217.85	0.25	0.5	ng/dry g	1000	0	122 70 - 130%	PASS	2 25 PASS

Sample ID: 22545-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14

Allethrin	NA	ND	0.25	0.5	ng/dry g				PASS	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g				PASS	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g				PASS	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g				PASS	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g				PASS	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g				PASS	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g				PASS	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g				PASS	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g				PASS	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g				PASS	



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Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g					PASS
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g					PASS
Prallethrin	NA	ND	0.25	0.5	ng/dry g					PASS
Resmethrin	NA	ND	0.25	0.5	ng/dry g					PASS

Sample ID: 22545-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14

Allethrin	NA	975	0.25	0.5	ng/dry g	1000	0	98	70 - 130%	PASS	
Bifenthrin	NA	912	0.25	0.5	ng/dry g	1000	0	91	70 - 130%	PASS	
Cyfluthrin	NA	823	0.25	0.5	ng/dry g	1000	0	82	70 - 130%	PASS	
Cyhalothrin, Total Lambda	NA	710	0.25	0.5	ng/dry g	1000	0	71	70 - 130%	PASS	
Cypermethrin	NA	716	0.25	0.5	ng/dry g	1000	0	72	70 - 130%	PASS	
Danitol (Fenpropathrin)	NA	629	0.25	0.5	ng/dry g	1000	0	63	70 - 130%	FAIL	R
Deltamethrin/Tralomethrin	NA	798	0.25	0.5	ng/dry g	1000	0	80	70 - 130%	PASS	
Esfenvalerate	NA	988	0.25	0.5	ng/dry g	1000	0	99	70 - 130%	PASS	
Fenvalerate	NA	822	0.25	0.5	ng/dry g	1000	0	82	70 - 130%	PASS	
Fluvalinate	NA	892	0.25	0.5	ng/dry g	1000	0	89	70 - 130%	PASS	
Permethrin, cis-	NA	210	0.25	0.5	ng/dry g	267	0	79	70 - 130%	PASS	
Permethrin, trans-	NA	611	0.25	0.5	ng/dry g	716	0	85	70 - 130%	PASS	
Prallethrin	NA	802	0.25	0.5	ng/dry g	1000	0	80	70 - 130%	PASS	
Resmethrin	NA	263	0.25	0.5	ng/dry g	1000	0	26	70 - 130%	FAIL	

Sample ID: 22545-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14

Allethrin	NA	1016	0.25	0.5	ng/dry g	1000	0	102	70 - 130%	PASS	4	25	PASS
Bifenthrin	NA	970	0.25	0.5	ng/dry g	1000	0	97	70 - 130%	PASS	6	25	PASS
Cyfluthrin	NA	855	0.25	0.5	ng/dry g	1000	0	86	70 - 130%	PASS	5	25	PASS
Cyhalothrin, Total Lambda	NA	773	0.25	0.5	ng/dry g	1000	0	77	70 - 130%	PASS	8	25	PASS
Cypermethrin	NA	748	0.25	0.5	ng/dry g	1000	0	75	70 - 130%	PASS	4	25	PASS
Danitol (Fenpropathrin)	NA	715	0.25	0.5	ng/dry g	1000	0	71	70 - 130%	PASS	13	25	PASS
Deltamethrin/Tralomethrin	NA	702	0.25	0.5	ng/dry g	1000	0	70	70 - 130%	PASS	13	25	PASS
Esfenvalerate	NA	964	0.25	0.5	ng/dry g	1000	0	96	70 - 130%	PASS	3	25	PASS



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Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Fenvalerate	NA	901	0.25	0.5	ng/dry g	1000	0	90	70 - 130% PASS	9	25 PASS	
Fluvalinate	NA	903	0.25	0.5	ng/dry g	1000	0	90	70 - 130% PASS	1	25 PASS	
Permethrin, cis-	NA	222	0.25	0.5	ng/dry g	267	0	83	70 - 130% PASS	5	25 PASS	
Permethrin, trans-	NA	650	0.25	0.5	ng/dry g	716	0	91	70 - 130% PASS	7	25 PASS	
Prallethrin	NA	872	0.25	0.5	ng/dry g	1000	0	87	70 - 130% PASS	8	25 PASS	
Resmethrin	NA	311	0.25	0.5	ng/dry g	1000	0	31	70 - 130% FAIL	18	25 PASS	*

PHYSIS

CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

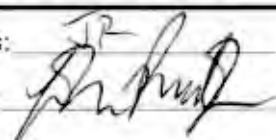
AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8109	8/28/13	0743	General Chemistry	Grab	8 oz Glass	None	1
B13-8109	8/28/13	0743	Metals	Grab	8 oz Glass	None	1
B13-8109	8/28/13	0743	PBDE	Grab	8 oz Glass	None	1
B13-8109	8/28/13	0743	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8109	8/28/13	0743	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

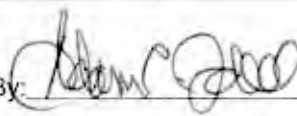
Sampler's Initials: 

Relinquished By: 

Relinquished By: _____

Date/Time: 8/29/13 1910

Date/Time: _____

Received By: 

Received By: _____

Date/Time: 8/29/13 1910

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8118	8/28/13	1036	General Chemistry	Grab	8 oz Glass	None	1
B13-8118	8/28/13	1036	Metals	Grab	8 oz Glass	None	1
B13-8118	8/28/13	1036	PBDE	Grab	8 oz Glass	None	1
B13-8118	8/28/13	1036	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8118	8/28/13	1036	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JS

Relinquished By: [Signature]

Date/Time: 8/29/13 1910

Received By: [Signature]

Date/Time: 8/29/13

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8122	8/28/13	1348	General Chemistry	Grab	8 oz Glass	None	1
B13-8122	8/28/13	1348	Metals	Grab	8 oz Glass	None	1
B13-8122	8/28/13	1348	PBDE	Grab	8 oz Glass	None	1
B13-8122	8/28/13	1348	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8122	8/28/13	1348	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.
Sampler's Initials: JSRRelinquished By: [Signature]Date/Time: 8/29/13 1910Received By: [Signature]Date/Time: 8/29/13 1910

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

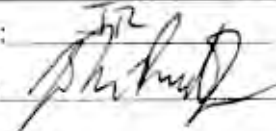
AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

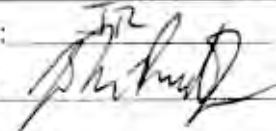
To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8033	8/28/13	1658	General Chemistry	Grab	8 oz Glass	None	1
B13-8033	8/28/13	1658	Metals	Grab	8 oz Glass	None	1
B13-8033	8/28/13	1658	PBDE	Grab	8 oz Glass	None	1
B13-8033	8/28/13	1658	PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8033	8/28/13	1658	Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

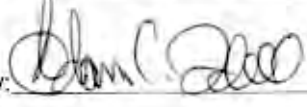
Sampler's Initials: 

Relinquished By: 

Relinquished By: _____

Date/Time: 8/29/13 1910

Date/Time: _____

Received By: 

Received By: _____

Date/Time: 8/29/13 1910

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8093	8/29/13	0734	General Chemistry	Grab	8 oz Glass	None	1
B13-8093			Metals	Grab	8 oz Glass	None	1
B13-8093			PBDE	Grab	8 oz Glass	None	1
B13-8093			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8093			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JB

Relinquished By: [Signature]

Date/Time: 8/29/13 1910

Received By: [Signature]

Date/Time: 8/29/13 1910

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8100	8/29/13	0844	General Chemistry	Grab	8 oz Glass	None	1
B13-8100			Metals	Grab	8 oz Glass	None	1
B13-8100			PBDE	Grab	8 oz Glass	None	1
B13-8100			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8100			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JS

Relinquished By: [Signature]

Date/Time: 8/29/13 1510

Received By: [Signature]

Date/Time: 8/29/13 1910

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

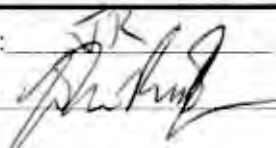
AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301


To:


Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8099	8/29/13	0955	General Chemistry	Grab	8 oz Glass	None	1
B13-8099			Metals	Grab	8 oz Glass	None	1
B13-8099			PBDE	Grab	8 oz Glass	None	1
B13-8099			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8099			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

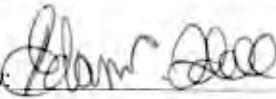
Sampler's Initials: 

Relinquished By: 

Relinquished By: 

Date/Time: 8/29/13 1910

Date/Time: _____

Received By: 

Received By: _____

Date/Time: 8/29/13 1910

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

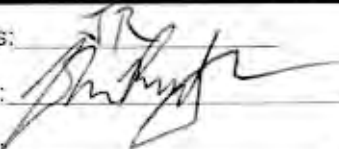
AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

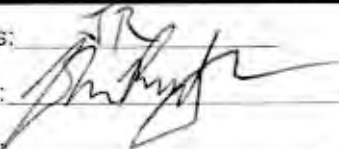
To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321


SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8098	8/29/13	1106	General Chemistry	Grab	8 oz Glass	None	1
B13-8098			Metals	Grab	8 oz Glass	None	1
B13-8098			PBDE	Grab	8 oz Glass	None	1
B13-8098			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8098			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: 

Relinquished By: 

Date/Time: 8/29/13 1910

Received By: 

Date/Time: 8/29/13 1910

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8096	8/29/13	1234	General Chemistry	Grab	8 oz Glass	None	1
B13-8096			Metals	Grab	8 oz Glass	None	1
B13-8096			PBDE	Grab	8 oz Glass	None	1
B13-8096			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8096			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JS*

Relinquished By: *[Signature]*

Date/Time: 8/29/13 1910

Received By: *[Signature]*

Date/Time: 8/29/13 1910

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

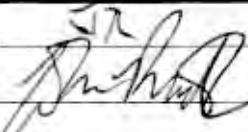
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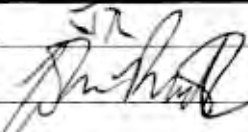
Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8095	8/29/13	1414	General Chemistry	Grab	8 oz Glass	None	1
B13-8095			Metals	Grab	8 oz Glass	None	1
B13-8095			PBDE	Grab	8 oz Glass	None	1
B13-8095			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8095			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

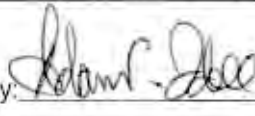
Sampler's Initials: 

Relinquished By: 

Relinquished By: 

Date/Time: 8/29/13 1910

Date/Time: _____

Received By: 

Received By: _____

Date/Time: 8/29/13 1910

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8087	8/29/13	1516	General Chemistry	Grab	8 oz Glass	None	1
B13-8087			Metals	Grab	8 oz Glass	None	1
B13-8087			PBDE	Grab	8 oz Glass	None	1
B13-8087			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8087			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JS

Relinquished By: [Signature]

Date/Time: 8/29/13 1910

Received By: [Signature]

Date/Time: 8/29/13 1910

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8073	8/29/13	1638	General Chemistry	Grab	8 oz Glass	None	1
B13-8073			Metals	Grab	8 oz Glass	None	1
B13-8073			PBDE	Grab	8 oz Glass	None	1
B13-8073			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8073			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *IR*

Relinquished By: *[Signature]*

Date/Time: *8/29/13 1910*

Received By: *[Signature]*

Date/Time: *8/29/13 1910*

Relinquished By: _____

Date/Time: _____

Received By: _____

Date/Time: _____

Port of San Diego
Final Work Plan
Regional Harbor Monitoring Program
AMEC Project No. 1015101932
August 2013

to phys

Table 4-2.
Chemical Analyses of Sediment Samples

Analyte	Analysis Method	Sediment Target Reporting Limits ^{a,b}	Units
Total Solids	SM 2540 B ^c	0.1	%
Total Organic Carbon	9060	0.01	%
Grain Size	SM2560	0.1	%
Aluminum	6020/6010B ^d	5.0	mg/kg
Antimony	6020/6010B ^d	0.05	mg/kg
Arsenic	6020/6010B ^d	0.05	mg/kg
Barium	6020/6010B ^d	0.05	mg/kg
Beryllium	6020/6010B ^d	0.05	mg/kg
Cadmium	6020/6010B ^d	0.01	mg/kg
Chromium	6020/6010B ^d	0.05	mg/kg
Copper	6020/6010B ^d	0.01	mg/kg
Iron	6020/6010B ^d	5.0	mg/kg
Lead	6020/6010B ^d	0.01	mg/kg
Mercury	6020/6010B ^d	0.02	mg/kg
Nickel	6020/6010B ^d	0.02	mg/kg
Selenium	6020/6010B ^d	0.05	mg/kg
Silver	6020/6010B ^d	0.02	mg/kg
Zinc	6020/6010B ^d	0.05	mg/kg
Total Nitrogen	TKN / SM 4500-NO ³ E(M) / SM 4500-NO ² B(M)	4.0	mg/kg
Total Phosphorus	SM 4500-P B/E(M)	4.0	mg/kg
Ammonia	SM 4500-NH ³	0.2	mg/kg
Acid Volatile Sulfides	Plumb 1981 and TERL	0.1	mg/kg
Simultaneous Extracted Metals	EPA 200.8	0.0004-0.0124	μmol/g
PAHs ^e	EPA 8270C ^d	5.0	μg/kg
Chlorinated Pesticides ^f	EPA 8270C ^d	0.5-50	μg/kg
Pyrethroid Pesticides	EPA 8270 C NCI	0.5-10	μg/kg
PCB Congeners ^g	EPA 8270C ^d	0.2	μg/kg
PBDEs ^h	EPA 8270 C NCI	0.1	μg/kg
Alkylphenol ⁱ	GC/MS SIM	0.02-0.6	mg/kg
Perfluorinated Compounds ^{j,k}	EPA 537M	5.0	μg/kg

Notes:

^a Sediment minimum detection limits are on a dry-weight basis.

^b Reporting limits provided by Physis Environmental Laboratories.

^c Standard Methods for the Examination of Water and Wastewater, 19th Ed. American Public Health Association, 1995.

^d USEPA 1988-1996 SW-846. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 3rd Ed.

^e Includes Acenaphthene, Acenaphthylene, Anthracene, Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[e]pyrene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Biphenyl, Chrysene, Dibenzo[a,h]anthracene, Di benzo[ghi]perylene, Fluoranthene, Fluorene, Indeno[1,2,3-c,d]pyrene, Naphthalene, Perylene, Phenanthrene, Pyrene, 2,6-Dimethylnaphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene, 1-Methylphenanthrene, 2,3,5-Trimethylnaphthalene, and 1,6,7-Trimethylnaphthalene.

^f Includes cis-chlordane, trans-chlordane, o,p'-DDT, p,p'-DDT, o,p'-DDD, p,p'-DDD, o,p'-DDE, p,p'-DDE, p,p'-DDMU, aldrin, BHC-alpha, BHC-beta, BHC-gamma, cis-nonachlor, trans-nonachlor, oxychlordane, DCPA (Dacthal), dicofol, dieldrin, toxaphene, endosulfan sulfate, endosulfan-I, endosulfan-II, endrin, endrin aldehyde, endrin ketone, heptachlor, heptachlor epoxide, methoxychlor, mirex, and perthane.

^g Includes congeners: PCB-3, 5, 8, 15, 18, 27-29, 31, 33, 37, 44, 49, 52, 56, 60, 66, 70, 74, 77, 81, 87, 95, 97, 99, 101, 105, 110, 114, 118-119, 123, 126, 128, 137-138, 141, 149, 151, 153, 156-158, 167-170, 174, 177, 180, 183, 187, 189, 194-195, 200-201, 203, 206, and 209.

^h Includes BDE-17, 28, 47, 49, 66, 85, 99, 100, 138, 153, 154, 183, and 209.

Collected only at stations B13-B163, B13-8040, B13-8077; transferred to SCCWRP for analysis.

ⁱ Includes nonylphenol, nonylphenol diethoxylate, nonylphenol monoethoxylate, 4-tert-octylphenol, and bisphenol A.

^j Includes perfluorooctanoic acid and perfluorooctane sulfonate.

μg/kg - micrograms per kilogram (parts per billion)

mg/kg - milligrams per kilogram (parts per million)

N/A - not applicable

SM - Standard Methods

SOP - standard operating procedure

SAMPLE RECEIPT SUMMARY

CLIENT: AMEC Date Received: 8/29/13 Received By: AI Inspected By: AI

COURIER

☒ PHYSIS ☐ CLIENT ☐ FEDEX ☐ UPS
start 15:30 end 21:00 ☐ OTHER: _____

COOLER

☒ COOLER ☐ BOX total #
☐ OTHER: _____ 9

TEMPERATURE

3.1 °C ☒ WET ICE ☐ BLUE ICE
☐ DRY ICE ☐ NONE

SAMPLE INTEGRITY UPON RECEIPT

1. COC(s) included and completely filled out..... YES
2. All sample containers arrived intact..... YES
3. All samples listed on COC(s) are present..... YES
4. Information on containers consistent with information on COC(s)..... YES
5. Correct containers and volume for all analyses indicated..... YES
6. All samples received within method holding time..... YES
7. Correct preservation used for all analyses indicated..... YES

NOTES

Sediments

PHYSIS

LEVEL 3

DELIVERABLES

ENERGY ENVIRONMENTAL CONSULTING INC.

Innovative Solutions for Nature

PHYSIS

Conventionals

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS

Summary of Initial Calibration Data and

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

ICV/CCV

Innovative Solutions for Nature

1307002-012 AMEC RHMP General Chemistry Calibration Data							
Analysis	Method	Batch ID	Co-efficient	Equation	Slope	ICV/True Value	CCV/True Value
Acid Volatile Sulfides	Plumb, 1981	C-14065	0.9998	0.196x-0.001702	NA	NA	NA
Percent Solids	SM2540 B	E-7004	NA	NA	NA	NA	NA
Ammonia	SM 4500-NH3 D	C-14071	NA	NA	-59.26	.258/.25	.25/.25

Elements - ICP-MS

TERRA FLUOR FLORIDA FLORIDA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature
(EPA 6020 - High Metals)

PHYSIS

Instrument Blank

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name 0MIX_2131021.D
File Path D:\data\2131022.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/21/2013 11:04
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.000	ug/g	---	10.00	2.171E-05	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	---	12.22	2.630E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	460,663.99	1.60	100.0	Analog	0.30	3

PHYSIS

Initial Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Batch Folder: D:\DATA\2131022.B\

 Analysis File: 2131022.batch.xml

 DA Date-Time: 10/22/2013 9:51:01 PM

 Calibration Title:

 Calibration Method: External Calibration

 VIS Interpolation Fit:

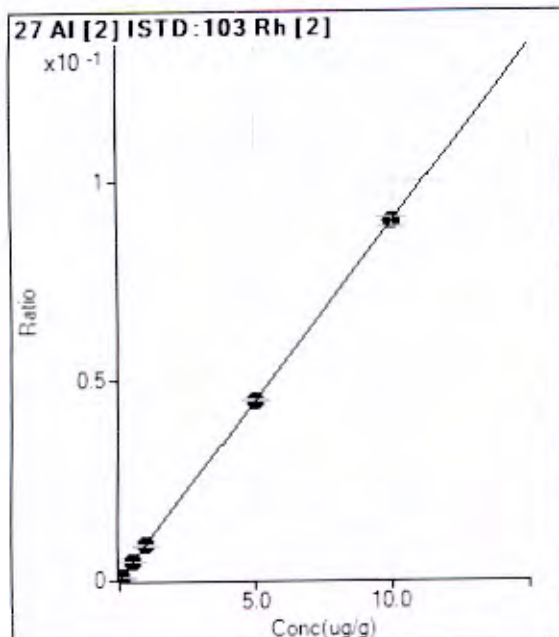
 Tune Step: #1 h2.u

 #2 he.u

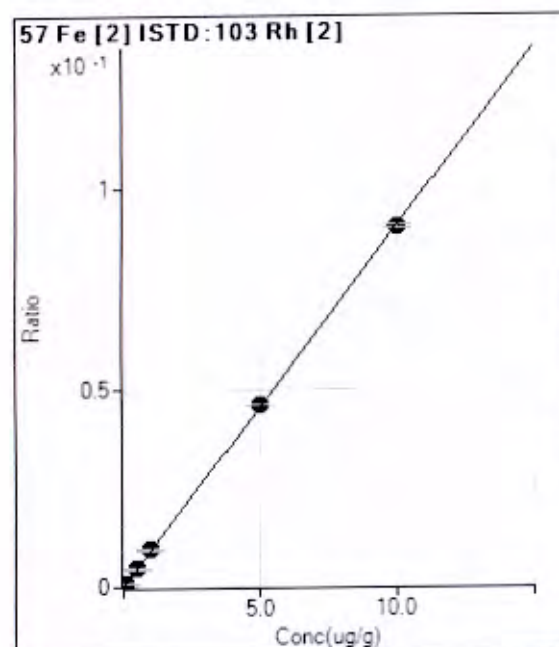
 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX_2131021.D	0 ppb mix	10/21/2013 11:04:00 AM
2	1MIX_2131021.D	1 ppb mix	10/21/2013 11:08:45 AM
3	5MIX_2131021.D	5 ppb mix	10/21/2013 11:13:28 AM
4	10MIX_2131021.D	10 ppb mix	10/21/2013 11:18:12 AM
5	50MIX_2131021.D	50 ppb mix	10/21/2013 11:22:57 AM
6	100MIX_2131021.D	100 ppb mix	10/21/2013 11:27:42 AM
7	500MIX_2131021.D	500 ppb mix	10/21/2013 11:32:25 AM
8	1000MIX_2131021.D	1000 ppb mix	10/21/2013 11:36:58 AM
9	1P_2131021.D	1 ppm P	10/21/2013 11:51:09 AM
10	2P_2131021.D	2 ppm P	10/21/2013 11:55:56 AM
11	5P_2131021.D	5 ppm P	10/21/2013 12:00:43 PM
12	10P_2131021.D	10 ppm P	10/21/2013 12:05:32 PM
13			
14			
15			
16			
17			
18			

Calibration for RINSE23.D

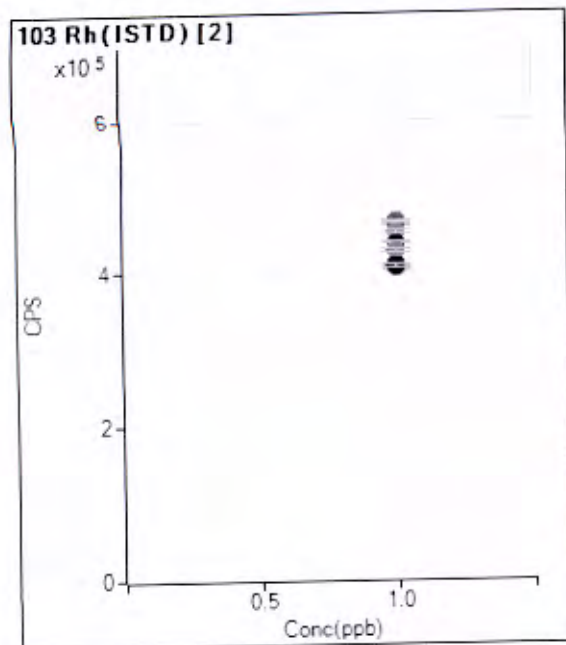


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	10.00	0.0000	P	57.8
2	<input type="checkbox"/>	0.010	0.015	72.23	0.0002	P	5.6
3	<input type="checkbox"/>	0.050	0.063	273.35	0.0006	P	13.3
4	<input type="checkbox"/>	0.100	0.104	443.36	0.0010	P	5.4
5	<input type="checkbox"/>	0.500	0.507	2067.99	0.0046	P	1.8
6	<input type="checkbox"/>	1.000	0.987	3885.03	0.0089	P	5.0
7	<input type="checkbox"/>	5.000	4.997	18347.62	0.0449	P	1.1
8	<input type="checkbox"/>	10.00	10.002	38353.25	0.0899	P	2.7
9	<input type="checkbox"/>			23.33	0.0001	P	100.
10	<input type="checkbox"/>			26.67	0.0001	P	69.1
11	<input type="checkbox"/>			18.89	0.0000	P	36.8
12	<input type="checkbox"/>			22.22	0.0001	P	48.1
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	12.22	0.0000	P	82.3
2	<input type="checkbox"/>	0.010	0.005	35.56	0.0001	P	77.3
3	<input type="checkbox"/>	0.050	0.053	236.68	0.0005	P	12.9
4	<input type="checkbox"/>	0.100	0.098	425.58	0.0009	P	2.5
5	<input type="checkbox"/>	0.500	0.500	2062.43	0.0046	P	7.4
6	<input type="checkbox"/>	1.000	1.042	4141.77	0.0095	P	3.9
7	<input type="checkbox"/>	5.000	5.074	18815.00	0.0461	P	0.3
8	<input type="checkbox"/>	10.00	9.959	38566.95	0.0904	P	1.2
9	<input type="checkbox"/>			8.89	0.0000	P	57.2
10	<input type="checkbox"/>			6.67	0.0000	P	50.5
11	<input type="checkbox"/>			16.67	0.0000	P	35.0
12	<input type="checkbox"/>			10.00	0.0000	P	58.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for RINSE23.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	Γ	1.000		460663.99		A	1.6
2	Γ	1.000		464124.60		A	1.6
3	Γ	1.000		464686.11		A	0.4
4	Γ	1.000		464132.26		A	0.7
5	Γ	1.000		451285.23		M	1.2
6	Γ	1.000		436689.54		P	0.5
7	Γ	1.000		408265.57		P	0.4
8	Γ	1.000		426483.79		M	1.0
9	Γ	1.000		403562.38		P	0.5
10	Γ	1.000		404920.21		P	0.6
11	Γ	1.000		404872.53		P	0.5
12	Γ	1.000		406024.27		P	0.9
13	Γ	1.000					
14	Γ	1.000					
15	Γ	1.000					
16	Γ	1.000					
17	Γ	1.000					
18	Γ	1.000					

PHYSIS

Continuing Calibration Data

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ICPMS 7700x DATA REPORT

File Name ICV1.D
File Path D:\data\2131022.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/22/2013 15:02
Sample Name 1.0 PPM
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.992	ug/g	0.28	40,454.42	8.578E-02	Pulse	0.30	3
Fe	57	103	2	1.004	ug/g	0.05	41,346.49	8.767E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	471,603.31	1.22	102.4	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV.D
File Path D:\data\2131022.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/22/2013 21:53
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.965	ug/g	0.51	32,314.99	8.345E-02	Pulse	0.30	3
Fe	57	103	2	0.997	ug/g	1.06	33,706.03	8.704E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	387,244.01	0.74	84.1	Pulse	0.30	3

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Instrument Run Log

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HIGH

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse200			1.000							
2	C:\CPMH1\METHOD S\Physis.m	Sample	1108	10V1	1.0 PPM		1.000E-01							
3	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse4			1.000							
4	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse9			1.000							
5	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse10			1.000							
6	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse11			1.000							
7	C:\CPMH1\METHOD S\Physis.m	Sample	2101	22481	QAQC Procedural Blank B1	22481.NA.B1.10/12/2013.E-6005	10.00							
8	C:\CPMH1\METHOD S\Physis.m	Sample	2102	22482	B13-8013	22482.NA.R1.10/12/2013.E-6005	655.0							
9	C:\CPMH1\METHOD S\Physis.m	Sample	2103	22482/2	B13-8013 Dup	22482.NA.R2.10/12/2013.E-6005	675.0							
10	C:\CPMH1\METHOD S\Physis.m	Sample	2104	22483	B13-8014	22483.NA.R1.10/12/2013.E-6005	441.0							
11	C:\CPMH1\METHOD S\Physis.m	Sample	2105	22484	B13-8028	22484.NA.R1.10/12/2013.E-6005	615.0							
12	C:\CPMH1\METHOD S\Physis.m	Sample	2106	22485	B13-8030	22485.NA.R1.10/12/2013.E-6005	361.0							
13	C:\CPMH1\METHOD S\Physis.m	Sample	2107	22486	B13-8038	22486.NA.R1.10/12/2013.E-6005	563.0							
14	C:\CPMH1\METHOD S\Physis.m	Sample	2108	22487	B13-8038	22487.NA.R1.10/12/2013.E-6005	588.0							
15	C:\CPMH1\METHOD S\Physis.m	Sample	2109	22488	B13-8040	22488.NA.R1.10/12/2013.E-6005	758.0							
16	C:\CPMH1\METHOD S\Physis.m	Sample	2110	22489	B13-8052	22489.NA.R1.10/12/2013.E-6005	577.0							
17	C:\CPMH1\METHOD S\Physis.m	Sample	2111	22490	B13-8060	22490.NA.R1.10/12/2013.E-6005	549.0							
18	C:\CPMH1\METHOD S\Physis.m	Sample	2112	22491	B13-8078	22491.NA.R1.10/12/2013.E-6005	549.0							
19	C:\CPMH1\METHOD S\Physis.m	Sample	2201	22493cm	QAQC CRM - RTC 016-0501	22493.NA.CRM1.10/12/2013.E-6005	1.059E+03							
20	C:\CPMH1\METHOD S\Physis.m	Sample	2202	22494cm	QAQC CRM - ERA 5401	22494.NA.CRM1.10/12/2013.E-6005	1.042E+03							
21	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse103			1.000							
22	C:\CPMH1\METHOD S\Physis.m	Sample	2203	22481bs1	QAQC Procedural Blank BS1	22481.NA.BS1.10/12/2013.E-6005	1.000							
23	C:\CPMH1\METHOD S\Physis.m	Sample	2204	22481bs2	QAQC Procedural Blank BS2	22481.NA.BS2.10/12/2013.E-6005	1.000							
24	C:\CPMH1\METHOD S\Physis.m	Sample	2205	22482ms	B13-8013 MS	22482.NA.MS1.10/12/2013.E-6005	1.000							
25	C:\CPMH1\METHOD S\Physis.m	Sample	2206	22482msd	B13-8013 MSD	22482.NA.MS2.10/12/2013.E-6005	1.000							
26	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse12			1.000							
27	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse13			1.000							
28	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse14			1.000							
29	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse15			1.000							
30	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse16			1.000							
31	C:\CPMH1\METHOD S\Physis.m	Sample	2209	22544	QAQC Procedural Blank B1	22544.NA.B1.10/12/2013.E-6005	10.00							
32	C:\CPMH1\METHOD S\Physis.m	Sample	2210	22546	B13-8109 Grab	22546.NA.R1.10/12/2013.E-6005	517.0							
33	C:\CPMH1\METHOD S\Physis.m	Sample	2211	22548/2	B13-8109 Grab Dup	22548.NA.R2.10/12/2013.E-6005	475.0							
34	C:\CPMH1\METHOD S\Physis.m	Sample	2212	22547	B13-8118 Grab	22547.NA.R1.10/12/2013.E-6005	610.0							
35	C:\CPMH1\METHOD S\Physis.m	Sample	2301	22548	B13-8122 Grab	22548.NA.R1.10/12/2013.E-6005	288.0							
36	C:\CPMH1\METHOD S\Physis.m	Sample	2302	22549	B13-8033 Grab	22549.NA.R1.10/12/2013.E-6005	673.0							
37	C:\CPMH1\METHOD S\Physis.m	Sample	2303	22550	B13-8093 Grab	22550.NA.R1.10/12/2013.E-6005	430.0							
38	C:\CPMH1\METHOD S\Physis.m	Sample	2304	22551	B13-8190 Grab	22551.NA.R1.10/12/2013.E-6005	498.0							
39	C:\CPMH1\METHOD S\Physis.m	Sample	2305	22552	B13-8099 Grab	22552.NA.R1.10/12/2013.E-6005	667.0							

	Method	Type	Vial	Data File	Sample	Comment	DivLvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
40	C:\CPM\H1\METHOD S\Physic.m	Sample	2309	22553	B13-8028 Grab	22553.NA.R1.10/12/2013.E-6006	477.0							
41	C:\CPM\H1\METHOD S\Physic.m	Sample	2307	22554	B13-8090 Grab	22554.NA.R1.10/12/2013.E-6005	460.0							
42	C:\CPM\H1\METHOD S\Physic.m	Sample	2308	22555	B13-8095 Grab	22555.NA.R1.10/12/2013.E-6006	503.0							
43	C:\CPM\H1\METHOD S\Physic.m	Sample	2309	22549cm	QAQC CRM - RTC 016-0501	22559.NA.CRM1.10/12/2013.E-6006	1.04E+03							
44	C:\CPM\H1\METHOD S\Physic.m	Sample	2310	22551cm	QAQC CRM - ERA 5401	22501.NA.CRM1.10/12/2013.E-6006	1.104E+03							
45	C:\CPM\H1\METHOD S\Physic.m	Sample	1	Rinse100			1.000							
46	C:\CPM\H1\METHOD S\Physic.m	Sample	2203	22544bs1	QAQC Procedural Blank BS1	22544.NA.BS1.10/12/2013.E-6006	1.000							
47	C:\CPM\H1\METHOD S\Physic.m	Sample	2204	22544bs2	QAQC Procedural Blank BS2	22544.NA.BS2.10/12/2013.E-6006	1.000							
48	C:\CPM\H1\METHOD S\Physic.m	Sample	2311	22548ms	B13-8104 Grab MS	22548.NA.MS1.10/12/2013.E-6006	1.000							
49	C:\CPM\H1\METHOD S\Physic.m	Sample	2312	22548msd	B13-8109 Grab MSD	22548.NA.MS2.10/12/2013.E-6006	1.000							
50	C:\CPM\H1\METHOD S\Physic.m	Sample	1	Rinse17			1.000							
51	C:\CPM\H1\METHOD S\Physic.m	Sample	1	Rinse18			1.000							
52	C:\CPM\H1\METHOD S\Physic.m	Sample	1	Rinse19			1.000							
53	C:\CPM\H1\METHOD S\Physic.m	Sample	1	Rinse20			1.000							
54	C:\CPM\H1\METHOD S\Physic.m	Sample	1	Rinse21			1.000							
55	C:\CPM\H1\METHOD S\Physic.m	Sample	2403	22545	QAQC Procedural Blank B1	22545.NA.B1.10/12/2013.E-6007	16.00							
56	C:\CPM\H1\METHOD S\Physic.m	Sample	2403	22570	QAQC Procedural Blank B1	22570.NA.B1.10/12/2013.E-6007	10.00							
57	C:\CPM\H1\METHOD S\Physic.m	Sample	2404	22536	B13-8087 Grab	22556.NA.R1.10/12/2013.E-6007	375.0							
58	C:\CPM\H1\METHOD S\Physic.m	Sample	2405	22556r2	B13-8087 Grab Dup	22556.NA.R2.10/12/2013.E-6007	348.0							
59	C:\CPM\H1\METHOD S\Physic.m	Sample	2406	22557	B13-8073 Grab	22557.NA.R1.10/12/2013.E-6007	453.0							
60	C:\CPM\H1\METHOD S\Physic.m	Sample	2407	22571	B13-8058 Grab	22571.NA.R1.10/12/2013.E-6007	357.0							
61	C:\CPM\H1\METHOD S\Physic.m	Sample	2408	22571r2	B13-8058 Grab Dup	22571.NA.R2.10/12/2013.E-6007	399.0							
62	C:\CPM\H1\METHOD S\Physic.m	Sample	2409	22572	B13-8058 Grab	22572.NA.R1.10/12/2013.E-6007	481.0							
63	C:\CPM\H1\METHOD S\Physic.m	Sample	2410	22573	B13-8090 Grab	22573.NA.R1.10/12/2013.E-6007	761.0							
64	C:\CPM\H1\METHOD S\Physic.m	Sample	2411	22574	B13-8045 Grab	22574.NA.R1.10/12/2013.E-6007	457.0							
65	C:\CPM\H1\METHOD S\Physic.m	Sample	2412	22575	B13-8031 Grab	22575.NA.R1.10/12/2013.E-6007	460.0							
66	C:\CPM\H1\METHOD S\Physic.m	Sample	2501	22560cm	QAQC CRM - RTC 016-0501	22560.NA.CRM1.10/12/2013.E-6007	821.0							
67	C:\CPM\H1\METHOD S\Physic.m	Sample	2502	22562cm	QAQC CRM - FRA 5401	22562.NA.CRM1.10/12/2013.E-6007	926.0							
68	C:\CPM\H1\METHOD S\Physic.m	Sample	2501	22577cm	QAQC CRM - RTC 016-0501	22577.NA.CRM1.10/12/2013.E-6007	621.0							
69	C:\CPM\H1\METHOD S\Physic.m	Sample	2502	22579cm	QAQC CRM - ERA 5401	22573.NA.CRM1.10/12/2013.E-6007	998.0							
70	C:\CPM\H1\METHOD S\Physic.m	Sample	1	Rinse101			1.000							
71	C:\CPM\H1\METHOD S\Physic.m	Sample	2203	22545bs1	QAQC Procedural Blank BS1	22545.NA.BS1.10/12/2013.E-6007	1.000							
72	C:\CPM\H1\METHOD S\Physic.m	Sample	2204	22545bs2	QAQC Procedural Blank BS2	22545.NA.BS2.10/12/2013.E-6007	1.000							
73	C:\CPM\H1\METHOD S\Physic.m	Sample	2203	22570bs1	QAQC Procedural Blank BS1	22570.NA.BS1.10/12/2013.E-6007	1.000							
74	C:\CPM\H1\METHOD S\Physic.m	Sample	2204	22570bs2	QAQC Procedural Blank BS2	22570.NA.BS2.10/12/2013.E-6007	1.000							
75	C:\CPM\H1\METHOD S\Physic.m	Sample	2303	22556ms	B13-8087 Grab MS	22556.NA.MS1.10/12/2013.E-6007	1.000							
76	C:\CPM\H1\METHOD S\Physic.m	Sample	2304	22556msd	B13-8087 Grab MSD	22556.NA.MS2.10/12/2013.E-6007	1.000							
77	C:\CPM\H1\METHOD S\Physic.m	Sample	2505	22571ms	B13-8058 Grab MS	22571.NA.MS1.10/12/2013.E-6007	1.000							
78	C:\CPM\H1\METHOD S\Physic.m	Sample	2506	22571msd	B13-8058 Grab MSD	22571.NA.MS2.10/12/2013.E-6007	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
79	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse22			1.000							
80	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse23			1.000							
81	C:\CPMH1\METHOD S\Physis.m	Sample	1108	CCV	1.0 PPM		1.000E-01							
82	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse24			1.000							
83	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse25			1.000							
84	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse26			1.000							
85	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse27			1.000							
86		Keyword		StandBy										

Elements –

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**(EPA 6020 – Low Metals &
Phosphorous)**

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Instrument Blank

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ICPMS 7700x DATA REPORT

File Name 0MIX.D
File Path D:\DATA\2131021.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/21/2013 11:04
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.000	ug/g	---	10.00	2.171E-05	Pulse	0.30	3
P	31	103	2		ug/g	---	63.34	1.374E-04	Pulse	0.30	3
Cr	52	103	2	0.000	ug/g	---	121.12	2.637E-04	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	---	12.22	2.630E-05	Pulse	0.30	3
Ni	60	103	2	0.000	ug/g	---	10.00	2.145E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	---	4,191.78	9.103E-03	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	---	24.44	5.287E-05	Pulse	0.30	3
As	75	103	2	0.000	ug/g	---	0.00		Pulse	0.30	3
Se	78	103	1	0.000	ug/g	---	4.45	6.472E-05	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	---	46.67	1.012E-04	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	---	8.89	1.926E-05	Pulse	0.30	3
Sb	121	169	2	0.000	ug/g	---	15.56	2.780E-05	Pulse	0.30	3
Ba	137	169	2	0.000	ug/g	---	0.00		Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	---	116.67	2.086E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	68,597.14	0.28	100.0	Pulse	0.30	3
2	Rh	103	460,663.99	1.60	100.0	Analog	0.30	3
3	Rh	103	1,054,252.75	1.43	100.0	Analog	0.30	3
2	Tm	169	559,172.77	1.72	100.0	Analog	0.30	3

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Initial Calibration Data

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Calibration for 10P.D

Batch Folder: D:\DATA\2131021.B\

 Analysis File: 2131021.batch.xml

 DA Date-Time: 4/8/2014 3:53:25 PM

 Calibration Title:

 Calibration Method: External Calibration

 VIS Interpolation Fit:

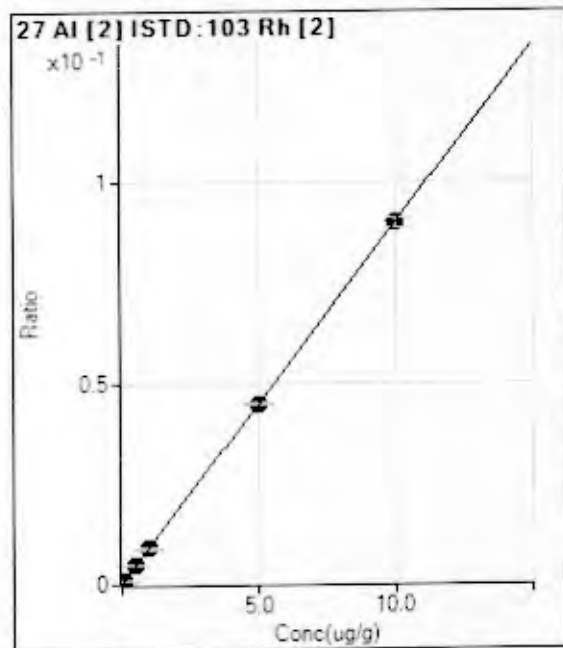
 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX.D	0 ppb mix	10/21/2013 11:04:00 AM
2	1MIX.D	1 ppb mix	10/21/2013 11:08:45 AM
3	5MIX.D	5 ppb mix	10/21/2013 11:13:28 AM
4	10MIX.D	10 ppb mix	10/21/2013 11:18:12 AM
5	50MIX.D	50 ppb mix	10/21/2013 11:22:57 AM
6	100MIX.D	100 ppb mix	10/21/2013 11:27:42 AM
7	500MIX.D	500 ppb mix	10/21/2013 11:32:25 AM
8	1000MIX.D	1000 ppb mix	10/21/2013 11:36:58 AM
9	1P.D	1 ppm P	10/21/2013 11:51:09 AM
10	2P.D	2 ppm P	10/21/2013 11:55:56 AM
11	5P.D	5 ppm P	10/21/2013 12:00:43 PM
12	10P.D	10 ppm P	10/21/2013 12:05:32 PM
13			
14			
15			
16			
17			
18			

Calibration for 10P.D



$$y = 0.0090 * x + 2.1715E-005$$

$$R = 1.0000$$

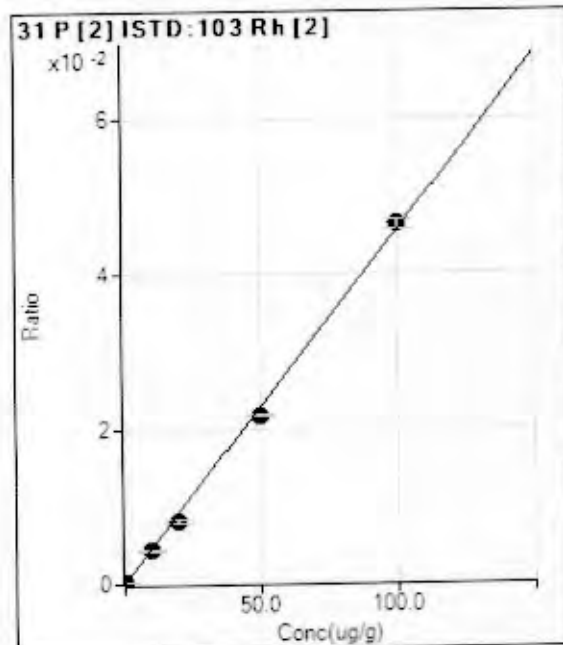
$$DL = 0.004192$$

$$BEC = 0.002416$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	10.00	0.0000	P	57.8
2	<input type="checkbox"/>	0.010	0.015	72.23	0.0002	P	5.6
3	<input type="checkbox"/>	0.050	0.063	273.35	0.0006	P	13.3
4	<input type="checkbox"/>	0.100	0.104	443.36	0.0010	P	5.4
5	<input type="checkbox"/>	0.500	0.507	2067.99	0.0046	P	1.8
6	<input type="checkbox"/>	1.000	0.987	3885.03	0.0089	P	5.0
7	<input type="checkbox"/>	5.000	4.997	18347.62	0.0449	P	1.1
8	<input type="checkbox"/>	10.00	10.002	38353.25	0.0899	P	2.7
9	<input type="checkbox"/>			23.33	0.0001	P	100.
10	<input type="checkbox"/>			26.67	0.0001	P	69.1
11	<input type="checkbox"/>			18.89	0.0000	P	36.8
12	<input type="checkbox"/>			22.22	0.0001	P	48.1
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 4.5484E-004 * x + 1.3745E-004$$

$$R = 0.9993$$

$$DL = 0.08944$$

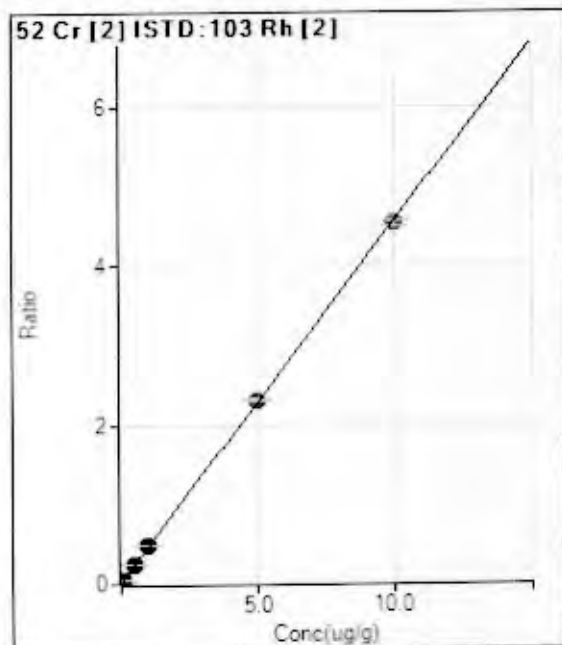
$$BEC = 0.3022$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	63.34	0.0001	P	9.9
2	<input type="checkbox"/>			61.11	0.0001	P	28.7
3	<input type="checkbox"/>			42.22	0.0001	P	46.1
4	<input type="checkbox"/>			58.89	0.0001	P	28.7
5	<input type="checkbox"/>			56.67	0.0001	P	11.0
6	<input type="checkbox"/>			48.89	0.0001	P	21.5
7	<input type="checkbox"/>			65.56	0.0002	P	24.9
8	<input type="checkbox"/>			46.67	0.0001	P	26.2
9	<input type="checkbox"/>	10.00	9.402	1781.	0.0044	P	5.4
10	<input type="checkbox"/>	20.00	17.585	3293.	0.0081	P	4.1
11	<input type="checkbox"/>	50.00	47.491	8801.	0.0217	P	0.8
12	<input type="checkbox"/>	100.0	101.797	1885	0.0464	P	2.7
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.4547 * x + 2.6366E-004$$

$$R = 0.9999$$

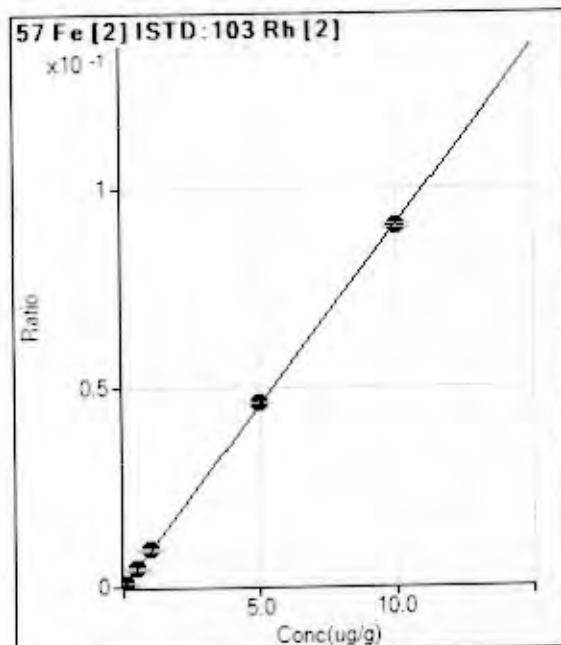
$$DL = 0.0004623$$

$$BEC = 0.0005798$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	121.12	0.0003	P	26.6
2	<input type="checkbox"/>	0.010	0.010	2302.47	0.0050	P	1.9
3	<input type="checkbox"/>	0.050	0.054	11476.31	0.0247	P	1.4
4	<input type="checkbox"/>	0.100	0.106	22518.13	0.0485	P	0.9
5	<input type="checkbox"/>	0.500	0.525	107887.95	0.2391	P	1.1
6	<input type="checkbox"/>	1.000	1.034	205537.53	0.4707	P	0.5
7	<input type="checkbox"/>	5.000	5.086	944317.35	2.3130	A	0.5
8	<input type="checkbox"/>	10.00	9.952	1930100.3	4.5260	A	1.6
9	<input type="checkbox"/>			184.45	0.0005	P	22.2
10	<input type="checkbox"/>			175.56	0.0004	P	7.9
11	<input type="checkbox"/>			210.01	0.0005	P	15.1
12	<input type="checkbox"/>			193.34	0.0005	P	52.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0091 * x + 2.6304E-005$$

$$R = 1.0000$$

$$DL = 0.007151$$

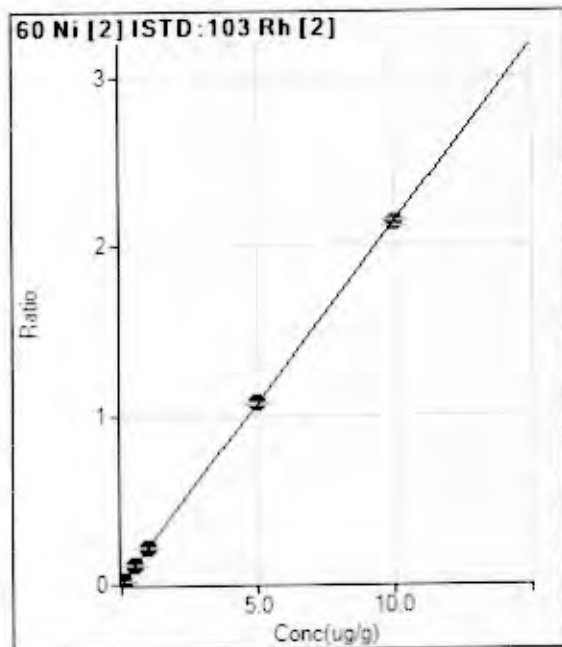
$$BEC = 0.002897$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	12.22	0.0000	P	82.3
2	<input type="checkbox"/>	0.010	0.005	35.56	0.0001	P	77.3
3	<input type="checkbox"/>	0.050	0.053	236.68	0.0005	P	12.9
4	<input type="checkbox"/>	0.100	0.098	425.58	0.0009	P	2.5
5	<input type="checkbox"/>	0.500	0.500	2062.43	0.0046	P	7.4
6	<input type="checkbox"/>	1.000	1.042	4141.77	0.0095	P	3.9
7	<input type="checkbox"/>	5.000	5.074	18815.00	0.0461	P	0.3
8	<input type="checkbox"/>	10.00	9.959	38566.95	0.0904	P	1.2
9	<input type="checkbox"/>			8.89	0.0000	P	57.2
10	<input type="checkbox"/>			6.67	0.0000	P	50.5
11	<input type="checkbox"/>			16.67	0.0000	P	35.0
12	<input type="checkbox"/>			10.00	0.0000	P	58.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.2137 * x + 2.1447E-005$$

$$R = 1.0000$$

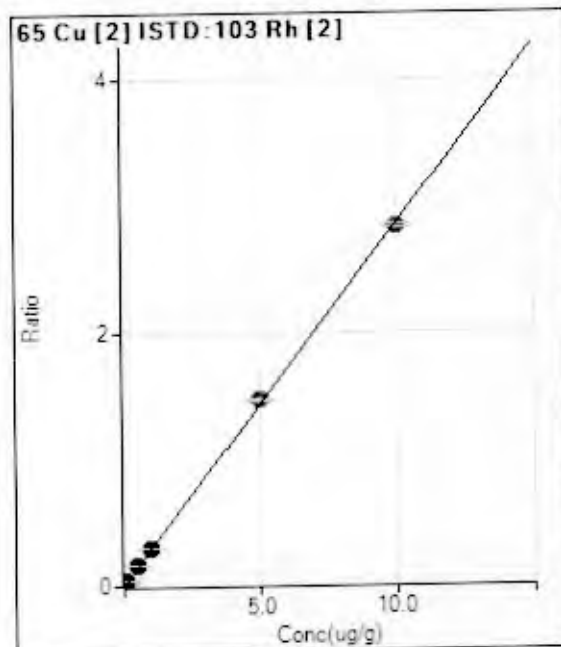
$$DL = 0.0003603$$

$$BEC = 0.0001004$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	10.00	0.0000	P	119.7
2	<input type="checkbox"/>	0.010	0.011	1061.19	0.0023	P	6.2
3	<input type="checkbox"/>	0.050	0.051	5107.62	0.0110	P	0.7
4	<input type="checkbox"/>	0.100	0.105	10406.74	0.0224	P	3.2
5	<input type="checkbox"/>	0.500	0.525	50638.22	0.1122	P	0.5
6	<input type="checkbox"/>	1.000	1.009	94177.98	0.2157	P	0.2
7	<input type="checkbox"/>	5.000	5.016	437630.06	1.0719	P	1.2
8	<input type="checkbox"/>	10.00	9.990	910439.58	2.1350	A	1.9
9	<input type="checkbox"/>			6.67	0.0000	P	86.6
10	<input type="checkbox"/>			13.33	0.0000	P	43.9
11	<input type="checkbox"/>			5.56	0.0000	P	91.9
12	<input type="checkbox"/>			15.56	0.0000	P	53.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2849 * x + 0.0091$$

$$R = 0.9999$$

$$DL = 0.003932$$

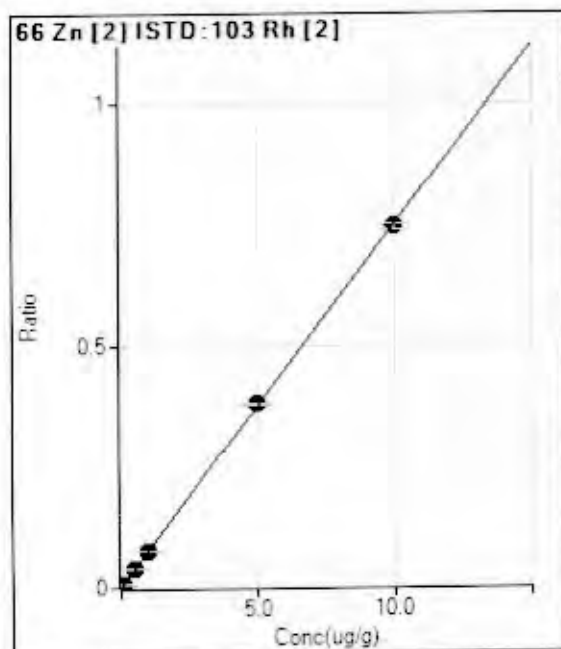
$$BEC = 0.03196$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	4191.78	0.0091	P	4.1
2	<input type="checkbox"/>	0.010	0.010	5486.62	0.0118	P	7.9
3	<input type="checkbox"/>	0.050	0.052	11128.35	0.0240	P	4.7
4	<input type="checkbox"/>	0.100	0.104	17978.63	0.0387	P	2.1
5	<input type="checkbox"/>	0.500	0.526	71703.88	0.1589	P	0.4
6	<input type="checkbox"/>	1.000	1.022	131144.15	0.3003	P	0.6
7	<input type="checkbox"/>	5.000	5.134	600761.62	1.4715	A	0.7
8	<input type="checkbox"/>	10.00	9.930	1210197.9	2.8378	A	0.9
9	<input type="checkbox"/>			2721.43	0.0067	P	12.
10	<input type="checkbox"/>			2304.68	0.0057	P	7.6
11	<input type="checkbox"/>			1435.67	0.0035	P	11.
12	<input type="checkbox"/>			307.79	0.0008	P	4.6
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

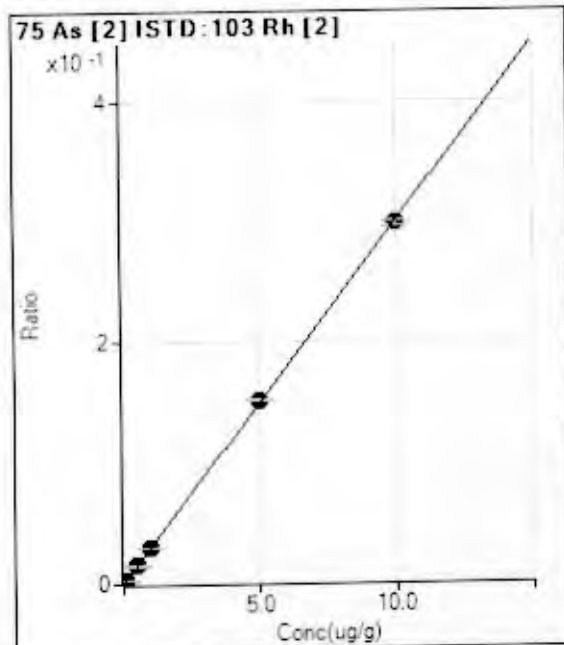
Calibration for 10P.D



Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	24.44	0.0001	P	38.4
2	<input type="checkbox"/>	0.010	0.011	412.24	0.0009	P	3.8
3	<input type="checkbox"/>	0.050	0.054	1902.40	0.0041	P	5.0
4	<input type="checkbox"/>	0.100	0.106	3701.65	0.0080	P	5.1
5	<input type="checkbox"/>	0.500	0.518	17509.16	0.0388	P	1.4
6	<input type="checkbox"/>	1.000	1.009	32999.27	0.0756	P	1.1
7	<input type="checkbox"/>	5.000	5.050	154336.32	0.3780	P	0.7
8	<input type="checkbox"/>	10.00	9.973	318315.29	0.7464	P	1.5
9	<input type="checkbox"/>			20.00	0.0000	P	0.5
10	<input type="checkbox"/>			25.55	0.0001	P	27.1
11	<input type="checkbox"/>			125.56	0.0003	P	23.5
12	<input type="checkbox"/>			111.12	0.0003	P	17.3
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

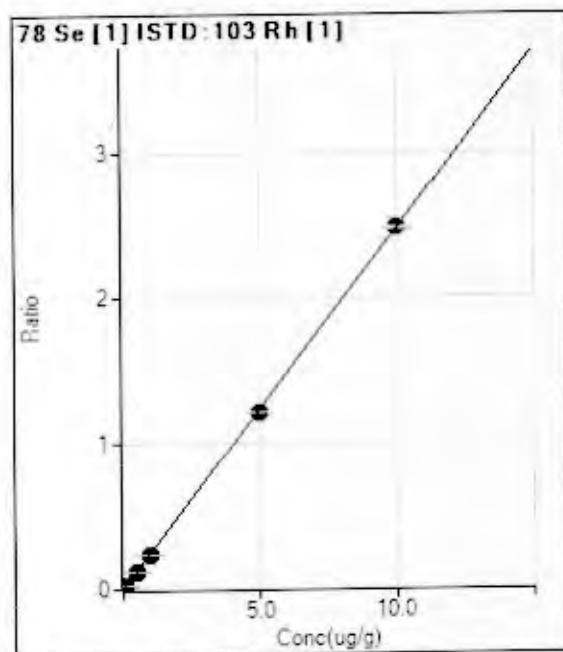


Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	0.00	0.0000	P	
2	<input type="checkbox"/>	0.010	0.010	136.67	0.0003	P	16.1
3	<input type="checkbox"/>	0.050	0.049	683.38	0.0015	P	8.1
4	<input type="checkbox"/>	0.100	0.097	1352.33	0.0029	P	3.9
5	<input type="checkbox"/>	0.500	0.508	6856.06	0.0152	P	3.4
6	<input type="checkbox"/>	1.000	0.996	13010.83	0.0298	P	1.5
7	<input type="checkbox"/>	5.000	5.081	62054.59	0.1520	P	0.5
8	<input type="checkbox"/>	10.00	9.960	127063.6	0.2980	P	1.7
9	<input type="checkbox"/>			10.00	0.0000	P	66.5
10	<input type="checkbox"/>			5.56	0.0000	P	173.
11	<input type="checkbox"/>			14.44	0.0000	P	66.5
12	<input type="checkbox"/>			5.55	0.0000	P	124.
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.2473 * x + 6.4720E-005$$

$$R = 0.9999$$

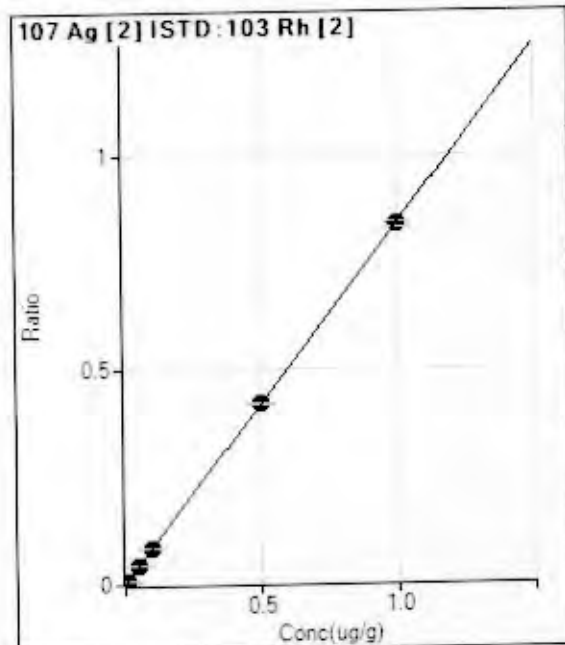
$$DL = 0.00068$$

$$BEC = 0.0002617$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	4.45	0.0001	P	86.6
2	<input type="checkbox"/>	0.010	0.009	147.79	0.0022	P	15.1
3	<input type="checkbox"/>	0.050	0.046	783.38	0.0114	P	9.2
4	<input type="checkbox"/>	0.100	0.097	1627.92	0.0242	P	8.4
5	<input type="checkbox"/>	0.500	0.483	8129.96	0.1195	P	3.1
6	<input type="checkbox"/>	1.000	0.963	15468.53	0.2382	P	2.4
7	<input type="checkbox"/>	5.000	4.897	75697.68	1.2110	P	0.8
8	<input type="checkbox"/>	10.00	10.056	157641.5	2.4866	P	0.2
9	<input type="checkbox"/>			12.22	0.0002	P	78.5
10	<input type="checkbox"/>			12.22	0.0002	P	63.0
11	<input type="checkbox"/>			4.45	0.0001	P	86.6
12	<input type="checkbox"/>			0.00	0.0000	P	
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.8384 * x + 1.0118E-004$$

$$R = 1.0000$$

$$DL = 6.395E-05$$

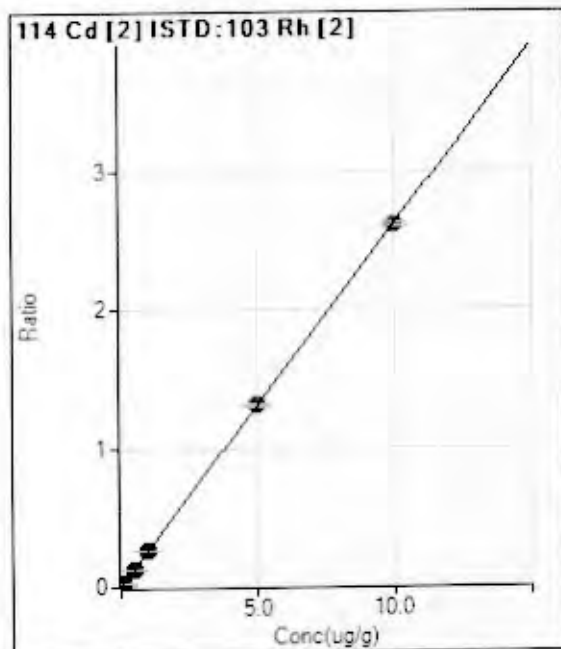
$$BEC = 0.0001207$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	46.67	0.0001	P	17.7
2	<input type="checkbox"/>	0.001	0.001	386.69	0.0008	P	13.9
3	<input type="checkbox"/>	0.005	0.005	1980.20	0.0043	P	4.6
4	<input type="checkbox"/>	0.010	0.010	4039.52	0.0087	P	1.4
5	<input type="checkbox"/>	0.050	0.051	19190.31	0.0425	P	1.3
6	<input type="checkbox"/>	0.100	0.100	36614.36	0.0838	P	0.4
7	<input type="checkbox"/>	0.500	0.501	171512.81	0.4201	P	0.1
8	<input type="checkbox"/>	1.000	1.000	357418.54	0.8381	P	1.5
9	<input type="checkbox"/>			36.67	0.0001	P	65.8
10	<input type="checkbox"/>			24.44	0.0001	P	8.5
11	<input type="checkbox"/>			27.78	0.0001	P	100.
12	<input type="checkbox"/>			6.67	0.0000	P	100.
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.2610 * x + 1.9261E-005$$

$$R = 1.0000$$

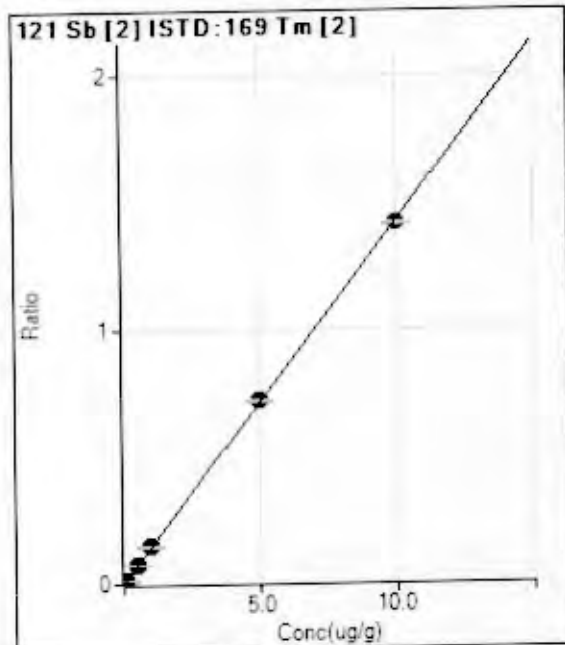
$$DL = 4.52E-05$$

$$BEC = 7.38E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	8.89	0.0000	P	20.4
2	<input type="checkbox"/>	0.010	0.010	1196.76	0.0026	P	7.1
3	<input type="checkbox"/>	0.050	0.050	6116.90	0.0132	P	2.1
4	<input type="checkbox"/>	0.100	0.099	11952.38	0.0258	P	4.3
5	<input type="checkbox"/>	0.500	0.499	58775.34	0.1303	P	1.6
6	<input type="checkbox"/>	1.000	0.991	112940.15	0.2586	P	0.5
7	<input type="checkbox"/>	5.000	5.008	533625.13	1.3070	A	1.0
8	<input type="checkbox"/>	10.00	9.997	1112776.5	2.6093	A	1.0
9	<input type="checkbox"/>			13.34	0.0000	P	43.4
10	<input type="checkbox"/>			28.89	0.0001	P	29.4
11	<input type="checkbox"/>			18.89	0.0000	P	26.5
12	<input type="checkbox"/>			16.67	0.0000	P	19.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.1424 * x + 2.7801E-005$$

$$R = 1.0000$$

$$DL = 6.723E-05$$

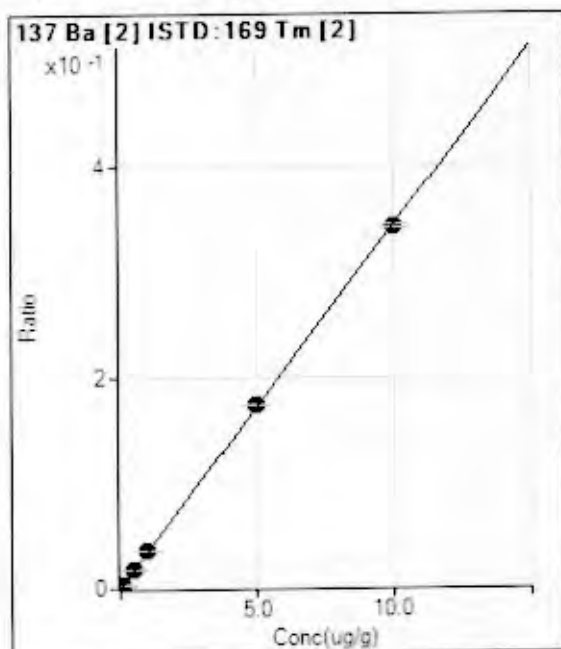
$$BEC = 0.0001952$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	15.56	0.0000	P	11.5
2	<input type="checkbox"/>	0.010	0.011	881.17	0.0016	P	3.7
3	<input type="checkbox"/>	0.050	0.054	4287.37	0.0077	P	3.0
4	<input type="checkbox"/>	0.100	0.106	8444.65	0.0152	P	0.5
5	<input type="checkbox"/>	0.500	0.536	42568.59	0.0764	P	0.4
6	<input type="checkbox"/>	1.000	1.035	80290.92	0.1474	P	2.3
7	<input type="checkbox"/>	5.000	5.051	376909.56	0.7194	P	0.8
8	<input type="checkbox"/>	10.00	9.969	789546.77	1.4198	A	0.8
9	<input type="checkbox"/>			96.67	0.0002	P	21.4
10	<input type="checkbox"/>			95.56	0.0002	P	16.3
11	<input type="checkbox"/>			83.34	0.0002	P	15.0
12	<input type="checkbox"/>			83.34	0.0002	P	17.7
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.0343 * x + 0.0000E+000$$

$$R = 1.0000$$

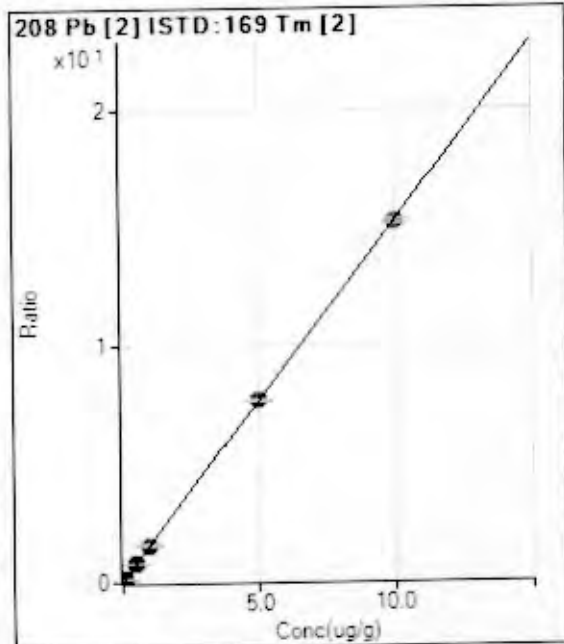
$$DL = 0$$

$$BEC = 0$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	0.00	0.0000	P	
2	<input type="checkbox"/>	0.010	0.009	174.45	0.0003	P	24.1
3	<input type="checkbox"/>	0.050	0.056	1080.08	0.0019	P	3.9
4	<input type="checkbox"/>	0.100	0.112	2140.23	0.0038	P	0.7
5	<input type="checkbox"/>	0.500	0.536	10239.09	0.0184	P	3.8
6	<input type="checkbox"/>	1.000	1.038	19401.87	0.0356	P	1.3
7	<input type="checkbox"/>	5.000	5.064	91030.92	0.1737	P	0.2
8	<input type="checkbox"/>	10.00	9.962	190079.1	0.3418	P	1.0
9	<input type="checkbox"/>			7.78	0.0000	P	65.0
10	<input type="checkbox"/>			0.00	0.0000	P	
11	<input type="checkbox"/>			4.44	0.0000	P	43.0
12	<input type="checkbox"/>			0.00	0.0000	P	
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 1.5268 * x + 2.0862E-004$$

$$R = 1.0000$$

$$DL = 5.698E-06$$

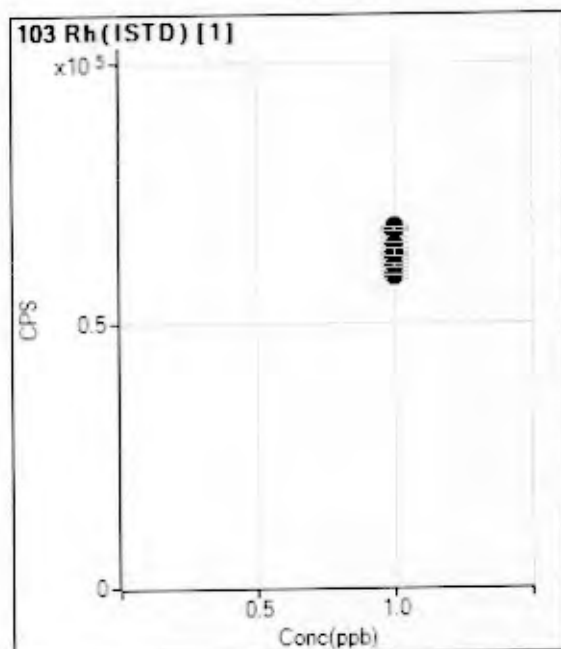
$$BEC = 0.0001366$$

Weight: None

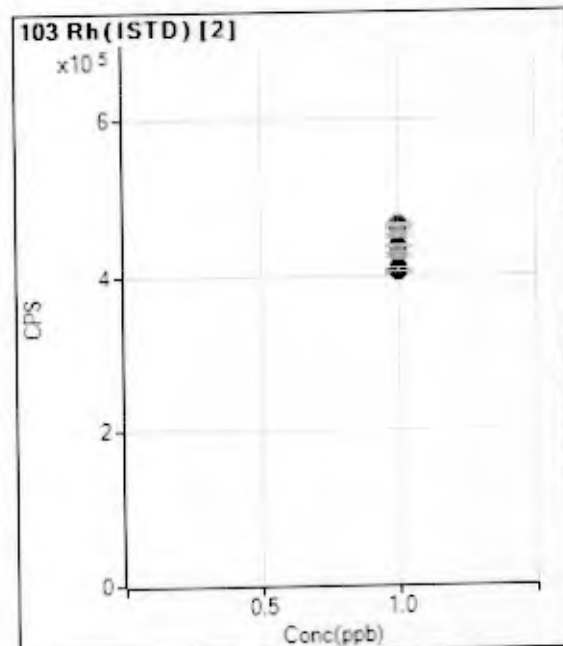
Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	116.67	0.0002	P	1.4
2	<input type="checkbox"/>	0.010	0.010	9065.85	0.0162	P	2.8
3	<input type="checkbox"/>	0.050	0.054	46507.38	0.0830	P	0.9
4	<input type="checkbox"/>	0.100	0.108	92001.20	0.1651	P	1.3
5	<input type="checkbox"/>	0.500	0.532	452305.17	0.8121	P	0.2
6	<input type="checkbox"/>	1.000	1.028	855280.66	1.5701	A	0.8
7	<input type="checkbox"/>	5.000	5.019	4014696.44	7.6630	A	0.8
8	<input type="checkbox"/>	10.00	9.986	8477970.62	15.246	A	0.9
9	<input type="checkbox"/>			232.23	0.0005	P	10.
10	<input type="checkbox"/>			177.79	0.0003	P	6.0
11	<input type="checkbox"/>			193.34	0.0004	P	8.2
12	<input type="checkbox"/>			346.68	0.0010	P	23.
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D

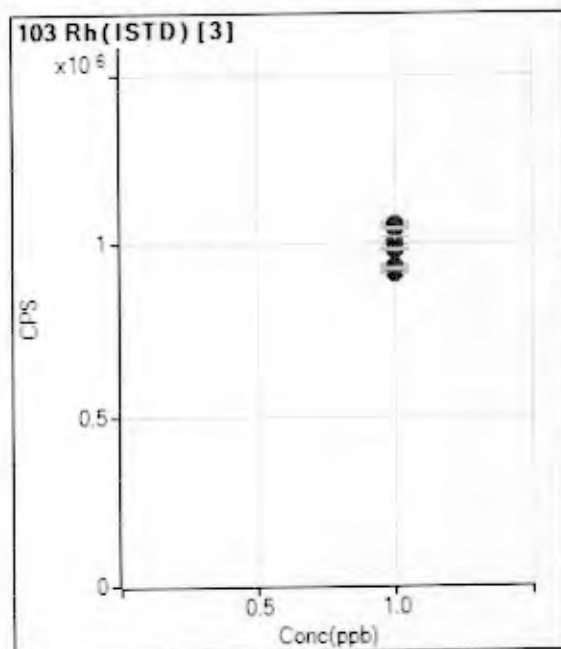


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		68597.14		P	0.3
2	<input type="checkbox"/>	1.000		68240.23		P	1.9
3	<input type="checkbox"/>	1.000		68487.91		P	1.0
4	<input type="checkbox"/>	1.000		67327.97		P	1.8
5	<input type="checkbox"/>	1.000		68067.38		P	1.2
6	<input type="checkbox"/>	1.000		64959.88		P	1.4
7	<input type="checkbox"/>	1.000		62514.20		P	1.3
8	<input type="checkbox"/>	1.000		63397.55		P	0.7
9	<input type="checkbox"/>	1.000		58911.63		P	0.9
10	<input type="checkbox"/>	1.000		59722.20		P	1.2
11	<input type="checkbox"/>	1.000		61017.91		P	1.4
12	<input type="checkbox"/>	1.000		63613.50		P	1.8
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

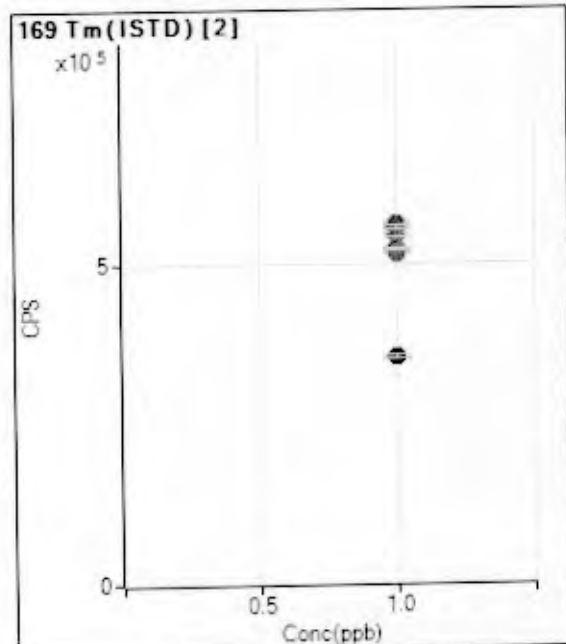


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		460663.99		A	1.6
2	<input type="checkbox"/>	1.000		464124.60		A	1.6
3	<input type="checkbox"/>	1.000		464686.11		A	0.4
4	<input type="checkbox"/>	1.000		464132.26		A	0.7
5	<input type="checkbox"/>	1.000		451285.23		M	1.2
6	<input type="checkbox"/>	1.000		436689.54		P	0.5
7	<input type="checkbox"/>	1.000		408265.57		P	0.4
8	<input type="checkbox"/>	1.000		426483.79		M	1.0
9	<input type="checkbox"/>	1.000		403562.38		P	0.5
10	<input type="checkbox"/>	1.000		404920.21		P	0.6
11	<input type="checkbox"/>	1.000		404872.53		P	0.5
12	<input type="checkbox"/>	1.000		406024.27		P	0.9
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for 10P.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	1.000		1054252.75		A	1.4
2	<input type="checkbox"/>	1.000		1050001.08		A	0.6
3	<input type="checkbox"/>	1.000		1044215.41		A	1.0
4	<input type="checkbox"/>	1.000		1041623.52		A	0.9
5	<input type="checkbox"/>	1.000		1007572.75		A	2.1
6	<input type="checkbox"/>	1.000		980063.25		A	0.9
7	<input type="checkbox"/>	1.000		934288.26		A	0.4
8	<input type="checkbox"/>	1.000		981717.54		A	0.4
9	<input type="checkbox"/>	1.000		912892.37		A	0.9
10	<input type="checkbox"/>	1.000		915892.68		A	0.2
11	<input type="checkbox"/>	1.000		915349.13		A	0.6
12	<input type="checkbox"/>	1.000		926535.60		A	0.6
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	1.000		559172.77		A	1.7
2	<input type="checkbox"/>	1.000		561310.76		A	0.8
3	<input type="checkbox"/>	1.000		560366.27		A	0.7
4	<input type="checkbox"/>	1.000		557131.52		A	0.9
5	<input type="checkbox"/>	1.000		556945.90		A	0.5
6	<input type="checkbox"/>	1.000		544753.78		A	1.0
7	<input type="checkbox"/>	1.000		523923.25		A	0.5
8	<input type="checkbox"/>	1.000		556093.35		A	0.8
9	<input type="checkbox"/>	1.000		515785.89		A	0.8
10	<input type="checkbox"/>	1.000		519724.54		A	0.3
11	<input type="checkbox"/>	1.000		520923.40		A	0.5
12	<input type="checkbox"/>	1.000		351271.23		P	1.1
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

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Continuing Calibration Data

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ICPMS 7700x DATA REPORT

File Name ICV.D
File Path D:\DATA\2131021.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/21/2013 12:17
Sample Name 100 ppb (10 ppb Ag)
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.103	ug/g	0.56	3,973.93	9.281E-03	Pulse	0.30	3
P	31	103	2		ug/g	---	71.11	1.661E-04	Pulse	0.30	3
Cr	52	103	2	0.103	ug/g	0.49	201,293.91	4.701E-01	Pulse	0.30	3
Fe	57	103	2	0.102	ug/g	4.26	3,981.72	9.299E-03	Pulse	0.30	3
Ni	60	103	2	0.102	ug/g	0.83	93,093.29	2.174E-01	Pulse	0.30	3
Cu	65	103	2	0.102	ug/g	0.56	128,586.88	3.003E-01	Pulse	0.30	3
Zn	66	103	2	0.103	ug/g	0.63	32,968.20	7.699E-02	Pulse	0.30	3
As	75	103	2	0.102	ug/g	1.70	13,004.15	3.037E-02	Pulse	0.30	3
Se	78	103	1	0.099	ug/g	0.66	15,615.30	2.444E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.54	36,008.62	8.409E-02	Pulse	0.30	3
Cd	114	103	2	0.101	ug/g	0.73	112,574.37	2.629E-01	Pulse	0.30	3
Sb	121	169	2	0.102	ug/g	1.27	78,575.93	1.451E-01	Pulse	0.30	3
Ba	137	169	2	0.105	ug/g	1.47	19,474.19	3.595E-02	Pulse	0.30	3
Pb	208	169	2	0.103	ug/g	0.66	855,706.64	1.580E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	63,886.87	0.70	93.1	Pulse	0.30	3
2	Rh	103	428,196.45	0.25	93.0	Pulse	0.30	3
3	Rh	103	970,647.03	0.23	92.1	Analog	0.30	3
2	Tm	169	541,740.08	0.60	96.9	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCVP.D
File Path D:\DATA\2131021.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/21/2013 12:22
Sample Name 5 PPM Phosphorus
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.000	ug/g	31.58	21.11	5.021E-05	Pulse	0.30	3
P	31	103	2	4.913	ug/g	0.83	9,449.49	2.248E-02	Pulse	0.30	3
Cr	52	103	2	0.000	ug/g	44.54	156.67	3.729E-04	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	291.98	13.33	3.173E-05	Pulse	0.30	3
Ni	60	103	2	0.000	ug/g	174.44	16.67	3.960E-05	Pulse	0.30	3
Cu	65	103	2	-0.002	ug/g	-5.09	1,244.54	2.962E-03	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	12.26	143.34	3.410E-04	Pulse	0.30	3
As	75	103	2	0.000	ug/g	20.34	16.67	3.967E-05	Pulse	0.30	3
Se	78	103	1	0.000	ug/g	138.78	11.11	1.721E-04	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	-111.82	26.67	6.353E-05	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	37.71	23.33	5.551E-05	Pulse	0.30	3
Sb	121	169	2	0.000	ug/g	35.00	158.89	2.958E-04	Pulse	0.30	3
Ba	137	169	2	0.000	ug/g	125.59	5.55	1.042E-05	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	16.30	215.56	4.001E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	64,268.22	0.91	93.7	Pulse	0.30	3
2	Rh	103	420,280.04	0.34	91.2	Pulse	0.30	3
3	Rh	103	959,271.40	0.46	91.0	Analog	0.30	3
2	Tm	169	538,410.67	1.19	96.3	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV.D
File Path D:\DATA\2131021.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/21/2013 19:17
Sample Name 0.10 PPM
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.095	ug/g	3.64	4,325.12	8.549E-03	Pulse	0.30	3
P	31	103	2		ug/g	---	30.00	5.926E-05	Pulse	0.30	3
Cr	52	103	2	0.097	ug/g	1.25	223,800.40	4.423E-01	Pulse	0.30	3
Fe	57	103	2	0.098	ug/g	0.50	4,491.86	8.878E-03	Pulse	0.30	3
Ni	60	103	2	0.095	ug/g	0.27	102,262.53	2.021E-01	Pulse	0.30	3
Cu	65	103	2	0.093	ug/g	0.67	138,846.04	2.744E-01	Pulse	0.30	3
Zn	66	103	2	0.095	ug/g	1.04	36,106.45	7.136E-02	Pulse	0.30	3
As	75	103	2	0.101	ug/g	3.28	15,217.16	3.008E-02	Pulse	0.30	3
Se	78	103	1	0.092	ug/g	1.45	19,405.82	2.272E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.86	41,909.83	8.283E-02	Pulse	0.30	3
Cd	114	103	2	0.099	ug/g	0.30	130,866.25	2.586E-01	Pulse	0.30	3
Sb	121	169	2	0.104	ug/g	1.02	95,098.63	1.482E-01	Pulse	0.30	3
Ba	137	169	2	0.114	ug/g	0.85	25,091.73	3.909E-02	Pulse	0.30	3
Pb	208	169	2	0.105	ug/g	0.83	1,032,964.64	1.609E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	85,430.85	0.21	124.5	Pulse	0.30	3
2	Rh	103	505,970.52	0.42	109.8	Analog	0.30	3
3	Rh	103	1,202,500.29	0.42	114.1	Analog	0.30	3
2	Tm	169	641,894.25	0.74	114.8	Analog	0.30	3

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Instrument Run Log

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	Method	Type	Vial	Data File	Sample	Comment	Dim/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1		Keyword		CALBEG	Start of CALIB									
2	C:\ICPMH1\METHODS\IPhysis.m	Sample	1	Rinse1			1.000							
3	C:\ICPMH1\METHODS\IPhysis.m	Sample	1	Rinse2			1.000							
4	C:\ICPMH1\METHODS\IPhysis.m	Sample	1101	Rinse			1.000							
5	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1101	0MIX	0 ppb mix	0 ng 0 ng Ag	Level 1							
6	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1102	1MIX	1 ppb mix	10 ng 1 ng Ag	Level 2							
7	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1103	5MIX	5 ppb mix	50 ng 5 ng Ag	Level 3							
8	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1104	10MIX	10 ppb mix	100 ng 10 ng Ag	Level 4							
9	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1105	50MIX	50 ppb mix	500 ng 50 ng Ag	Level 5							
10	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1106	100MIX	100 ppb mix	1000 ng 100 ng Ag	Level 6							
11	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1107	500MIX	500 ppb mix	5000 ng 500 ng Ag	Level 7							
12	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1108	1000MIX	1000 ppb mix	10000 ng 1000 ng Ag	Level 8							
13	C:\ICPMH1\METHODS\IPhysis.m	Sample	1	Rinse3			1.000							
14	C:\ICPMH1\METHODS\IPhysis.m	Sample	1	Rinse4			1.000							
15	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1109	1P	1 ppm P	10 ug P	Level 9							
16	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1110	2P	2 ppm P	20 ug P	Level 10							
17	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1111	5P	5 ppm P	50 ug P	Level 11							
18	C:\ICPMH1\METHODS\IPhysis.m	CalStd	1112	10P	10 ppm P	100 ug P	Level 12							
19	C:\ICPMH1\METHODS\IPhysis.m	Sample	1	Rinse5			1.000							
20	C:\ICPMH1\METHODS\IPhysis.m	Sample	1201	ICV	100 ppb (10 ppb Ag)		1.000E-01							
21	C:\ICPMH1\METHODS\IPhysis.m	Sample	1111	CCVP	5 PPM Phosphorus		1.000E-01							
22	C:\ICPMH1\METHODS\IPhysis.m	Sample	1202	2ndP	CRA Phosphorus 9.32 PPM		1.000E-01							
23	C:\ICPMH1\METHODS\IPhysis.m	Sample	1	Rinse6			1.000							
24	C:\ICPMH1\METHODS\IPhysis.m	Sample	1	Rinse7			1.000							
25		Keyword		CALEND	End of CALIB									
26		Keyword		SMPLEBEG	Start of SMPLE									
27	C:\ICPMH1\METHODS\IPhysis.m	Sample	1	Rinse8			1.000							
28	C:\ICPMH1\METHODS\IPhysis.m	Sample	1	Rinse9			1.000							
29	C:\ICPMH1\METHODS\IPhysis.m	Sample	1	Rinse10			1.000							
30	C:\ICPMH1\METHODS\IPhysis.m	Sample	1	Rinse11			1.000							
31	C:\ICPMH1\METHODS\IPhysis.m	Sample	2101	22481	QAQC Procedural Blank B1	22481.NA.R1.10/12/2013.E-6005	10.00							
32	C:\ICPMH1\METHODS\IPhysis.m	Sample	2102	22482	B13-8013	22482.NA.R1.10/12/2013.E-6005	32.77							
33	C:\ICPMH1\METHODS\IPhysis.m	Sample	2103	22482+2	B13-8013 Dup	22482.NA.R2.10/12/2013.E-6005	33.75							
34	C:\ICPMH1\METHODS\IPhysis.m	Sample	2104	22483	B13-8014	22483.NA.R1.10/12/2013.E-6005	22.05							
35	C:\ICPMH1\METHODS\IPhysis.m	Sample	2105	22484	B13-8028	22484.NA.R1.10/12/2013.E-6005	30.78							
36	C:\ICPMH1\METHODS\IPhysis.m	Sample	2106	22485	B13-8030	22485.NA.R1.10/12/2013.E-6005	19.53							
37	C:\ICPMH1\METHODS\IPhysis.m	Sample	2107	22486	B13-8038	22486.NA.R1.10/12/2013.E-6005	26.17							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
38	C:\VCPMH\1\METHODS (Physis.m)	Sample	2108	22487	B13-8038	22487,NA,R1,10/12/2013,E-6005,	20.38							
39	C:\VCPMH\1\METHODS (Physis.m)	Sample	2109	22489	B13-8040	22489,NA,R1,10/12/2013,E-6005,	39.89							
40	C:\VCPMH\1\METHODS (Physis.m)	Sample	2110	22499	B13-8052	22499,NA,R1,10/12/2013,E-6005,	28.63							
41	C:\VCPMH\1\METHODS (Physis.m)	Sample	2111	22480	B13-8060	22490,NA,R1,10/12/2013,E-6005,	27.47							
42	C:\VCPMH\1\METHODS (Physis.m)	Sample	2112	22491	B13-8078	22491,NA,R1,10/12/2013,E-6005,	27.45							
43	C:\VCPMH\1\METHODS (Physis.m)	Sample	2201	22493cm	QAQC CRM - RTC 018-0501	22493,NA,CRM1,10/12/2013,E-6005,	52.97							
44	C:\VCPMH\1\METHODS (Physis.m)	Sample	2202	22494cm	QAQC CRM - ERA 5401	22494,NA,CRM1,10/12/2013,E-6005,	52.08							
45	C:\VCPMH\1\METHODS (Physis.m)	Sample	2203	22481bs1	QAQC Procedural Blank BS1	22491,NA,BS1,10/12/2013,E-6005,	1.000							
46	C:\VCPMH\1\METHODS (Physis.m)	Sample	2204	22481bs2	QAQC Procedural Blank BS2	22481,NA,BS2,10/12/2013,E-6005,	1.000							
47	C:\VCPMH\1\METHODS (Physis.m)	Sample	2205	22482ms	B13-8013 MS	22482,NA,MS1,10/12/2013,E-6005,	1.000							
48	C:\VCPMH\1\METHODS (Physis.m)	Sample	2206	22482msd	B13-8013 MSD	22482,NA,MS2,10/12/2013,E-6005,	1.000							
49	C:\VCPMH\1\METHODS (Physis.m)	Sample	2207	22482s1P	B13-8013 MS P	22482,NA,MS1,10/12/2013,E-6005,	1.000							
50	C:\VCPMH\1\METHODS (Physis.m)	Sample	2208	22482s2P	B13-8013 MSD P	22482,NA,MS2,10/12/2013,E-6005,	1.000							
51	C:\VCPMH\1\METHODS (Physis.m)	Sample	1	Rinse12			1.000							
52	C:\VCPMH\1\METHODS (Physis.m)	Sample	1	Rinse13			1.000							
53	C:\VCPMH\1\METHODS (Physis.m)	Sample	1	Rinse14			1.000							
54	C:\VCPMH\1\METHODS (Physis.m)	Sample	1	Rinse15			1.000							
55	C:\VCPMH\1\METHODS (Physis.m)	Sample	1	Rinse16			1.000							
56	C:\VCPMH\1\METHODS (Physis.m)	Sample	2209	22544	QAQC Procedural Blank B1	22544,NA,B1,10/12/2013,E-6006,	10.00							
57	C:\VCPMH\1\METHODS (Physis.m)	Sample	2210	22548	B13-8109 Grab	22548,NA,R1,10/12/2013,E-6006,	25.86							
58	C:\VCPMH\1\METHODS (Physis.m)	Sample	2211	22546r2	B13-8109 Grab Dup	22548,NA,R2,10/12/2013,E-6006,	23.74							
59	C:\VCPMH\1\METHODS (Physis.m)	Sample	2212	22547	B13-8118 Grab	22547,NA,R1,10/12/2013,E-6006,	30.52							
60	C:\VCPMH\1\METHODS (Physis.m)	Sample	2301	22548	B13-8122 Grab	22548,NA,R1,10/12/2013,E-6006,	14.42							
61	C:\VCPMH\1\METHODS (Physis.m)	Sample	2302	22549	B13-8033 Grab	22549,NA,R1,10/12/2013,E-6006,	33.67							
62	C:\VCPMH\1\METHODS (Physis.m)	Sample	2303	22550	B13-8093 Grab	22550,NA,R1,10/12/2013,E-6006,	21.52							
63	C:\VCPMH\1\METHODS (Physis.m)	Sample	2304	22551	B13-8100 Grab	22551,NA,R1,10/12/2013,E-6006,	24.81							
64	C:\VCPMH\1\METHODS (Physis.m)	Sample	2305	22552	B13-8096 Grab	22552,NA,R1,10/12/2013,E-6006,	33.33							
65	C:\VCPMH\1\METHODS (Physis.m)	Sample	2306	22553	B13-8098 Grab	22553,NA,R1,10/12/2013,E-6006,	23.88							
66	C:\VCPMH\1\METHODS (Physis.m)	Sample	2307	22554	B13-8098 Grab	22554,NA,R1,10/12/2013,E-6006,	23.01							
67	C:\VCPMH\1\METHODS (Physis.m)	Sample	2308	22555	B13-8095 Grab	22555,NA,R1,10/12/2013,E-6006,	40.13							
68	C:\VCPMH\1\METHODS (Physis.m)	Sample	2308	22559cm	QAQC CRM - RTC 018-0501	22559,NA,CRM1,10/12/2013,E-6006,	54.71							
69	C:\VCPMH\1\METHODS (Physis.m)	Sample	2310	22561cm	QAQC CRM - ERA 5401	22561,NA,CRM1,10/12/2013,E-6006,	65.19							
70	C:\VCPMH\1\METHODS (Physis.m)	Sample	2203	22544bs1	QAQC Procedural Blank BS1	22544,NA,BS1,10/12/2013,E-6006,	1.000							
71	C:\VCPMH\1\METHODS (Physis.m)	Sample	2204	22544bs2	QAQC Procedural Blank BS2	22544,NA,BS2,10/12/2013,E-6006,	1.000							
72	C:\VCPMH\1\METHODS (Physis.m)	Sample	2311	22546ms	B13-8109 Grab MS	22543,NA,MS1,10/12/2013,E-6006,	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
73	C:\VCPMH\1\METHODS (Physis.m)	Sample	2312	22548msd	B13-8109 Grab MSD	22548.NA.MS2.10/12/2013.E-6006	1.000							
74	C:\VCPMH\1\METHODS (Physis.m)	Sample	2401	22548s1P	B13-8109 Grab MS_P	22548.NA.MS1.10/12/2013.E-6006	1.000							
75	C:\VCPMH\1\METHODS (Physis.m)	Sample	2402	22548s2P	B13-8109 Grab MSD_P	22548.NA.MS2.10/12/2013.E-6006	1.000							
76	C:\VCPMH\1\METHODS (Physis.m)	Sample	1	Rinse17			1.000							
77	C:\VCPMH\1\METHODS (Physis.m)	Sample	1	Rinse18			1.000							
78	C:\VCPMH\1\METHODS (Physis.m)	Sample	1	Rinse19			1.000							
79	C:\VCPMH\1\METHODS (Physis.m)	Sample	1	Rinse20			1.000							
80	C:\VCPMH\1\METHODS (Physis.m)	Sample	1	Rinse21			1.000							
81	C:\VCPMH\1\METHODS (Physis.m)	Sample	2403	22545	QAQC Procedural Blank B1	22545.NA.B1.10/12/2013.E-6007	10.00							
82	C:\VCPMH\1\METHODS (Physis.m)	Sample	2403	22570	QAQC Procedural Blank B1	22570.NA.B1.10/12/2013.E-6007	10.00							
83	C:\VCPMH\1\METHODS (Physis.m)	Sample	2404	22556	B13-8087 Grab	22556.NA.R1.10/12/2013.E-6007	18.89							
84	C:\VCPMH\1\METHODS (Physis.m)	Sample	2405	22558r2	B13-8087 Grab Dup	22556.NA.R2.10/12/2013.E-6007	17.44							
85	C:\VCPMH\1\METHODS (Physis.m)	Sample	2406	22557	B13-8073 Grab	22557.NA.R1.10/12/2013.E-6007	22.67							
86	C:\VCPMH\1\METHODS (Physis.m)	Sample	2407	22571	B13-8058 Grab	22571.NA.R1.10/12/2013.E-6007	19.36							
87	C:\VCPMH\1\METHODS (Physis.m)	Sample	2408	22571r2	B13-8058 Grab Dup	22571.NA.R2.10/12/2013.E-6007	19.83							
88	C:\VCPMH\1\METHODS (Physis.m)	Sample	2409	22572	B13-8068 Grab	22572.NA.R1.10/12/2013.E-6007	24.03							
89	C:\VCPMH\1\METHODS (Physis.m)	Sample	2410	22573	B13-8080 Grab	22573.NA.R1.10/12/2013.E-6007	26.05							
90	C:\VCPMH\1\METHODS (Physis.m)	Sample	2411	22574	B13-8045 Grab	22574.NA.R1.10/12/2013.E-6007	23.54							
91	C:\VCPMH\1\METHODS (Physis.m)	Sample	2412	22575	B13-8031 Grab	22575.NA.R1.10/12/2013.E-6007	23.02							
92	C:\VCPMH\1\METHODS (Physis.m)	Sample	2501	22560cm	QAQC CRM - RTC 016-0501	22560.NA.CRM1.10/12/2013.E-6007	41.05							
93	C:\VCPMH\1\METHODS (Physis.m)	Sample	2502	22562cm	QAQC CRM - ERA 5401	22562.NA.CRM1.10/12/2013.E-6007	49.80							
94	C:\VCPMH\1\METHODS (Physis.m)	Sample	2503	22577cm	QAQC CRM - RTC 016-0501	22577.NA.CRM1.10/12/2013.E-6007	41.05							
95	C:\VCPMH\1\METHODS (Physis.m)	Sample	2502	22578cm	QAQC CRM - ERA 5401	22576.NA.CRM1.10/12/2013.E-6007	49.80							
96	C:\VCPMH\1\METHODS (Physis.m)	Sample	2203	22545bs1	QAQC Procedural Blank BS1	22545.NA.BS1.10/12/2013.E-6007	1.000							
97	C:\VCPMH\1\METHODS (Physis.m)	Sample	2204	22545bs2	QAQC Procedural Blank BS2	22545.NA.BS2.10/12/2013.E-6007	1.000							
98	C:\VCPMH\1\METHODS (Physis.m)	Sample	2203	22570bs1	QAQC Procedural Blank BS1	22570.NA.BS1.10/12/2013.E-6007	1.000							
99	C:\VCPMH\1\METHODS (Physis.m)	Sample	2204	22570bs2	QAQC Procedural Blank BS2	22570.NA.BS2.10/12/2013.E-6007	1.000							
100	C:\VCPMH\1\METHODS (Physis.m)	Sample	2503	22558ms	B13-8087 Grab MS	22556.NA.MS1.10/12/2013.E-6007	1.000							
101	C:\VCPMH\1\METHODS (Physis.m)	Sample	2504	22558msd	B13-8087 Grab MSD	22556.NA.MS2.10/12/2013.E-6007	1.000							
102	C:\VCPMH\1\METHODS (Physis.m)	Sample	2505	22571ms	B13-8058 Grab MS	22571.NA.MS1.10/12/2013.E-6007	1.000							
103	C:\VCPMH\1\METHODS (Physis.m)	Sample	2506	22571msd	B13-8058 Grab MSD	22571.NA.MS2.10/12/2013.E-6007	1.000							
104	C:\VCPMH\1\METHODS (Physis.m)	Sample	2507	22558s1P	B13-8087 Grab MS_P	22556.NA.MS1.10/12/2013.E-6007	1.000							
105	C:\VCPMH\1\METHODS (Physis.m)	Sample	2508	22558s2P	B13-8087 Grab MSD_P	22556.NA.MS2.10/12/2013.E-6007	1.000							
106	C:\VCPMH\1\METHODS (Physis.m)	Sample	2509	22571s1P	B13-8058 Grab MS_P	22571.NA.MS1.10/12/2013.E-6007	1.000							
107	C:\VCPMH\1\METHODS (Physis.m)	Sample	2510	22571s2P	B13-8058 Grab MSD_P	22571.NA.MS2.10/12/2013.E-6007	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
108	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse22			1.000							
109	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse23			1.000							
110	C:\CPMH\1\METHODS (Physis.m)	Sample	1108	CCV	0.10 PPM		1.000E-01							
111	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse24			1.000							
112	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse25			1.000							
113	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse26			1.000							
114	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse27			1.000							
115		Keyword		SMPLEND	End of SMPL									
116		Keyword		End	End of Sequence									
117		Keyword		BLKBEG	Start of BLANK									
118		Keyword		BLKEND	End of BLANK									
119		Keyword		ERRBEG	Start of ERRTERM									
120		Keyword		ERREND	End of ERRTERM									

Elements -

ICP-MS

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

(EPA 200.8 - SEM)

PHYSIS

Instrument Blank

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name OMIX.D
File Path D:\data\2131018.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/18/2013 14:53
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.000	ug/g	---	15.55	3.124E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	---	1,350.11	2.704E-03	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	---	25.56	5.108E-05	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	---	3.33	6.734E-06	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	---	1.11	2.219E-06	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	---	88.90	1.469E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	71,290.21	2.19	100.0	Pulse	0.30	3
2	Rh	103	499,723.08	0.90	100.0	Analog	0.30	3
3	Rh	103	1,196,280.56	0.83	100.0	Analog	0.30	3
2	Tm	169	604,953.55	0.43	100.0	Analog	0.30	3

PHYSIS

Initial Calibration Data

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Calibration for 1000MIX.D

Batch Folder: D:\DATA\2131018.B\

 Analysis File: 2131018.batch.xml

 DA Date-Time: 4/8/2014 4:09:51 PM

 Calibration Title:

 Calibration Method: External Calibration

 VIS Interpolation Fit:

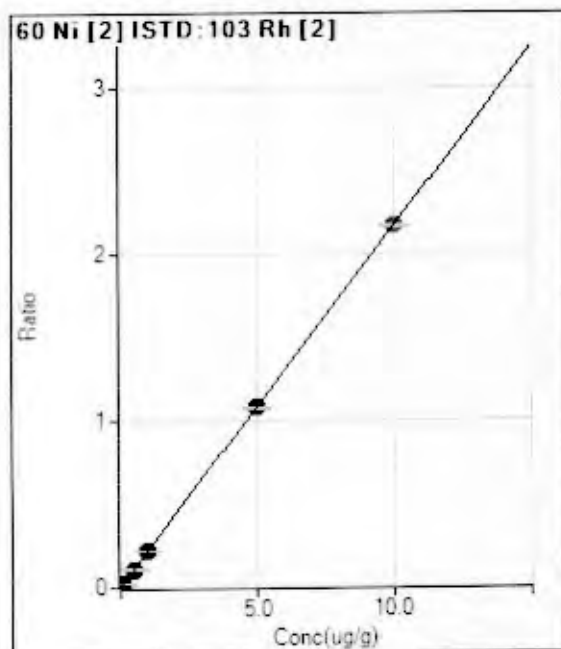
 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX.D	0 ppb mix	10/18/2013 2:53:55 PM
2	1MIX.D	1 ppb mix	10/18/2013 2:58:39 PM
3	5MIX.D	5 ppb mix	10/18/2013 3:03:21 PM
4	10MIX.D	10 ppb mix	10/18/2013 3:08:04 PM
5	50MIX.D	50 ppb mix	10/18/2013 3:12:50 PM
6	100MIX.D	100 ppb mix	10/18/2013 3:17:34 PM
7	500MIX.D	500 ppb mix	10/18/2013 3:22:17 PM
8	1000MIX.D	1000 ppb mix	10/18/2013 3:26:50 PM
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

Calibration for 1000MIX.D



$$y = 0.2165 * x + 3.1240E-005$$

$$R = 1.0000$$

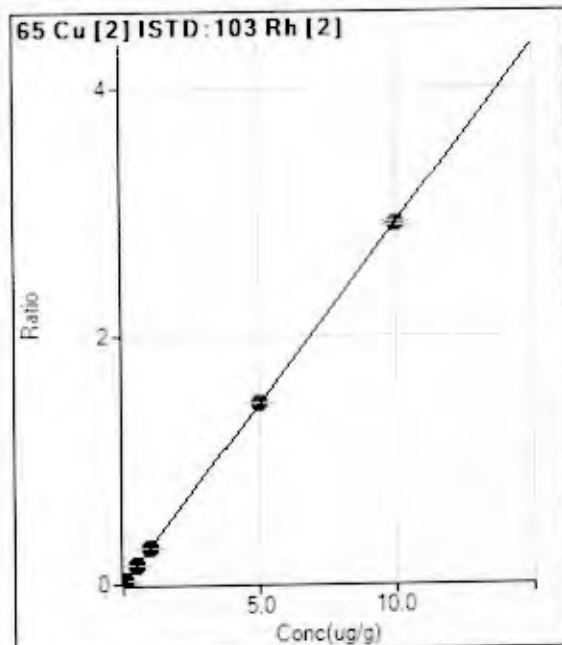
$$DL = 0.0002997$$

$$BEC = 0.0001443$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	15.55	0.0000	P	69.2
2	<input type="checkbox"/>	0.010	0.010	1137.86	0.0023	P	8.1
3	<input type="checkbox"/>	0.050	0.050	5471.07	0.0109	P	0.3
4	<input type="checkbox"/>	0.100	0.102	10813.71	0.0220	P	1.8
5	<input type="checkbox"/>	0.500	0.503	51924.34	0.1090	P	1.5
6	<input type="checkbox"/>	1.000	1.015	100631.98	0.2197	P	1.2
7	<input type="checkbox"/>	5.000	4.970	464698.70	1.0762	P	0.4
8	<input type="checkbox"/>	10.00	10.013	919218.78	2.1681	A	0.7
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2908 * x + 0.0027$$

$$R = 1.0000$$

$$DL = 0.003732$$

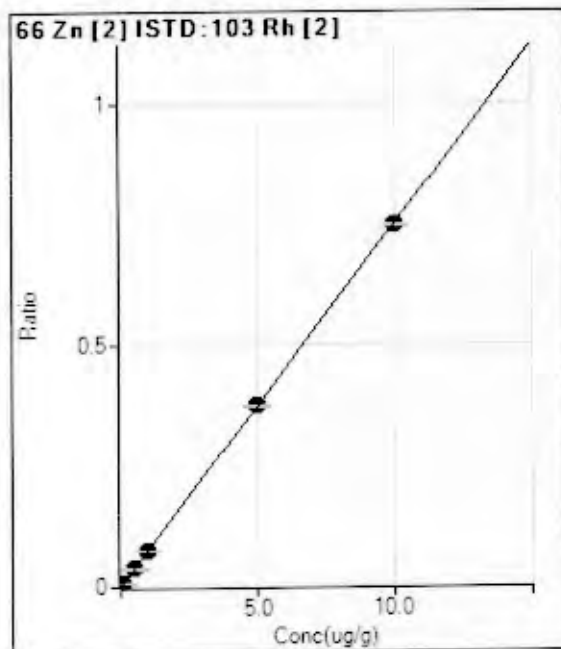
$$BEC = 0.009297$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	1350.11	0.0027	P	13.4
2	<input type="checkbox"/>	0.010	0.010	2882.58	0.0058	P	6.4
3	<input type="checkbox"/>	0.050	0.053	9023.72	0.0180	P	2.8
4	<input type="checkbox"/>	0.100	0.104	16213.50	0.0330	P	1.7
5	<input type="checkbox"/>	0.500	0.504	71020.23	0.1491	P	1.4
6	<input type="checkbox"/>	1.000	1.011	135888.25	0.2967	P	0.3
7	<input type="checkbox"/>	5.000	5.025	632149.98	1.4640	A	0.7
8	<input type="checkbox"/>	10.00	9.986	1232456.2	2.9070	A	1.1
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D



$$y = 0.0750 * x + 5.1084E-005$$

$$R = 1.0000$$

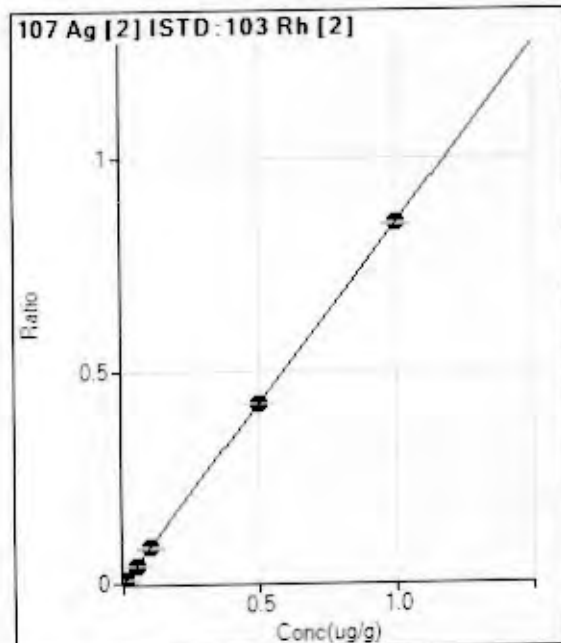
$$DL = 0.0003904$$

$$BEC = 0.0006814$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	25.56	0.0001	P	19.1
2	<input type="checkbox"/>	0.010	0.012	494.47	0.0010	P	15.0
3	<input type="checkbox"/>	0.050	0.051	1945.75	0.0039	P	4.1
4	<input type="checkbox"/>	0.100	0.098	3631.63	0.0074	P	1.9
5	<input type="checkbox"/>	0.500	0.504	18033.07	0.0379	P	1.0
6	<input type="checkbox"/>	1.000	1.023	35140.12	0.0767	P	1.3
7	<input type="checkbox"/>	5.000	5.015	162368.75	0.3760	P	1.0
8	<input type="checkbox"/>	10.00	9.990	317558.68	0.7490	P	0.7
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.8462 * x + 6.7340E-006$$

$$R = 1.0000$$

$$DL = 4.135E-05$$

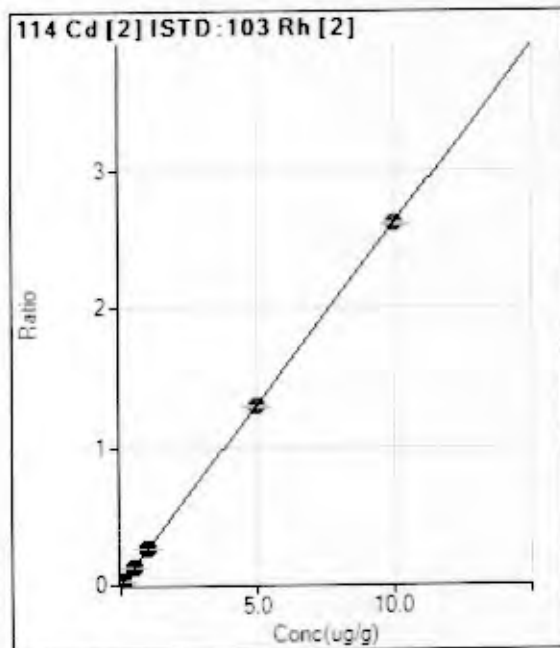
$$BEC = 7.958E-06$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	3.33	0.0000	P	173.2
2	<input type="checkbox"/>	0.001	0.001	426.69	0.0009	P	10.0
3	<input type="checkbox"/>	0.005	0.005	2110.22	0.0042	P	4.6
4	<input type="checkbox"/>	0.010	0.010	4165.13	0.0085	P	1.1
5	<input type="checkbox"/>	0.050	0.049	19838.79	0.0417	P	3.0
6	<input type="checkbox"/>	0.100	0.099	38276.08	0.0836	P	2.3
7	<input type="checkbox"/>	0.500	0.499	182284.08	0.4221	P	0.5
8	<input type="checkbox"/>	1.000	1.001	359024.89	0.8468	P	0.6
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D



$$y = 0.2603 * x + 2.2190E-006$$

$$R = 1.0000$$

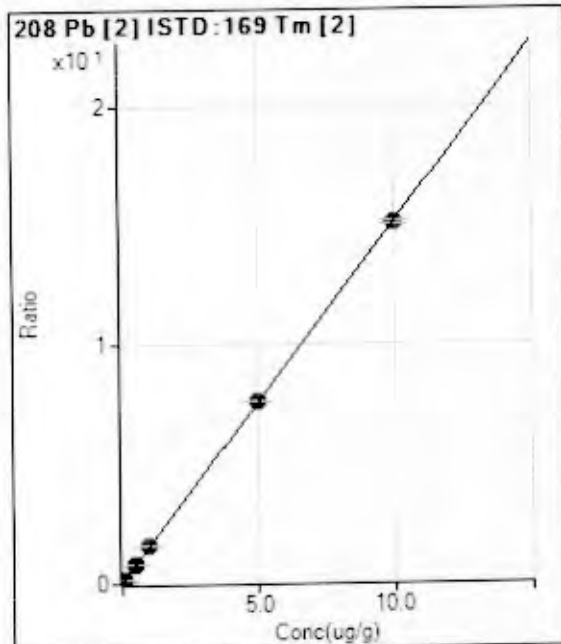
$$DL = 4.43E-05$$

$$BEC = 8.526E-06$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	1.11	0.0000	P	173.2
2	<input type="checkbox"/>	0.010	0.010	1286.77	0.0026	P	9.8
3	<input type="checkbox"/>	0.050	0.048	6284.75	0.0126	P	2.3
4	<input type="checkbox"/>	0.100	0.100	12728.52	0.0259	P	1.3
5	<input type="checkbox"/>	0.500	0.489	60569.44	0.1272	P	1.5
6	<input type="checkbox"/>	1.000	0.987	117665.22	0.2569	P	1.0
7	<input type="checkbox"/>	5.000	4.975	559056.26	1.2947	A	0.7
8	<input type="checkbox"/>	10.00	10.014	1105004.2	2.6063	A	0.5
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 1.5130 * x + 1.4688E-004$$

$$R = 1.0000$$

$$DL = 5.289E-05$$

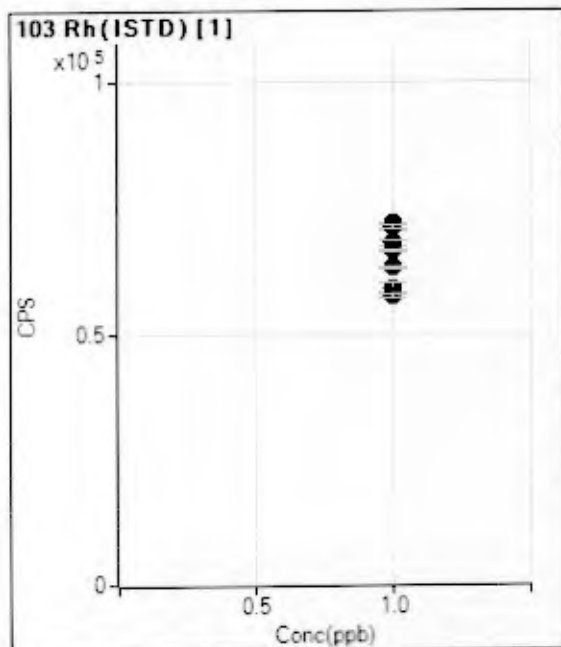
$$BEC = 9.708E-05$$

Weight: None

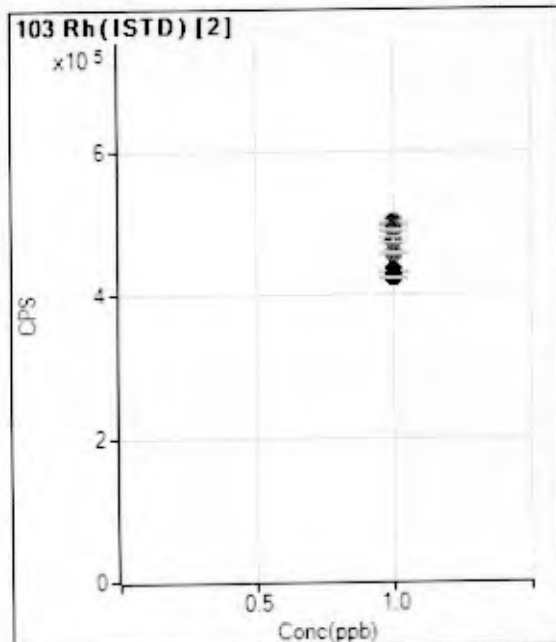
Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	88.90	0.0001	P	18.2
2	<input type="checkbox"/>	0.010	0.011	10045.02	0.0165	P	1.1
3	<input type="checkbox"/>	0.050	0.055	50305.42	0.0831	P	1.3
4	<input type="checkbox"/>	0.100	0.107	97374.72	0.1622	P	0.4
5	<input type="checkbox"/>	0.500	0.536	468928.14	0.8105	P	0.7
6	<input type="checkbox"/>	1.000	1.037	890097.53	1.5698	A	0.3
7	<input type="checkbox"/>	5.000	5.028	4223603.47	7.6074	A	0.4
8	<input type="checkbox"/>	10.00	9.980	8409949.19	15.100	A	1.1
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D

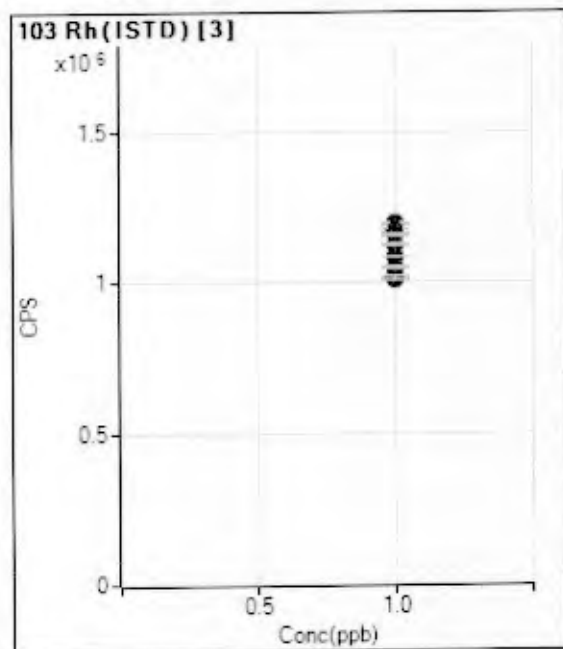


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		71290.21		P	2.2
2	<input type="checkbox"/>	1.000		71870.49		P	0.7
3	<input type="checkbox"/>	1.000		71183.10		P	0.9
4	<input type="checkbox"/>	1.000		68055.09		P	1.5
5	<input type="checkbox"/>	1.000		66484.69		P	0.9
6	<input type="checkbox"/>	1.000		63126.13		P	0.5
7	<input type="checkbox"/>	1.000		59181.44		P	2.8
8	<input type="checkbox"/>	1.000		57484.58		P	0.9
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

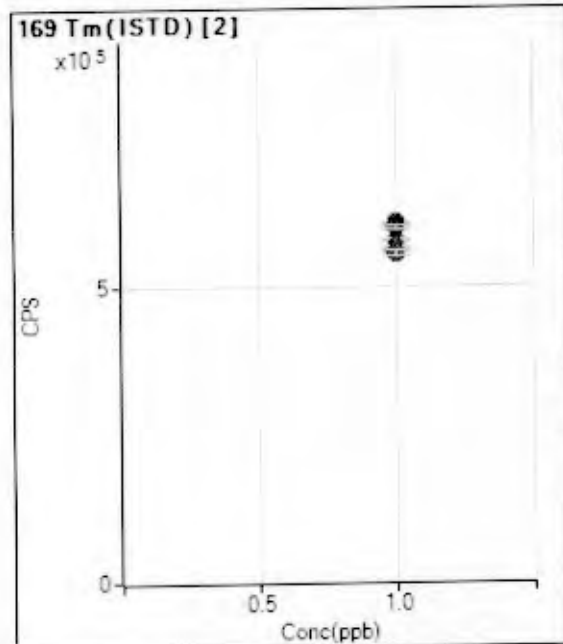


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		499723.08		A	0.9
2	<input type="checkbox"/>	1.000		501199.34		A	0.5
3	<input type="checkbox"/>	1.000		500619.82		A	0.8
4	<input type="checkbox"/>	1.000		491042.90		A	0.5
5	<input type="checkbox"/>	1.000		476251.22		A	1.5
6	<input type="checkbox"/>	1.000		457970.85		A	0.7
7	<input type="checkbox"/>	1.000		431811.10		P	0.7
8	<input type="checkbox"/>	1.000		423982.98		P	0.8
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for 1000MIX.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		1196280.56		A	0.8
2	<input type="checkbox"/>	1.000		1171207.12		A	1.0
3	<input type="checkbox"/>	1.000		1157454.03		A	0.8
4	<input type="checkbox"/>	1.000		1124168.73		A	0.7
5	<input type="checkbox"/>	1.000		1083541.83		A	0.1
6	<input type="checkbox"/>	1.000		1047535.32		A	0.8
7	<input type="checkbox"/>	1.000		1009586.48		A	0.9
8	<input type="checkbox"/>	1.000		1014556.43		A	1.0
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		604953.55		A	0.4
2	<input type="checkbox"/>	1.000		608917.33		A	0.5
3	<input type="checkbox"/>	1.000		605151.66		A	0.5
4	<input type="checkbox"/>	1.000		600172.10		A	0.8
5	<input type="checkbox"/>	1.000		578588.38		A	0.3
6	<input type="checkbox"/>	1.000		567010.03		A	0.5
7	<input type="checkbox"/>	1.000		555195.47		A	0.6
8	<input type="checkbox"/>	1.000		556979.76		A	1.4
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

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Continuing Calibration Data

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ICPMS 7700x DATA REPORT

File Name ICV.D
File Path D:\data\2131018.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/18/2013 15:45
Sample Name 100 ppb (10 ppb Ag)
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.100	ug/g	1.31	96,525.02	2.168E-01	Pulse	0.30	3
Cu	65	103	2	0.101	ug/g	0.59	131,393.73	2.951E-01	Pulse	0.30	3
Zn	66	103	2	0.100	ug/g	0.48	33,431.22	7.509E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.62	37,428.36	8.407E-02	Pulse	0.30	3
Cd	114	103	2	0.100	ug/g	0.09	115,602.07	2.597E-01	Pulse	0.30	3
Pb	208	169	2	0.104	ug/g	0.57	882,072.24	1.574E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	60,747.96	0.75	85.2	Pulse	0.30	3
2	Rh	103	445,200.11	0.44	89.1	Pulse	0.30	3
3	Rh	103	1,028,046.68	1.97	85.9	Analog	0.30	3
2	Tm	169	560,528.25	0.63	92.7	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV.D
File Path D:\data\2131018.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/18/2013 21:33
Sample Name 1000 PPB
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.100	ug/g	1.91	90,332.96	2.156E-01	Pulse	0.30	3
Cu	65	103	2	0.102	ug/g	1.06	125,119.35	2.987E-01	Pulse	0.30	3
Zn	66	103	2	0.100	ug/g	2.42	31,494.36	7.518E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.83	35,824.98	8.552E-02	Pulse	0.30	3
Cd	114	103	2	0.098	ug/g	0.79	107,172.22	2.558E-01	Pulse	0.30	3
Pb	208	169	2	0.104	ug/g	0.18	826,868.71	1.570E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	52,547.71	1.36	73.7	Pulse	0.30	3
2	Rh	103	418,935.13	0.26	83.8	Pulse	0.30	3
3	Rh	103	942,802.20	0.13	78.8	Analog	0.30	3
2	Tm	169	526,822.10	0.37	87.1	Analog	0.30	3

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Instrument Run Log

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	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1		Keyword		CALBEG	Start of CALIB									
2	C:\CPMH\1\METHODS\Physis.m	Sample	1101	Rinse			1.000							
3	C:\CPMH\1\METHODS\Physis.m	CalBk	1101	5MIX	0 ppb mix	0 ng	0 ng Ag							
4	C:\CPMH\1\METHODS\Physis.m	CalStd	1102	1MIX	1 ppb mix	10 ng	1 ng Ag							
5	C:\CPMH\1\METHODS\Physis.m	CalStd	1103	5MIX	5 ppb mix	50 ng	5 ng Ag							
6	C:\CPMH\1\METHODS\Physis.m	CalStd	1104	10MIX	10 ppb mix	100 ng	10 ng Ag							
7	C:\CPMH\1\METHODS\Physis.m	CalStd	1105	50MIX	50 ppb mix	500 ng	50 ng Ag							
8	C:\CPMH\1\METHODS\Physis.m	CalStd	1106	100MIX	100 ppb mix	1000 ng	100 ng Ag							
9	C:\CPMH\1\METHODS\Physis.m	CalStd	1107	500MIX	500 ppb mix	5000 ng	500 ng Ag							
10	C:\CPMH\1\METHODS\Physis.m	CalStd	1108	1000MIX	1000 ppb mix	10000 ng	1000 ng Ag							
11	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse1			1.000							
12	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse2			1.000							
13	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse3			1.000							
14	C:\CPMH\1\METHODS\Physis.m	Sample	1201	ICV	100 ppb (10 ppb Ag)		1.000E-01							
15	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse4			1.000							
16	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse5			1.000							
17	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse6			1.000							
18		Keyword		CALEND	End of CALIB									
19		Keyword		SAMPLBEG	Start of SMPL									
20	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse7			1.000							
21	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse8			1.000							
22	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse9			1.000							
23	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse10			1.000							
24	C:\CPMH\1\METHODS\Physis.m	Sample	2101	22481	QAQC Procedural Blank B1	22481.NA.B1.10/18/2013.E-6009	10.00							
25	C:\CPMH\1\METHODS\Physis.m	Sample	2102	22482	B13-8013	22482.NA.R1.10/18/2013.E-6009	26.75							
26	C:\CPMH\1\METHODS\Physis.m	Sample	2103	22482r2	B13-6013 Dup	22482.NA.R2.10/18/2013.E-6009	23.98							
27	C:\CPMH\1\METHODS\Physis.m	Sample	2104	22483	B13-8014	22483.NA.R1.10/18/2013.E-6009	22.38							
28	C:\CPMH\1\METHODS\Physis.m	Sample	2105	22484	B13-8028	22484.NA.R1.10/18/2013.E-6009	21.62							
29	C:\CPMH\1\METHODS\Physis.m	Sample	2106	22485	B13-8030	22485.NA.R1.10/18/2013.E-6009	15.70							
30	C:\CPMH\1\METHODS\Physis.m	Sample	2107	22486	B13-8036	22486.NA.R1.10/18/2013.E-6009	16.58							
31	C:\CPMH\1\METHODS\Physis.m	Sample	2108	22487	B13-8038	22487.NA.R1.10/18/2013.E-6009	19.39							
32	C:\CPMH\1\METHODS\Physis.m	Sample	2109	22488	B13-8040	22488.NA.R1.10/18/2013.E-6009	26.91							
33	C:\CPMH\1\METHODS\Physis.m	Sample	2110	22489	B13-8052	22489.NA.R1.10/18/2013.E-6009	21.47							
34	C:\CPMH\1\METHODS\Physis.m	Sample	2111	22490	B13-8050	22490.NA.R1.10/18/2013.E-6009	20.21							
35	C:\CPMH\1\METHODS\Physis.m	Sample	2112	22491	B13-8078	22491.NA.R1.10/18/2013.E-6009	13.32							
36	C:\CPMH\1\METHODS\Physis.m	Sample	2201	22481bx1	QAQC Procedural Blank BS1	22481.NA.BS1.10/18/2013.E-6009	1.000							
37	C:\CPMH\1\METHODS\Physis.m	Sample	2202	22481bx2	QAQC Procedural Blank BS2	22481.NA.BS2.10/18/2013.E-6009	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
38	C:\CPMH\1\METHODS\IPhysis.m	Sample	2203	22482.ms	B13-8013 MS	22482.NA.MS1,10/18/2013,E-8008	1.000							
39	C:\CPMH\1\METHODS\IPhysis.m	Sample	2204	22482.ms1	B13-8013 MSD	22482.NA.MS2,10/18/2013,E-8008	1.000							
40	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse11			1.000							
41	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse12			1.000							
42	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse13			1.000							
43	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse14			1.000							
44	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse15			1.000							
45	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse16			1.000							
46	C:\CPMH\1\METHODS\IPhysis.m	Sample	2101	22544	QAQC Procedural Blank B1	22544.NA.B1,10/18/2013,E-6010	10.00							
47	C:\CPMH\1\METHODS\IPhysis.m	Sample	2205	22546	B13-8109 Grab	22546.NA.R1,10/18/2013,E-6010	18.78							
48	C:\CPMH\1\METHODS\IPhysis.m	Sample	2208	22546r2	B13-8108 Grab Dup	22546.NA.R2,10/18/2013,E-6010	19.19							
49	C:\CPMH\1\METHODS\IPhysis.m	Sample	2207	22547	B13-6116 Grab	22547.NA.R1,10/18/2013,E-6010	24.19							
50	C:\CPMH\1\METHODS\IPhysis.m	Sample	2206	22548	B13-8122 Grab	22548.NA.R1,10/18/2013,E-6010	17.80							
51	C:\CPMH\1\METHODS\IPhysis.m	Sample	2209	22548	B13-8033 Grab	22548.NA.R1,10/18/2013,E-6010	25.88							
52	C:\CPMH\1\METHODS\IPhysis.m	Sample	2210	22550	B13-8093 Grab	22550.NA.R1,10/18/2013,E-6010	15.76							
53	C:\CPMH\1\METHODS\IPhysis.m	Sample	2211	22551	B13-6100 Grab	22551.NA.R1,10/18/2013,E-6010	49.55							
54	C:\CPMH\1\METHODS\IPhysis.m	Sample	2212	22552	B13-8099 Grab	22552.NA.R1,10/18/2013,E-6010	23.48							
55	C:\CPMH\1\METHODS\IPhysis.m	Sample	2301	22553	B13-8098 Grab	22553.NA.R1,10/18/2013,E-6010	18.03							
56	C:\CPMH\1\METHODS\IPhysis.m	Sample	2302	22554	B13-8096 Grab	22554.NA.R1,10/18/2013,E-6010	18.48							
57	C:\CPMH\1\METHODS\IPhysis.m	Sample	2303	22555	B13-8095 Grab	22555.NA.R1,10/18/2013,E-6010	34.33							
58	C:\CPMH\1\METHODS\IPhysis.m	Sample	2201	22544bs1	QAQC Procedural Blank BS1	22544.NA.BS1,10/18/2013,E-6010	1.000							
59	C:\CPMH\1\METHODS\IPhysis.m	Sample	2202	22544bs2	QAQC Procedural Blank BS2	22544.NA.BS2,10/18/2013,E-6010	1.000							
60	C:\CPMH\1\METHODS\IPhysis.m	Sample	2304	22546.ms	B13-8109 Grab MS	22546.NA.MS1,10/18/2013,E-6010	1.000							
61	C:\CPMH\1\METHODS\IPhysis.m	Sample	2305	22546.ms1	B13-8103 Grab MSD	22546.NA.MS2,10/18/2013,E-6010	1.000							
62	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse17			1.000							
63	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse18			1.000							
64	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse19			1.000							
65	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse20			1.000							
66	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse21			1.000							
67	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse22			1.000							
68	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse23			1.000							
69	C:\CPMH\1\METHODS\IPhysis.m	Sample	2101	22545	QAQC Procedural Blank B1	22545.NA.B1,10/18/2013,E-6011	10.00							
70	C:\CPMH\1\METHODS\IPhysis.m	Sample	2101	22570	QAQC Procedural Blank B1	22570.NA.B1,10/18/2013,E-6011	10.00							
71	C:\CPMH\1\METHODS\IPhysis.m	Sample	2306	22556	B13-8067 Grab	22556.NA.R1,10/18/2013,E-6011	9.067							
72	C:\CPMH\1\METHODS\IPhysis.m	Sample	2307	22557	B13-8073 Grab	22557.NA.R1,10/18/2013,E-6011	18.14							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
73	C:\CPMH\1\METHODS (Physis.m)	Sample	2308	22571	B13-8058 Grab	22571,NA,R1,10/18/2013,E-6011,	17.33							
74	C:\CPMH\1\METHODS (Physis.m)	Sample	2309	22571/2	B13-8058 Grab Dup	22571,NA,R2,10/18/2013,E-6011,	21.69							
75	C:\CPMH\1\METHODS (Physis.m)	Sample	2310	22572	B13-8086 Grab	22572,NA,R1,10/18/2013,E-6011,	18.98							
76	C:\CPMH\1\METHODS (Physis.m)	Sample	2311	22573	B13-8060 Grab	22573,NA,R1,10/18/2013,E-6011,	29.35							
77	C:\CPMH\1\METHODS (Physis.m)	Sample	2312	22574	B13-8045 Grab	22574,NA,R1,10/18/2013,E-6011,	28.71							
78	C:\CPMH\1\METHODS (Physis.m)	Sample	2401	22575	B13-8031 Grab	22575,NA,R1,10/18/2013,E-6011,	19.34							
79	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	22545bs1	QAQC Procedural Blank BS1	22545,NA,BS1,10/18/2013,E-6011,	1.000							
80	C:\CPMH\1\METHODS (Physis.m)	Sample	2202	22545bs2	QAQC Procedural Blank BS2	22545,NA,BS2,10/18/2013,E-6011,	1.000							
81	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	22570bs1	QAQC Procedural Blank BS1	22570,NA,BS1,10/18/2013,E-6011,	1.000							
82	C:\CPMH\1\METHODS (Physis.m)	Sample	2202	22570bs2	QAQC Procedural Blank BS2	22570,NA,BS2,10/18/2013,E-6011,	1.000							
83	C:\CPMH\1\METHODS (Physis.m)	Sample	2402	22571ms	B13-8058 Grab MS	22571,NA,MS1,10/18/2013,E-6011,	1.000							
84	C:\CPMH\1\METHODS (Physis.m)	Sample	2403	22571msd	B13-8058 Grab MSD	22571,NA,MS2,10/18/2013,E-6011,	1.000							
85	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse24			1.000							
86	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse25			1.000							
87	C:\CPMH\1\METHODS (Physis.m)	Sample	1106	CCV	1000 PPB		1.000E-21							
88	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse26			1.000							
89	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse27			1.000							
90	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse28			1.000							
91		Keyword		SMPLEND	End of SMPL									
92		Keyword		END	End of Sequence									
93		Keyword		BLKBEG	Start of BLANK									
94		Keyword		BLKEND	End of BLANK									
95		Keyword		ERRBEG	Start of ERRTERM									
96		Keyword		ERREND	End of ERRTERM									

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Initial Calibration Data

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Innovative Solutions for Nature

Method: EPA 245.7 Mercury
Calibration data 100413

Calib Level Standard Raw Counts

Std01Rep1	0	-98
Std01Rep2	0	-98
Std01Rep3	0	-101
Std02Rep1	1	-72
Std02Rep2	1	-60
Std02Rep3	1	-56
Std03Rep1	10	127
Std03Rep2	10	142
Std03Rep3	10	128
Std04Rep1	100	2213
Std04Rep2	100	2230
Std04Rep3	100	2210
Std05Rep1	1000	23365
Std05Rep2	1000	23386
Std05Rep3	1000	23711
Std06Rep1	10000	239584
Std06Rep2	10000	240381
Std06Rep3	10000	239474

Note: Above calibration data used for the following project:

1307002-002
1307002-004
1307002-006
1307002-008
1307002-010
1307002-012
1307002-014
1307002-016
1307002-018

Continuing Calibration Data / Instrument Run Log

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Sequence# 102213 for PID: 1307002-010, 012, 014

Sample ID	Date	Method
ICV	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22481BLK	22-Oct-13	2457TST
BS1	22-Oct-13	2457TST
BS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22482r1	22-Oct-13	2457TST
22482r2	22-Oct-13	2457TST
22482MS1	22-Oct-13	2457TST
22482MS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22483	22-Oct-13	2457TST
22484	22-Oct-13	2457TST
22485	22-Oct-13	2457TST
22486	22-Oct-13	2457TST
22487	22-Oct-13	2457TST
22488	22-Oct-13	2457TST
22489	22-Oct-13	2457TST
22490	22-Oct-13	2457TST
22491	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22493CRM1	22-Oct-13	2457TST
22494CRM2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22544BLK	22-Oct-13	2457TST
BS1	22-Oct-13	2457TST
BS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22546r1	22-Oct-13	2457TST
22546r2	22-Oct-13	2457TST
22546MS1	22-Oct-13	2457TST
22546MS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22547	22-Oct-13	2457TST
22548	22-Oct-13	2457TST
22549	22-Oct-13	2457TST
CCV2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22550	22-Oct-13	2457TST
22551	22-Oct-13	2457TST
22552	22-Oct-13	2457TST

22553	22-Oct-13	2457TST
22554	22-Oct-13	2457TST
22555	22-Oct-13	2457TST
22559CRM1	22-Oct-13	2457TST
22561CRM2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
Blank	22-Oct-13	2457TST
BS1	22-Oct-13	2457TST
BS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22556r1	22-Oct-13	2457TST
22556r1	22-Oct-13	2457TST
22556MS1	22-Oct-13	2457TST
CCV3	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22556MS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22557	22-Oct-13	2457TST
CRM1	22-Oct-13	2457TST
CRM2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22571r1	22-Oct-13	2457TST
22571r2	22-Oct-13	2457TST
22571MS1	22-Oct-13	2457TST
22571MS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22572	22-Oct-13	2457TST
22573	22-Oct-13	2457TST
22574	22-Oct-13	2457TST
22575	22-Oct-13	2457TST
CCV4	22-Oct-13	2457TST

QAQC	Date	Method	True Value (ppt)	Result (ppt)
ICV	22-Oct-13	2457TST	1000	1020
CCV2	22-Oct-13	2457TST	1000	938
CCV3	22-Oct-13	2457TST	1000	873
CCV4	22-Oct-13	2457TST	1000	870

PHYSIS

Organics –
(EPA 8270C)

TERRA FUSION ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS

Extraction/Preparation Log

TERRA

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

NOVEMBER 12, 2013

EXTRACTION OF AMEC-RHMP SEDIMENTS FOR FIPRONIL, OCPs, PCBs, AROCLORS, PBDES, PAHs, PYRUTHAZOLES, TOXAPHENE. SAMPLES WERE RUN FOR PVE/PBDE/FIP AND THEN COLUMN CLEANED USING SILICA/ALUMINA ADSORBENTS.

METHOD: EPA 8270 C

PSID	SAMPLE DESCRIPTION	SAMPLE WT(g)	CONCENTRATION	Q/W	MULTIPLIER
BI (22570)	BLANK	—	—	—	1.0
BS1	BLANK SPIKE	—	—	—	1.0
BS2	BLANK SPIKE DUP	—	—	—	1.0
22571 MS1	8058	15.3316	—	.6283	0.1038
22571 MS2	↓	15.5824	—	.6283	0.1021
22576	CRM-SM -1944	0.9913	—	—	1.009
22551	8100	16.3669	—	.4206	0.1453
22552	8099	15.0395	—	.45176	0.1285
22553	8098	15.2679	—	.6756	0.0969
22554	8096	16.0473	—	.6747	0.0924
22555	8095	15.0132	—	.3418	0.1949
22571	8098	15.4139	—	.6283	0.1033
22571 R2	↓	15.7976	—	.6283	0.1061 0.100
22572	8068	15.0055	—	.7049	0.0945
22573	8090	15.7899	—	.3451	0.1835
22574	8045	15.4054	—	.4793	0.1354
22575	8031	15.4765	—	.6575	0.0983
22599	8018	15.1830	—	.7408	0.0889
22600	8053	15.6792	—	.76932	0.0920
22556	8087	15.6922	—	.7429	0.0858
22557	8073	15.9768	—	.6462	0.0912

A) 100ml CHC RS (4000ng/mL, p274)
 100ml PAH RS (1000ng/mL, p244)
 100ml PBDE RS (500ng/mL, p280)
 100ml CHC IS (1500ng/mL, p276)
 100ml PAH IS (200ng/mL, p268)

B) 1.0ml Fipronil Mix (1000ng/mL, p270)
 1.0ml OCP Mix (1000ng/mL, p276)
 100ml PDMU (10000ng/mL, p272)
 200ml PCB MIX (200ng/mL, p255)
 200ml PCB+6 MIX (200ng/mL, p259)
 100ml PBDE MIX (100ng/mL, p262)
 100ml PDMU MIX (1000ng/mL, p263)

Re extraction of AMEC-RHMP sediments for FIPRONILS, OCPs, PCBs, AROCLORS, PBDES, PAHs, PYRETHROIDS, & TOXAPHENE.

Method: EPA 8270 C

PSID:	SEDWT(g):	MgSO_4 (g):	Leftover (g):	Net Sample wt (g):	Comments:	RLU	Multi
B1				A	A	—	10
BS1					B	—	10
BS2					B	—	10
2257MS1	15.059	33.495	1.804	6.7927	B	0.6283	0.2343
2257MS2	15.315	36.727	.97	7.3106	B	0.6283	0.2177
CRM				1.083-0.5415			1.8467
22551	15.138	40.519	1.480	7.1276		0.4206	0.3335
22552	15.101	39.969	1.467	7.1050		0.5176	0.2719
22553	15.526	35.963	.592	7.5371		0.6756	0.1963
22554	15.621	24.537	1.005	6.9301		0.6747	0.2138
22555	47.14.705	37.058	1.865	6.7390		0.3418	0.4341
22571	15.484	36.407	3.116	6.5890		0.6283	0.2415
22571R2	15.163	43.764	1.768	7.1128		0.6283	0.2237
22572	15.446	29.430	.870	7.2425		0.7044	0.1958
22573	15.265	53.781	1.297	7.3754		0.3451	0.3558
22574	15.390	45.150	1.351	7.3456	C	0.4793	0.2840
22575	15.168	20.613	1.684	5.2384	D, E	0.6575	0.2903
22599	15.809	27.702	.495	7.5755		0.7581	0.1788
22400	15.593	30.461	1.409	7.0674		0.6432	0.2044
22556	14.798	19.581	.861	6.3764		0.7425	0.2111
22557	15.386	20.184	1.103	5.9244	W, E	0.6862	0.2459

200 800ng,
A) 100 mL CHC RS (400ng, p. 334)
200 mL PBDE RS (100ng,)
200 mL PAH RS (2000ng, p. 320)

B) 2.0 mL OCP (2000ng, p. 318)
2.0 mL TOX (20,000ng, p. 242)
2.0 mL Fipronil (2000ng, p. 294)
2.0 mL PAH (2000ng, p. 331)
2.0 mL Pyrethroids (2000ng, p. 337)
400 mL PCB mix (400ng, p. 332)

100.0000

100.0000

A) 100 μ l CHC IS (p.335) 1000ng
 100 μ l PAH IS (2000ng, p.314)

E) Dried blowing down

100.0000

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April 22, 2014

Re-~~Ext~~raction of AMEC RHMP sediments for

method EPA 8270C

PSID	sample wt(g)	sed wt(g)	+Na ₂ SO ₄ (g)	Leftover(g)	comments	D/w	Multiplier
B1(2248)					A, I	-	1.0
BS1					B	-	1.0
BS2					B	-	1.0
22483MS1		20.995	44.716	0.738	B	0.6374	0.0711
22483MS2		20.339	44.672	0.783	B, C	0.6374	0.0797
CRM 1944							
22492	0.9987					-	1.0013
22482		20.203	56.195	1.148		0.4624	0.1185
22483R1		20.711	42.361 41.062	0.415		0.6374	0.0772
22483R2		20.246	50.180	0.853		0.6374	0.0797
22484		19.957	51.184	1.136		0.5714	0.0910
22485		20.833	45.194	0.9787		0.6609	0.0756
22486		20.638 20.438	44.328 46.064	0.990		0.6037	0.0877
22487		20.053	46.2013	1.004		0.5978	0.0874
22488		20.717	47.006	1.1245		0.4329	0.1170
22489		20.778	49.229	1.122		0.6081	0.0823
22490		20.619	48.630	0.981		0.5903	0.0851
22491		20.194	47.980	0.927		0.6134	0.0835
22546		20.670	39.426	1.010		0.6480	0.0805
22547		20.089	44.175	1.001		0.540	0.0964
22548		20.067	29.206	0.682		0.6981	0.0771
22549		20.173	43.3328	0.924		0.4778	0.1080
22550		20.408	32.625	0.659		0.6653	0.0778
22551							

0.11

A) 200ml CHC RS (8000ng, p328) B) 2.0ml OCP (2000ng, p318)
 200ml PAH RS (2000ng, p320) 2.0ml PAH (2000ng, p315)
 100ml CHC IS 2.0ml pyrethroid (2000ng, p327)
 PAH IS 2.0ml tralomethrin (2000ng, p324)
 2.0ml DDM (2000ng, p321)

c) 1.0 mL (~~100~~ PAH (1000 ng, p 315) - not enough std.

1307002-010/012

November 6, 2013

A. Hoang

EXTRACTION OF AHEC RHMP - SEDIMENTS FOR FIPRONK, OCPS, PCBs, ARYLCHS, PBDS, PAHS, PYRETHROIDS, TOXAPHENE, SAMPLES WERE RUN FOR P4/PBDE/PCP AND THEN COLUMN CLEANED WITH SILICA/ALUMINA ADSORBENTS.

METHOD: 8270 C

PSID	SAMPLE DESCRIPTION	SAMPLE WT (g)	COMMENTS	P/W	MULTIPLIER
B1 (22461)	BLANK	—	A, C	—	1.0
BS1	BLANK SPIKE	—	A, B, C	—	1.0
BS2	BLANK SPIKE RUN	—	A, B, C	—	1.0
22462 MS1	8013	15.1190	A, B, C	0.4624	0.1430
22462 MS2	8013	15.3804	A, B, C	0.4624	0.1406
22492	CRM 1944	1.1469	A, C	—	0.8719
22462 R1	8013	15.1598	A, C	0.4624	0.1427
22462 R2	↓	15.3738	↓	0.4624	0.1407
22463	8014	15.2878	↓	0.6374	0.1026
22464	8028	15.0050	↓	0.5714	0.1166
22465	8030	15.9451	↓	0.6609	0.2949
22466	8036	15.1038	↓	0.6037	0.1097
22467	8038	15.1247	↓	0.5928	0.1115
22468	8040	16.6186	↓	0.4329	0.1390
22469	8052	15.3355	↓	0.6081	0.1072
22490	8060	15.2388	↓	0.5905	0.1112
22491	8078	15.3328	↓	0.6134	0.1063
22546	8109	15.1070	A, C	0.6480	0.1022
22547	8118	15.4921	↓	0.5403	0.1195
22548	8122	15.7900	↓	0.6493	0.0907
22549	8033	15.4112	↓	0.6981	0.1358
22550	8093	15.5787	↓	0.4778	0.0942
22551	8100	15.9640	↓	0.6653	0.0942
22552	8099		↓		
22553	8098		↓		
22554	8096		↓		
22555	8095		↓		

- A) 100 μ L CHC RS (400 ng/mL, p 274)
 100 μ L PAH RS (1000 ng/mL, p 244)
 100 μ L PBDE RS (50 ng/mL, p 261)
 100 μ L CHC IS (~~2000~~ 1000 ng, p 278) pH
 100 μ L PAH IS (2000 ng, p 230) pH

- B) 1.0 mL Furanic Mix (1000 ng/mL, p 270)
 1.0 mL OCP Mix (1000 ng/mL, p 276)
 100 μ L DDMU (10000 ng/mL, p 272)
 200 μ L PCB Mix (200 ng/mL, p 255)
 200 μ L PCB+6 Mix (200 ng/mL, p 259)
 100 μ L PBDE Mix (100 ng/mL, p 262)
 100 μ L PBDE 049 Mix (100 ng/mL, p 263)
 1.0 mL Custom PAH Mix (1000 ng/mL, p 256)
 1.0 mL Pyrethroids (1000 ng/mL, p 260)
 1.0 mL Triphenylmethane (1000 ng/mL, p 275)
 1.0 mL Toxaphene (10000 ng/mL, p 242)

- C) 100 μ L CHC IS (1000 ng, p 281)

Organics - GC-MS

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Analytical Solutions
(EPA 8270C)

PHYSIS

Instrument Run Log

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

2014 May 30 1739 Sequence Log .LOG
 Starting sequence Fri May 30 17:39:40 2014

Instrument Name: GCMS3

Sequence File: D:\MassHunter\GCMS\1\sequence\Q3_140524 EI 0-6004.sequence.xml

Comment:

Operator:

Data Path: D:\MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\

Method Path: D:\MassHunter\GCMS\1\methods\checkout\

Line	Type	Vials	DataFile	Sample Name
Acquisition Method: EI Scan. M				
48)	Sample	111	TOX1000	TOX1000
49)	Sample	112	TOX2500	TOX2500
50)	Sample	113	TOX5000	TOX5000
51)	Sample	114	TOX7500	TOX7500
52)	Sample	115	TOX10000	TOX10000
53)	Sample	121	PYR25	PYR25
54)	Sample	122	PYR50	PYR50
55)	Sample	123	PYR100	PYR100
56)	Sample	124	PYR250	PYR250
57)	Sample	125	PYR500	PYR500
58)	Sample	131	FIP+RES25	FIP+RES25
59)	Sample	132	FIP+RES50	FIP+RES50
60)	Sample	133	FIP+RES100	FIP+RES100
Sequence Table edit performed Sat May 31 16:12:21 2014				
61)	Sample	134	FIP+RES250	FIP+RES250
62)	Sample	135	FIP+RES500	FIP+RES500
Acquisition Method: EI_HEX. M				
63)	Sample	141	HEX6	HEX6
Acquisition Method: EI Scan. M				
64)	Sample	91	OCP_PAH_PCB_SPE..._100	OCP_PAH_PCB_SPEX500_100
Acquisition Method: EI_HEX. M				
65)	Sample	141	HEX7	HEX7
Acquisition Method: EI Scan. M				
66)	Sample	1	B1_6004CC	B1_6004CC
Comment: 22544, NA, B1, 5/16/2014, 0-6004,				
67)	Sample	2	BS1_6004CC	BS1_6004CC
Comment: 22544, NA, BS1, 5/16/2014, 0-6004,				
68)	Sample	3	BS2_6004CC	BS2_6004CC
Comment: 22544, NA, BS2, 5/16/2014, 0-6004,				
69)	Sample	4	22571MS1CC	22571MS1CC
Comment: 22571, NA, MS1, 5/16/2014, 0-6004,				
70)	Sample	5	22571MS2CC	22571MS2CC
Comment: 22571, NA, MS2, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
71)	Sample	141	HEX3CC	HEX3CC
Acquisition Method: EI Scan. M				
72)	Sample	6	22576CC	22576CC
Comment: 22576, NA, CRM1, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
73)	Sample	141	HEX4CC	HEX4CC
Acquisition Method: EI Scan. M				
74)	Sample	7	22551CC	22551CC

2014 May 30 1739 Sequence Log . LOG

75)	Comment:	22551, NA, R1, 5/16/2014, 0-6004,	
	Sample	8	22552CC
	Comment:	22552, NA, R1, 5/16/2014, 0-6004,	22552CC
76)	Sample	9	22553CC
	Comment:	22553, NA, R1, 5/16/2014, 0-6004,	22553CC
77)	Sample	10	22554CC
	Comment:	22554, NA, R1, 5/16/2014, 0-6004,	22554CC
78)	Sample	103	PAH500CCV2
79)	Sample	105	OCP500_PCB100CCV2

Acqui si ti on Method: EI_HEX. M

80)	Sample	141	HEX52	HEX52
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Acqui si ti on Method: EI Scan. M

81)	Sample	11	22555CC	22555CC
	Comment:	22555, NA, R1, 5/16/2014, 0-6004,		
82)	Sample	12	22556CC	22556CC
	Comment:	22556, NA, R1, 5/16/2014, 0-6004,		
83)	Sample	21	22557CC	22557CC
	Comment:	22557, NA, R1, 5/16/2014, 0-6004,		
84)	Sample	13	22571CC	22571CC
	Comment:	22571, NA, R1, 5/16/2014, 0-6004,		
85)	Sample	14	22571R2CC	22571R2CC
	Comment:	22571, NA, R2, 5/16/2014, 0-6004,		
86)	Sample	15	22572CC	22572CC
	Comment:	22572, NA, R1, 5/16/2014, 0-6004,		
87)	Sample	16	22573CC	22573CC
	Comment:	22573, NA, R1, 5/16/2014, 0-6004,		
88)	Sample	17	22574CC	22574CC
	Comment:	22574, NA, R1, 5/16/2014, 0-6004,		
89)	Sample	22	22575CC	22575CC
	Comment:	22575, NA, R1, 5/16/2014, 0-6004,		
90)	Sample	18	22599CC	22599CC
	Comment:	22599, NA, R1, 5/16/2014, 0-6004,		
91)	Sample	19	22600CC	22600CC
	Comment:	22600, NA, R1, 5/16/2014, 0-6004,		
92)	Sample	103	PAH500FCV2	PAH500FCV2
93)	Sample	105	OCP500_PCB100FCV2	OCP500_PCB100FCV2
94)	Sample	61	PYR500CCV	PYR500CCV
95)	Sample	62	RES500CCV	RES500CCV

Acqui si ti on Method: EI_HEX. M

96)	Sample	141	HEX8	HEX8
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Acqui si ti on Method: EI Scan. M

97)	Sample	31	26212	26212
	Comment:	26212, NA, R1, 5/28/2014, 0-6016,		
98)	Sample	32	26213	26213
	Comment:	26213, NA, R1, 5/28/2014, 0-6016,		
99)	Sample	33	26214	26214
	Comment:	26214, NA, R1, 5/28/2014, 0-6016,		
100)	Sample	34	26215	26215
	Comment:	26215, NA, R1, 5/28/2014, 0-6016,		
101)	Sample	35	26781	26781
	Comment:	26781, NA, R1, 5/28/2014, 0-6016,		
102)	Sample	36	26782	26782
	Comment:	26782, NA, R1, 5/28/2014, 0-6016,		
103)	Sample	37	26783	26783
	Comment:	26783, NA, R1, 5/28/2014, 0-6016,		
104)	Sample	38	26784	26784
	Comment:	26784, NA, R1, 5/28/2014, 0-6016,		
105)	Sample	39	26785	26785
	Comment:	26785, NA, R1, 5/28/2014, 0-6016,		

2014 May 30 1739 Sequence Log .LOG
 Sequence Table edit performed Tue Jun 03 10: 46: 33 2014

106)	Sample	40	26786	26786
	Comment: 26786, NA, R1, 5/28/2014, 0-6016,			
107)	Sample	41	26787	26787
	Comment: 26787, NA, R1, 5/28/2014, 0-6016,			
108)	Sample	61	PYR500FCV	PYR500FCV
109)	Sample	62	RES500FCV	RES500FCV
110)	Sample	121	PYR25_POST	PYR25_POST
111)	Sample	122	PYR50_POST	PYR50_POST
112)	Sample	123	PYR100_POST	PYR100_POST
113)	Sample	124	PYR250_POST	PYR250_POST

Sequence completed Tue Jun 03 23: 55: 35 2014

D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 30 1739 Quality Log.
 D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 30 1739 Sequence Log

PHYSIS

Instrument Tune Report

TERRA

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AURA

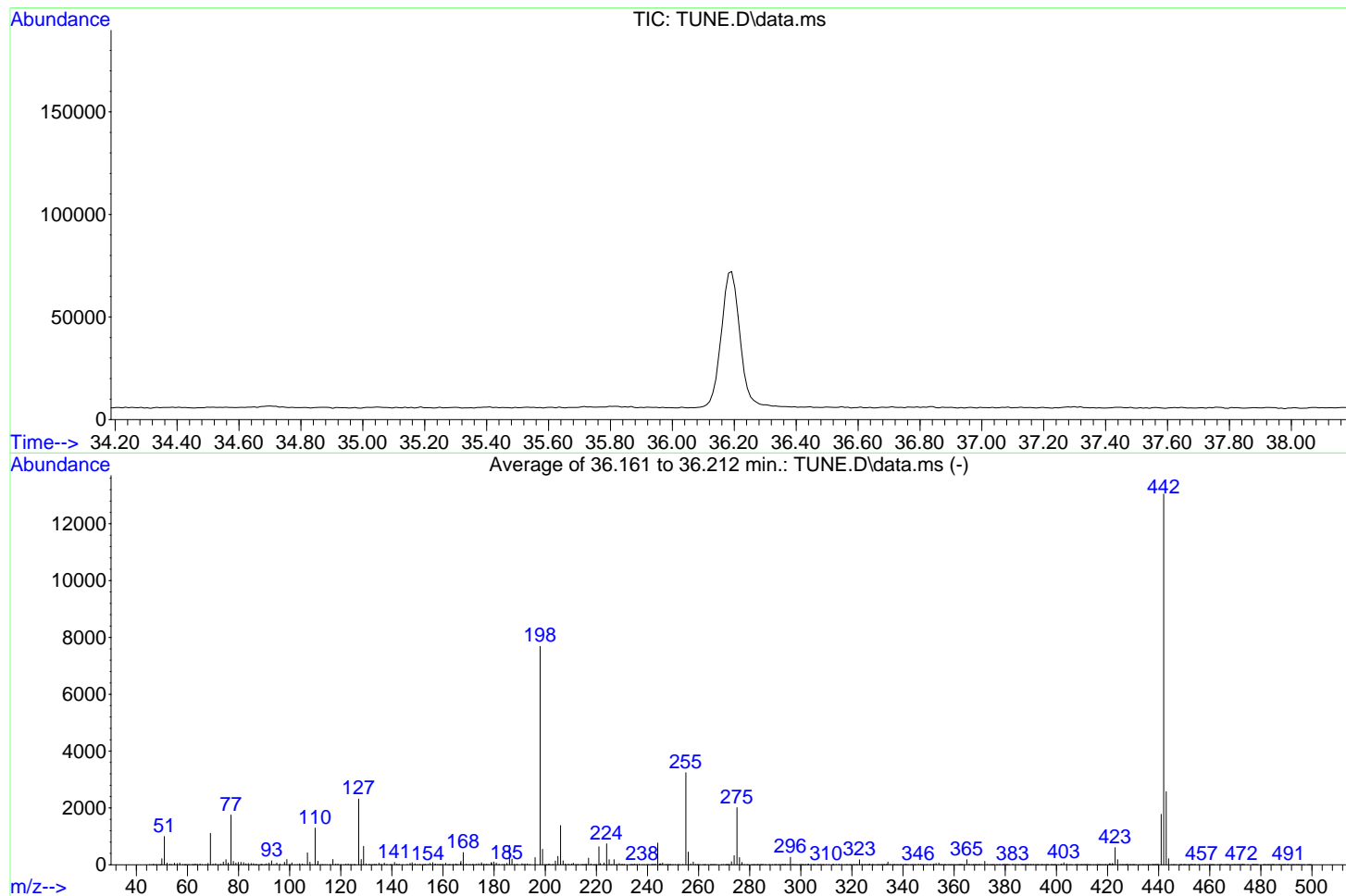
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : TUNE.D
 Acq On : 27 May 2014 11:53 pm
 Operator :
 Sample : TUNE
 Misc :
 ALS Vial : 142 Sample Multiplier: 1

Integration File: events.e

Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_DDMU_140502.M
 Title : CHCs
 Last Update : Fri May 09 07:23:47 2014



Spectrum Information: Average of 36.161 to 36.212 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	12.9	993	FAIL*
68	69	0.00	2	4.6	51	FAIL*
69	198	0.00	100	14.4	1110	PASS
70	69	0.00	2	1.4	16	PASS
127	198	40	60	30.1	2316	FAIL*
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	7689	PASS
199	198	5	9	7.1	546	PASS
275	198	10	30	26.2	2013	PASS
365	198	1	100	2.4	182	PASS
441	443	0.01	100	69.0	1775	PASS
442	198	40	300	169.6	13043	PASS
443	442	17	23	19.7	2572	PASS

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : TUNE.D
 Acq On : 27 May 2014 11:53 pm
 Operator :
 Sample : TUNE
 Misc :
 ALS Vial : 142 Sample Multiplier: 1

Page 248 of 332

Quant Time: Jun 11 15:17:52 2014

Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_OCP+3_140502.M

Quant Title : CHCs

QLast Update : Fri May 09 07:23:47 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	39.815	312	2229968	1000.00		0.01
14) 2,2',5,5'-Tetrabromobi...	50.859	391	457924	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)	0.000	244	0	0.00		
Spiked Amount 400.000			Recovery	=	0.00%	
3) (PCB030)	0.000	256	0	0.00		
Spiked Amount 400.000			Recovery	=	0.00%	
15) (PCB112)	0.000	326	0	0.00		
Spiked Amount 400.000			Recovery	=	0.00%	
16) (PCB198)	0.000	358	0	0.00		
Spiked Amount 400.000			Recovery	=	0.00%	
Target Compounds						Qvalue
4) BHC-alpha	0.000		0	N.D.		
5) Hexachlorobenzene	0.000		0	N.D.		
6) BHC-beta	0.000		0	N.D.		
7) BHC-gamma	0.000		0	N.D.		
8) BHC-delta	0.000		0	N.D.		
9) Heptachlor	0.000		0	N.D.		
10) Aldrin	0.000		0	N.D.		
11) DCPA (Dacthal)	0.000		0	N.D.		
12) Heptachlor epoxide	0.000		0	N.D.		
13) Oxychlordane	0.000		0	N.D.		
17) Chlordane-gamma	0.000		0	N.D.		
18) 2,4'-DDE	0.000		0	N.D.		
19) Endosulfan-I	0.000		0	N.D.		
20) Chlordane-alpha	0.000		0	N.D.		
21) trans-Nonachlor	0.000		0	N.D.		
22) 4,4'-DDE	46.189	246	13797m	7.71		
23) Dieldrin	0.000		0	N.D.		
24) 2,4'-DDD	0.000		0	N.D.		
25) Perthane	0.000		0	N.D.		
26) Endrin	0.000		0	N.D.		
27) Endosulfan-II	0.000		0	N.D.		
28) 4,4'-DDD	49.209	235	154011	57.10	#	90
29) 2,4'-DDT	0.000		0	N.D.	d	
30) cis-Nonachlor	0.000		0	N.D.		
31) Endrin aldehyde	0.000		0	N.D.		
32) Endosulfan sulfate	0.000		0	N.D.		
33) 4,4'-DDT	51.824	235	1063643	808.55		99
34) Endrin ketone	0.000		0	N.D.		
35) Methoxychlor	0.000		0	N.D.		
36) Dicofol	0.000		0	N.D.		
37) Mirex	0.000		0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Chlorinated Pesticides

TERRA ENVIRONMENTAL SERVICES, INC.
Innovative Solutions for Nature



	4,4'-Dibromobiphenyl		2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time	Response	Retention Time
Spex_500ICV	2139944	39.837	398788	50.837
B_4006	2566879	39.837	484540	50.854
BS1_6004	4210471	39.787	821390	50.829
BS2_6004	3374261	39.8	731522	50.831
22571MS1	3698138	39.787	752403	50.829
22571MS2	3355578	39.787	680281	50.83
22576	3417449	39.791	685000	50.859
22551	4757782	39.786	954041	50.83
22552	3231269	39.792	649342	50.829
22553	3960005	39.789	794491	50.829
22554	4131966	39.794	815763	50.829
22555	4414294	39.791	889837	50.827
22556	8129760	40.407	1682327	51.407
OCP500CCV	2427255	39.822	503919	50.855
22557	3355534	39.805	668147	50.827
22571	3700406	39.817	746576	50.832
22571R2	3018299	39.811	614076	50.831
22572	3029329	39.806	603112	50.831
22573	4417174	39.783	867354	50.826
22574	3042496	39.824	622937	50.831
22575	3534292	39.809	702445	50.829
22599	3090996	39.818	605961	50.828
22600	3374247	39.815	689019	50.83
OCP500FCV	2546636	39.831	465146	50.849

PHYSIS

Initial Calibration Data

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AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Method File : Q_OCP+3_140502.M
 Title : CHCs
 Last Update : Fri May 09 07:23:47 2014
 Response Via : Initial Calibration

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Calibration Files

1000=OCP1000.D 500 =OCP500.D 250 =OCP250.D 100 =OCP100.D 50 =OCP50.D 25 =OCP25.D

Compound		1000	500	250	100	50	25	Avg	%RSD

1) I	4,4'-Dibromobiphenyl	-----ISTD-----							
2) S	(TCMX)	0.391	0.417	0.444	0.425	0.439	0.389	0.417	5.60
3) S	(PCB030)	1.047	1.097	1.125	1.108	1.140	1.028	1.091	4.05
4)	BHC-alpha	0.307	0.296	0.298	0.268	0.272	0.246	0.281	8.17
5)	Hexachlorobenzene	0.861	0.888	0.915	0.892	0.875	0.845	0.879	2.79
6)	BHC-beta	0.075	0.069	0.075	0.082	0.108	0.136	0.091	28.49
7)	BHC-gamma	0.188	0.175	0.173	0.151	0.143	0.131	0.160	13.60
8)	BHC-delta	0.206	0.188	0.173	0.159	0.153	0.154	0.172	12.44
9)	Heptachlor	0.207	0.171	0.152	0.120	0.108	0.094	0.142	30.03
10)	Aldrin	0.215	0.205	0.201	0.198	0.191	0.169	0.196	7.86
11)	DCPA (Dacthal)	0.803	0.770	0.731	0.728	0.681	0.697	0.735	6.17
12)	Heptachlor epo...	0.314	0.292	0.273	0.267	0.255	0.245	0.274	9.27
13)	Oxychlordane	0.152	0.153	0.143	0.158	0.133	0.154	0.149	6.14

14) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
15) S	(PCB112)	4.607	4.679	4.627	4.539	4.519	4.478	4.575	1.65
16) S	(PCB198)	1.327	1.350	1.382	1.374	1.347	1.297	1.346	2.30
17)	Chlordane-gamma	2.205	2.054	1.946	1.784	1.660	1.655	1.884	11.83
18)	2,4'-DDE	5.495	5.396	5.226	4.964	4.646	4.711	5.073	7.00
19)	Endosulfan-I	0.349	0.327	0.323	0.302	0.314	0.396	0.335	9.99
20)	Chlordane-alpha	2.123	2.016	1.876	1.718	1.579	1.642	1.826	11.83
21)	trans-Nonachlor	2.396	2.229	2.068	1.844	1.624	1.643	1.967	16.08
22)	4,4'-DDE	3.951	3.815	3.677	3.497	3.225	3.230	3.566	8.47
23)	Dieldrin	0.511	0.489	0.476	0.448	0.448	0.389	0.460	9.22
24)	2,4'-DDD	6.376	5.884	5.359	5.025	4.669	5.360	5.445	11.18
25)	Perthane	1.068	0.909	0.768	0.638	0.539	0.629	0.758	E1 26.23
26)	Endrin	0.455	0.408	0.380	0.322	0.305	0.340	0.368	15.47
27)	Endosulfan-II	0.292	0.277	0.261	0.258	0.254	0.274	0.269	5.41
28)	4,4'-DDD	6.104	5.401	4.756	4.427	3.568	4.537	4.799	18.14
29)	2,4'-DDT	4.008	3.240	2.634	1.806	1.245	0.678	2.269	55.40
30)	cis-Nonachlor	2.340	2.191	2.025	1.777	1.521	1.626	1.914	16.96
31)	Endrin aldehyde	0.590	0.453	0.411	0.423	0.387	0.238	0.417	27.23
32)	Endosulfan sul...	0.950	0.841	0.768	0.684	0.585	0.700	0.755	17.06
33)	4,4'-DDT	3.280	2.276	1.614	0.863	0.466	0.124	1.437	83.09
34)	Endrin ketone	0.908	0.768	0.663	0.532	0.449	0.465	0.631	28.99
35)	Methoxychlor	5.539	3.649	2.536	1.381	0.752	0.247	2.351	84.66
36)	Dicofol	0.686	0.416	0.226	0.066			0.348	76.55
37)	Mirex	2.720	2.489	2.370	2.095	1.841	1.912	2.238	15.44

(#) = Out of Range

Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
Method File : Q_DDMU_140502.M
Title : CHCs
Last Update : Fri May 09 07:23:47 2014
Response Via : Initial Calibration

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Calibration Files

1000=OCP1000.D 500 =OCP500.D 250 =OCP250.D 100 =OCP100.D 50 =OCP50.D 25 =OCP25.D

	Compound	1000	500	250	100	50	25	Avg	%RSD
1) I	2,2',5,5'-Tetrabro...								
2)	4,4'-DDMU	6.781	6.515	6.177	5.575	5.137	5.179	5.894	11.85

(#) = Out of Range

PHYSIS

Continuing Calibration Data

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Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP_PAH_PCB_SPEX500_100.D
 Acq On : 31 May 2014 07:56 pm
 Operator :
 Sample : OCP_PAH_PCB_SPEX500_100
 Misc :
 ALS Vial : 91 Sample Multiplier: 1

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Quant Time: Jun 04 14:06:16 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_OCP+3_140502.M
 Quant Title : CHCs
 QLast Update : Fri May 09 07:23:47 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	39.837	312	2139944	1000.00		0.03
14) 2,2',5,5'-Tetrabromobi...	50.837	391	398788	1000.00		-0.02
System Monitoring Compounds						
2) (TCMX)	25.526	244	367901	412.05		-0.02
Spiked Amount	400.000		Recovery	=	103.01%	
3) (PCB030)	30.561	256	900731	385.79		-0.02
Spiked Amount	400.000		Recovery	=	96.45%	
15) (PCB112)	45.033	326	821063	450.06		-0.03
Spiked Amount	400.000		Recovery	=	112.52%	
16) (PCB198)	59.181	358	184223m	343.18		-0.01
Spiked Amount	400.000		Recovery	=	85.80%	
Target Compounds						Qvalue
4) BHC-alpha	28.412	219	376506	578.29		97
5) Hexachlorobenzene	29.019	284	1139588	612.84		98
6) BHC-beta	30.584	219	184266	1160.81	#	90
7) BHC-gamma	30.812	219	242338m	614.20		
8) BHC-delta	32.751	219	209884m	489.14		
9) Heptachlor	36.081	272	246109	585.06		99
10) Aldrin	38.582	263	259808	572.59		97
11) DCPA (Dacthal)	39.718	301	975580	575.20		99
12) Heptachlor epoxide	41.562	353	374240	568.49		98
13) Oxychlordane	41.642	115	212252m	654.11		
17) Chlordane-gamma	43.321	373	523818	608.12		96
18) 2,4'-DDE	43.825	246	1312604	603.12		97
19) Endosulfan-I	44.153	241	79187	579.02		95
20) Chlordane-alpha	44.424	373	511438	614.60		97
21) trans-Nonachlor	44.816	409	573316	613.50		97
22) 4,4'-DDE	46.175	246	875991	562.16		97
23) Dieldrin	46.044	263	107616	535.00		97
24) 2,4'-DDD	46.735	235	1468256	591.81		99
25) Perthane	48.042	223	2093110	514.89		99
26) Endrin	47.565	263	90759	516.01	#	90
27) Endosulfan-II	48.268	241	54830	477.75		94
28) 4,4'-DDD	49.184	235	988451	420.84		98
29) 2,4'-DDT	49.316	235	883836m	650.81		
30) cis-Nonachlor	49.297	409	555867	608.37		97
31) Endrin aldehyde	49.635	345	131502	595.40		95
32) Endosulfan sulfate	51.342	272	186995	510.62		95
33) 4,4'-DDT	51.795	235	459534	515.16		96
34) Endrin ketone	54.513	317	170552	493.75		98
35) Methoxychlor	55.962	227	714830	501.80	#	96
36) Dicofol	55.872	139	27810m	265.69		
37) Mirex	58.344	272	572673	541.33		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP500_PCB100CCV.D
 Acq On : 29 May 2014 08:25 am
 Operator :
 Sample : OCP500_PCB100CCV
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Jun 04 14:10:03 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_OCP+3_140502.M
 Quant Title : CHCs
 QLast Update : Fri May 09 07:23:47 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	39.822	312	2427255	1000.00		0.02
14) 2,2',5,5'-Tetrabromobi...	50.855	391	503919	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)	25.542	244	433929	428.47		0.00
Spiked Amount	400.000		Recovery	=	107.12%	
3) (PCB030)	30.576	256	1167665	440.93		0.00
Spiked Amount	400.000		Recovery	=	110.23%	
15) (PCB112)	45.049	326	994864	431.56		-0.01
Spiked Amount	400.000		Recovery	=	107.89%	
16) (PCB198)	59.191	358	244215	360.02		0.00
Spiked Amount	400.000		Recovery	=	90.00%	
Target Compounds						Qvalue
4) BHC-alpha	28.427	219	378199	512.13		98
5) Hexachlorobenzene	29.039	284	1127531	534.58		99
6) BHC-beta	30.599	219	37783m	209.85		
7) BHC-gamma	30.833	219	219865	491.28		95
8) BHC-delta	32.771	219	228708m	469.92		
9) Heptachlor	36.092	272	246204	516.01		98
10) Aldrin	38.604	263	281915	547.77		98
11) DCPA (Dacthal)	39.734	301	1007282	523.59		99
12) Heptachlor epoxide	41.582	353	403336	540.17		99
13) Oxychlordane	41.662	115	223729m	607.87		
17) Chlordane-gamma	43.344	373	555814	510.64		96
18) 2,4'-DDE	43.844	246	1297096	471.65		99
19) Endosulfan-I	44.166	241	84563	489.33		95
20) Chlordane-alpha	44.444	373	533197	507.07		99
21) trans-Nonachlor	44.836	409	604193	511.65		97
22) 4,4'-DDE	46.185	246	970252	492.75		97
23) Dieldrin	46.063	263	126854	499.07		96
24) 2,4'-DDD	46.752	235	1682546	536.70		99
25) Perthane	48.055	223	2713016	528.15		98
26) Endrin	47.585	263	120273	541.15	#	80
27) Endosulfan-II	48.300	241	69518	479.36		95
28) 4,4'-DDD	49.192	235	1410739	475.32		99
29) 2,4'-DDT	49.336	235	876524m	541.34		
30) cis-Nonachlor	49.316	409	565513	489.80		99
31) Endrin aldehyde	49.656	345	148057	530.50		98
32) Endosulfan sulfate	51.368	272	225603	487.52		98
33) 4,4'-DDT	51.812	235	581081	515.40		97
34) Endrin ketone	54.539	317	178378	408.67		94
35) Methoxychlor	55.971	227	1020685	542.50		98
36) Dicofol	55.913	139	46993	318.33	#	70
37) Mirex	58.364	272	639468	478.36		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP500_PCB100FCV.D
 Acq On : 30 May 2014 07:52 am
 Operator :
 Sample : OCP500_PCB100FCV
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Jun 04 14:13:22 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_OCP+3_140502.M
 Quant Title : CHCs
 QLast Update : Fri May 09 07:23:47 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	39.831	312	2546636	1000.00		0.03
14) 2,2',5,5'-Tetrabromobi...	50.849	391	465146	1000.00		-0.01
System Monitoring Compounds						
2) (TCMX)	25.530	244	487893	459.17		-0.02
Spiked Amount	400.000		Recovery	=	114.79%	
3) (PCB030)	30.573	256	1287667	463.45		-0.01
Spiked Amount	400.000		Recovery	=	115.86%	
15) (PCB112)	45.044	326	1033201	485.55		-0.02
Spiked Amount	400.000		Recovery	=	121.39%	
16) (PCB198)	59.181	358	234901m	375.16		-0.01
Spiked Amount	400.000		Recovery	=	93.79%	
Target Compounds						
					Qvalue	
4) BHC-alpha	28.418	219	404396	521.94		97
5) Hexachlorobenzene	29.031	284	1255042	567.14		99
6) BHC-beta	30.609	219	35148m	186.06		
7) BHC-gamma	30.824	219	227091	483.64		98
8) BHC-delta	32.761	219	215582m	422.18		
9) Heptachlor	36.084	272	218286	436.05		100
10) Aldrin	38.590	263	299946	555.48		96
11) DCPA (Dacthal)	39.727	301	1068200	529.23		99
12) Heptachlor epoxide	41.569	353	401170	512.08		97
13) Oxychlordane	41.655	115	219729	569.01		92
17) Chlordane-gamma	43.331	373	540343	537.81		96
18) 2,4'-DDE	43.837	246	1343011	529.06		99
19) Endosulfan-I	44.163	241	86683	543.41		92
20) Chlordane-alpha	44.433	373	526703	542.65		99
21) trans-Nonachlor	44.823	409	584733	536.45		97
22) 4,4'-DDE	46.182	246	979538	538.94		97
23) Dieldrin	46.050	263	121214	516.63		92
24) 2,4'-DDD	46.745	235	1660966	573.98		99
25) Perthane	48.049	223	2493110	525.80		98
26) Endrin	47.573	263	101870	496.55	#	81
27) Endosulfan-II	48.284	241	63652	475.50		95
28) 4,4'-DDD	49.192	235	1198802	437.58		99
29) 2,4'-DDT	49.336	235	747083m	508.88		
30) cis-Nonachlor	49.308	409	535005	502.00		96
31) Endrin aldehyde	49.647	345	133240	517.20		90
32) Endosulfan sulfate	51.357	272	194302	454.88		94
33) 4,4'-DDT	51.808	235	389303	414.58		97
34) Endrin ketone	54.530	317	144316	358.19	#	60
35) Methoxychlor	55.973	227	625820	416.20		98
36) Dicofol	55.903	139	17727m	179.35		
37) Mirex	58.350	272	517272	419.20		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	OCP500 ICV			OCP500 CCV			OCP500 FCV		
	5/31/14 7:56 PM			5/29/14 8:25 AM			5/30/14 7:52 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
TCMX	400	412	3	400	428	7	400	459	15
PCB030	400	386	4	400	441	10	400	463	16
PCB112	400	450	13	400	432	8	400	486	21
PCB198	400	343	14	400	360	10	400	375	6
BHC-alpha	500	578	16	500	512	2	500	522	4
Hexachlorobenzene	500	613	23	500	535	7	500	567	13
BHC-beta	500	1161	132	500	210	58	500	186	63
BHC-gamma	500	614	23	500	491	2	500	484	3
BHC-delta	500	489	2	500	470	6	500	422	16
Heptachlor	500	585	17	500	516	3	500	436	13
Aldrin	500	573	15	500	548	10	500	555	11
DCPA (Dacthal)	500	575	15	500	524	5	500	529	6
Heptachlor Epoxide	500	568	14	500	540	8	500	512	2
Oxychlorane	500	654	31	500	608	22	500	569	14
Chlordane-gamma	500	608	22	500	511	2	500	538	8
2,4'-DDE	500	603	21	500	472	6	500	529	6
Endosulfan-I	500	579	16	500	489	2	500	543	9
Chlordane-alpha	500	615	23	500	507	1	500	543	9
trans-Nonachlor	500	614	23	500	512	2	500	536	7
4,4'-DDE	500	562	12	500	493	1	500	539	8
Dieldrin	500	535	7	500	499	0	500	517	3
2,4'-DDD	500	592	18	500	537	7	500	574	15
Perthane	500	515	3	500	528	6	500	526	5
Endrin	500	516	3	500	541	8	500	497	1
Endosulfan-II	500	478	4	500	479	4	500	476	5
4,4'-DDD	500	421	16	500	475	5	500	438	12
2,4'-DDT	500	651	30	500	541	8	500	509	2
cis-Nonachlor	500	608	22	500	490	2	500	502	0
Endrin Aldehyde	500	595	19	500	531	6	500	517	3
Endosulfan Sulfate	500	511	2	500	488	2	500	455	9
4,4'-DDT	500	515	3	500	515	3	500	415	17
Endrin Ketone	500	494	1	500	409	18	500	358	28
Methoxychlor	500	502	0	500	543	9	500	416	17
Dicofol	500	266	47	500	318	36	500	179	64
Mirex	500	541	8	500	478	4	500	419	16
Average	-	-	18	-	-	8	-	-	13

PHYSIS

PCB Congeners

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PHYSIS

Initial Calibration Data

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

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Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Method File : Q_PCB+6_140502.M
 Title : PCBs (Richs Version)
 Last Update : Mon May 05 16:16:27 2014
 Response Via : Initial Calibration

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Calibration Files

10 =PCB10.D 25 =PCB25.D 50 =PCB50.D 75 =PCB75.D 100 =PCB100.D 200 =PCB200.D

Compound		10	25	50	75	100	200	Avg	%RSD

1) I	4,4'-Dibromobiphenyl	-----ISTD-----							
2)	PCB003	1.917	1.953	1.867	1.945	1.790	1.724	1.866	4.92
3)	PCB008	1.668	1.432	1.493	1.549	1.553	1.327	1.503	7.75
4)	PCB018	0.721	0.759	0.724	0.774	0.718	0.657	0.726	5.57
5) I	PCB031	1.145	1.125	1.128	1.153	1.121	1.069	1.124	2.61
6)	PCB028	1.073	1.144	1.131	1.172	1.139	1.093	1.125	3.22
7)	PCB033	1.003	1.075	1.089	1.128	1.084	1.045	1.071	3.96
8)	PCB052	0.703	0.777	0.734	0.773	0.751	0.735	0.745	3.68
9)	PCB049	0.787	0.807	0.774	0.819	0.782	0.756	0.788	2.88
10)	PCB044	0.661	0.678	0.657	0.671	0.692	0.637	0.666	2.88
11)	PCB037	1.036	1.043	1.061	1.092	1.110	1.085	1.071	2.73
12)	PCB074	0.982	1.022	1.006	1.039	1.096	1.043	1.031	3.77
13)	PCB070	0.993	1.040	1.023	1.089	1.114	1.060	1.053	4.19
14)	PCB066	1.020	1.070	1.063	1.111	1.104	1.096	1.077	3.15
15)	PCB095	0.689	0.708	0.689	0.733	0.691	0.678	0.698	2.83
16)	PCB056(060)	0.887	0.909	0.939	0.951	0.992	0.969	0.941	4.07
17)	PCB101	0.705	0.693	0.691	0.730	0.749	0.726	0.716	3.26
18)	PCB099	0.755	0.730	0.740	0.789	0.812	0.783	0.768	4.13
19)	PCB119	0.830	0.871	0.887	0.908	1.020	0.929	0.908	7.12
20)	PCB097	0.600	0.595	0.604	0.633	0.668	0.637	0.623	4.52
21)	PCB087	0.605	0.656	0.641	0.676	0.701	0.681	0.660	5.17
22)	PCB081	0.983	1.020	1.044	1.057	1.135	1.047	1.048	4.82
23)	PCB110	0.886	0.898	0.928	0.950	0.974	0.935	0.928	3.51
24)	PCB077	0.908	1.006	1.048	1.056	1.084	1.053	1.026	6.14
25)	PCB151	0.596	0.574	0.595	0.603	0.630	0.596	0.599	3.00
26)	PCB149	0.599	0.640	0.648	0.689	0.693	0.659	0.654	5.31
27)	PCB123	0.876	0.896	0.898	0.891	0.978	0.956	0.916	4.47
28)	PCB118	0.938	0.925	0.933	0.988	1.049	1.022	0.976	5.32
29)	PCB114	0.802	0.838	0.854	0.878	1.009	0.970	0.892	9.06
30) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
31)	PCB153	3.291	3.227	3.171	3.252	3.511	3.361	3.302	3.65
32)	PCB168+132	3.094	3.058	3.235	3.288	3.281	3.138	3.182	3.11
33)	PCB105	4.800	4.778	4.761	5.006	4.963	4.738	4.841	2.35
34)	PCB141	3.182	2.978	3.039	3.081	3.068	2.896	3.041	3.20
35)	PCB138	2.977	2.910	2.936	2.957	3.157	3.041	2.996	3.02
36)	PCB158	3.678	3.792	3.808	3.885	4.206	4.105	3.912	5.17
37)	PCB126	3.976	4.047	4.077	4.065	4.548	4.479	4.199	5.90
38)	PCB187	2.432	2.515	2.527	2.587	2.753	2.599	2.569	4.22
39)	PCB183	2.476	2.560	2.610	2.641	2.961	2.677	2.654	6.25
40)	PCB128	2.635	2.324	2.450	2.537	2.674	2.584	2.534	5.10
41)	PCB167	3.640	3.781	3.898	3.960	4.331	4.246	3.976	6.71
42)	PCB174	2.396	2.434	2.409	2.512	2.529	2.504	2.464	2.34
43)	PCB177	2.234	2.205	2.206	2.393	2.432	2.444	2.319	5.00
44)	PCB156	3.536	3.531	3.730	3.751	4.294	4.088	3.822	8.06
45)	PCB199(200)	2.725	2.934	2.757	2.980	2.911	2.845	2.859	3.55
46)	PCB157	4.909	4.750	4.736	4.921	5.047	5.185	4.925	3.51
47)	PCB180	2.429	2.302	2.415	2.448	2.740	2.562	2.483	6.07
48)	PCB169	3.383	3.589	3.512	3.546	4.135	4.183	3.725	9.23
49)	PCB170	2.378	2.159	2.248	2.357	2.475	2.282	2.316	4.78
50)	PCB201	1.991	1.936	1.942	2.039		1.834	1.948	3.93
51)	PCB189	2.868	3.084	3.004	3.107	3.396	3.543	3.167	7.98
52)	PCB195	1.863	1.910	1.924	1.917	1.869	2.033	1.919	3.18
53)	PCB194	1.906	2.101	1.974	2.078	1.981	2.175	2.036	4.86
54)	PCB206	1.599	1.697	1.669	1.792	1.881	1.808	1.741	5.96
55)	PCB209	1.830	1.981	1.831	2.005	1.789	2.044	1.913	5.69

(#) = Out of Range

Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Method File : Q_PCB6NEW_140502.M
 Title : PCBs (Richs Version)
 Last Update : Mon May 05 16:16:27 2014
 Response Via : Initial Calibration

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Calibration Files

10 =PCB10.D 25 =PCB25.D 50 =PCB50.D 75 =PCB75.D 100 =PCB100.D 200 =PCB200.D

Compound		10	25	50	75	100	200	Avg	%RSD

1) I	4,4'-Dibromobiphenyl	-----ISTD-----							
2)	PCB005	1.278	1.363	1.378	1.425	1.309	1.262	1.336	4.74
3)	PCB015	1.567	1.539	1.528	1.532	1.501	1.437	1.517	2.94
4)	PCB027	0.740	0.765	0.733	0.772	0.735	0.693	0.740	3.77
5)	PCB029	1.069	1.049	1.054	1.055	1.065	1.039	1.055	1.03
6) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
7)	PCB137	2.510	2.332	2.429	2.394	2.801	2.550	2.503	6.63
8)	PCB203	2.137	2.074	2.134	2.157	2.154	2.325	2.164	3.91

(#) = Out of Range

PHYSIS

Continuing Calibration Data

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Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP_PAH_PCB_SPEX500_100.D
 Acq On : 31 May 2014 07:56 pm
 Operator :
 Sample : OCP_PAH_PCB_SPEX500_100
 Misc :
 ALS Vial : 91 Sample Multiplier: 1

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Quant Time: Jun 04 18:23:50 2014

Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M

Quant Title : PCBs (Richs Version)

QLast Update : Mon May 05 16:16:27 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	39.837	312	2139944	1000.00		0.03
30) 2,2',5,5'-Tetrabromobi...	50.840	389	412735	1000.00		-0.02
Target Compounds						Qvalue
2) PCB003	24.014	188	458069	121.24		97
3) PCB008	28.479	222	357325	119.66	#	96
4) PCB018	31.594	256	166318m	113.81		
5) PCB031	35.025	256	184100m	78.98		
6) PCB028	35.126	256	289817m	121.97		
7) PCB033	35.818	256	242213	106.61		95
8) PCB052	37.653	292	143538	90.43		89
9) PCB049	37.975	292	189870	115.54		93
10) PCB044	39.157	292	152840	109.73		96
11) PCB037	39.487	256	218090	93.63	#	93
12) PCB074	41.810	292	202756	90.27		98
13) PCB070	42.081	292	230761	100.78		96
14) PCB066	42.343	292	261254m	111.32		
15) PCB095	42.338	326	141025	95.98		93
16) PCB056(060)	43.545	292	201438	97.12		98
17) PCB101	44.042	326	166728	106.92		93
18) PCB099	44.433	326	179782	106.91		95
19) PCB119	44.904	326	147709	73.44		97
20) PCB097	45.573	326	126051	92.04		93
21) PCB087	45.959	326	134477	92.13	#	78
22) PCB081	46.055	292	241740	106.35		97
23) PCB110	46.671	326	209920	104.09		97
24) PCB077	46.779	292	238462	105.35		99
25) PCB151	47.543	360	131582	102.13		98
26) PCB149	48.387	360	152371	106.79		91
27) PCB123	48.412	326	192418	94.64		97
28) PCB118	48.585	326	232284	106.61		94
29) PCB114	49.360	326	223611	108.67		98
31) PCB153	50.165	360	124534	89.63		92
32) PCB168+132	50.334	360	318168	242.41		98
33) PCB105	50.448	326	222580	112.28		97
34) PCB141	51.035	360	132357	108.70		96
35) PCB138	52.108	360	121032	96.25	#	93
36) PCB158	52.286	360	189664	112.51		90
37) PCB126	52.804	326	180891	98.96		95
38) PCB187	53.263	394	111296	102.93		89
39) PCB183	53.617	394	118294	105.47		98
40) PCB128	53.982	360	99229	92.95		94
41) PCB167	54.121	360	178248	102.53		92
42) PCB174	54.865	394	103448	100.11		94
43) PCB177	55.242	394	118001	117.94		93
44) PCB156	55.680	360	167398	99.68		99
45) PCB199(200)	56.009	430	141297	119.44		98
46) PCB157	56.061	360	228041	108.08		99
47) PCB180	56.825	394	107449	101.22	#	93
48) PCB169	58.370	360	153023	90.91		98
49) PCB170	58.837	394	95298	99.55		96
50) PCB201	59.384	430	82739m	107.52		
51) PCB189	60.820	394	124403	87.44		99
52) PCB195	61.763	430	76520	93.29		96
53) PCB194	63.133	430	82912	94.63		93
54) PCB206	65.567	464	68159	91.17	#	86
55) PCB209	67.516	498	82680	100.82		94

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
Data File : OCP_PAH_PCB_SPEX500_100.D
Acq On : 31 May 2014 07:56 pm
Operator :
Sample : OCP_PAH_PCB_SPEX500_100
Misc :
ALS Vial : 91 Sample Multiplier: 1

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Quant Time: Jun 04 18:23:50 2014
Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M
Quant Title : PCBs (Richs Version)
QLast Update : Mon May 05 16:16:27 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP500_PCB100CCV.D
 Acq On : 29 May 2014 08:25 am
 Operator :
 Sample : OCP500_PCB100CCV
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Jun 04 18:25:07 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M
 Quant Title : PCBs (Richs Version)
 QLast Update : Mon May 05 16:16:27 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	39.822	312	2427255	1000.00		0.02
30) 2,2',5,5'-Tetrabromobi...	50.855	389	517155	1000.00		0.00
Target Compounds						
2) PCB003	24.033	188	479820	111.97	Qvalue	99
3) PCB008	28.496	222	405069	119.59	#	98
4) PCB018	31.614	256	197231	118.99		97
5) PCB031	35.030	256	237513	89.83		98
6) PCB028	35.116	256	330438m	122.61		
7) PCB033	35.816	256	281207	109.12		98
8) PCB052	37.661	292	186460	103.57		94
9) PCB049	37.989	292	209989	112.65		94
10) PCB044	39.161	292	173293	109.69		98
11) PCB037	39.473	256	260199	98.48		91
12) PCB074	41.816	292	258901	101.63		98
13) PCB070	42.084	292	258256	99.44		98
14) PCB066	42.352	292	255358	95.92		99
15) PCB095	42.353	326	182879	109.73		98
16) PCB056(060)	43.541	292	246900	104.94		96
17) PCB101	44.064	326	190627	107.78		93
18) PCB099	44.444	326	208300	109.21		95
19) PCB119	44.911	326	217685	95.42		96
20) PCB097	45.595	326	161513	103.97		89
21) PCB087	45.956	326	175627m	106.08		
22) PCB081	46.037	292	275232	106.75		96
23) PCB110	46.680	326	244606	106.93		96
24) PCB077	46.755	292	269608	105.01		98
25) PCB151	47.556	360	160538	109.85		98
26) PCB149	48.407	360	173721	107.34		95
27) PCB123	48.408	326	238799	103.55		97
28) PCB118	48.586	326	259319	104.93		95
29) PCB114	49.356	326	252386	108.13		96
31) PCB153	50.179	360	174863	100.44		99
32) PCB168+132	50.351	360	369913	224.93		97
33) PCB105	50.443	326	250681	100.92		94
34) PCB141	51.054	360	169503	111.10		97
35) PCB138	52.104	360	164423	104.35		92
36) PCB158	52.285	360	225614	106.82	#	90
37) PCB126	52.807	326	220765	96.39	#	90
38) PCB187	53.287	394	145703	107.54		87
39) PCB183	53.634	394	137218	97.64		94
40) PCB128	53.998	360	132362	98.95		94
41) PCB167	54.130	360	224349	102.99		92
42) PCB174	54.879	394	138338	106.84		95
43) PCB177	55.252	394	128641	102.62		95
44) PCB156	55.692	360	202291	96.14		98
45) PCB199(200)	56.028	430	171915	115.98		96
46) PCB157	56.073	360	277151	104.83		99
47) PCB180	56.842	394	137769	103.58		96
48) PCB169	58.359	360	197772	93.78		95
49) PCB170	58.825	394	124138	103.50		97
50) PCB201	59.404	430	117796m	122.17		
51) PCB189	60.817	394	172761	96.91		95
52) PCB195	61.765	430	109518	106.55		95
53) PCB194	63.145	430	114159	103.98		89
54) PCB206	65.584	464	96732	103.26	#	87
55) PCB209	67.536	498	112467	109.45	#	94

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
Data File : OCP500_PCB100CCV.D
Acq On : 29 May 2014 08:25 am
Operator :
Sample : OCP500_PCB100CCV
Misc :
ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Jun 04 18:25:07 2014
Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M
Quant Title : PCBs (Richs Version)
QLast Update : Mon May 05 16:16:27 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP500_PCB100FCV.D
 Acq On : 30 May 2014 07:52 am
 Operator :
 Sample : OCP500_PCB100FCV
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Jun 04 18:29:43 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M
 Quant Title : PCBs (Richs Version)
 QLast Update : Mon May 05 16:16:27 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	39.831	312	2546636	1000.00		0.03
30) 2,2',5,5'-Tetrabromobi...	50.853	389	472938	1000.00		0.00
Target Compounds						
2) PCB003	24.048	188	570916	126.98		Qvalue 99
3) PCB008	28.506	222	456032	128.33	#	96
4) PCB018	31.610	256	217117	124.85		97
5) PCB031	35.033	256	297682	107.31		98
6) PCB028	35.122	256	341228	120.67		99
7) PCB033	35.818	256	306079	113.20		98
8) PCB052	37.664	292	184049	97.44		96
9) PCB049	37.981	292	218045	111.49		98
10) PCB044	39.161	292	180843	109.10		98
11) PCB037	39.482	256	258619	93.30	#	89
12) PCB074	41.823	292	234706	87.81		96
13) PCB070	42.087	292	274138	100.60		95
14) PCB066	42.356	292	221076	79.15		95
15) PCB095	42.347	326	186958	106.92		95
16) PCB056(060)	43.546	292	255478	103.50		95
17) PCB101	44.054	326	189921	102.35		94
18) PCB099	44.442	326	199093	99.49		99
19) PCB119	44.913	326	196670	82.17		99
20) PCB097	45.584	326	157815	96.83		94
21) PCB087	45.956	326	181520m	104.50		
22) PCB081	46.048	292	276281	102.13		97
23) PCB110	46.680	326	249991	104.16		99
24) PCB077	46.779	292	267704	99.38		98
25) PCB151	47.555	360	151087	98.54		95
26) PCB149	48.404	360	177518	104.55		89
27) PCB123	48.416	326	237097	98.00		99
28) PCB118	48.590	326	260833	100.60		91
29) PCB114	49.360	326	253297	103.44		98
31) PCB153	50.180	360	158256	99.40		96
32) PCB168+132	50.344	360	358660	238.47		96
33) PCB105	50.448	326	246432	108.49		97
34) PCB141	51.053	360	155256	111.28		92
35) PCB138	52.115	360	149363	103.66		92
36) PCB158	52.287	360	210783	109.12		90
37) PCB126	52.836	326	195072	93.13	#	91
38) PCB187	53.274	394	134035m	108.18		
39) PCB183	53.642	394	135319	105.29		100
40) PCB128	54.004	360	113665	92.92		96
41) PCB167	54.142	360	207982	104.41		91
42) PCB174	54.876	394	123083	103.95		98
43) PCB177	55.250	394	117004	102.06		93
44) PCB156	55.704	360	172553	89.67		98
45) PCB199(200)	56.026	430	159157	117.42		97
46) PCB157	56.078	360	242078	100.13		97
47) PCB180	56.842	394	124589	102.42		95
48) PCB169	58.383	360	164212	85.14		95
49) PCB170	58.837	394	110330	100.58	#	91
50) PCB201	59.415	430	111477m	126.43		
51) PCB189	60.831	394	136868	83.95		99
52) PCB195	61.772	430	88110	93.74		95
53) PCB194	63.146	430	92085	91.72	#	88
54) PCB206	65.588	464	76954	89.83	#	87
55) PCB209	67.528	498	86022	91.54		99

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
Data File : OCP500_PCB100FCV.D
Acq On : 30 May 2014 07:52 am
Operator :
Sample : OCP500_PCB100FCV
Misc :
ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Jun 04 18:29:43 2014
Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M
Quant Title : PCBs (Richs Version)
QLast Update : Mon May 05 16:16:27 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
----------	------	------	----------	------	-------	----------

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PCB100 ICV			PCB100 CCV			PCB100 FCV		
	5/31/14 7:56 PM			5/29/14 8:25 AM			5/30/14 7:52 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PCB003	100	121	21	100	112	12	100	127	27
PCB008	100	120	20	100	120	20	100	128	28
PCB018	100	114	14	100	119	19	100	125	25
PCB031	100	79	21	100	90	10	100	107	7
PCB028	100	122	22	100	123	23	100	121	21
PCB033	100	107	7	100	109	9	100	113	13
PCB052	100	90	10	100	104	4	100	97	3
PCB049	100	116	16	100	113	13	100	111	11
PCB044	100	110	10	100	110	10	100	109	9
PCB037	100	94	6	100	98	2	100	93	7
PCB074	100	90	10	100	102	2	100	88	12
PCB070	100	101	1	100	99	1	100	101	1
PCB066	100	111	11	100	96	4	100	79	21
PCB095	100	96	4	100	110	10	100	107	7
PCB056 (060)	100	97	3	100	105	5	100	104	4
PCB101	100	107	7	100	108	8	100	102	2
PCB099	100	107	7	100	109	9	100	99	1
PCB119	100	73	27	100	95	5	100	82	18
PCB097	100	92	8	100	104	4	100	97	3
PCB087	100	92	8	100	106	6	100	105	5
PCB081	100	106	6	100	107	7	100	102	2
PCB110	100	104	4	100	107	7	100	104	4
PCB077	100	105	5	100	105	5	100	99	1
PCB151	100	102	2	100	110	10	100	99	1
PCB149	100	107	7	100	107	7	100	105	5
PCB123	100	95	5	100	104	4	100	98	2
PCB118	100	107	7	100	105	5	100	101	1
PCB114	100	109	9	100	108	8	100	103	3
PCB153	100	90	10	100	100	0	100	99	1
PCB168+132	200	242	21	200	225	12	200	238	19
PCB105	100	112	12	100	101	1	100	108	8
PCB141	100	109	9	100	111	11	100	111	11
PCB138	100	96	4	100	104	4	100	104	4
PCB158	100	113	13	100	107	7	100	109	9
PCB126	100	99	1	100	96	4	100	93	7
PCB187	100	103	3	100	108	8	100	108	8
PCB183	100	105	5	100	98	2	100	105	5
PCB128	100	93	7	100	99	1	100	93	7
PCB167	100	103	3	100	103	3	100	104	4
PCB174	100	100	0	100	107	7	100	104	4
PCB177	100	118	18	100	103	3	100	102	2
PCB156	100	100	0	100	96	4	100	90	10
PCB199 (200)	100	119	19	100	116	16	100	117	17
PCB157	100	108	8	100	105	5	100	100	0
PCB180	100	101	1	100	104	4	100	102	2
PCB169	100	91	9	100	94	6	100	85	15
PCB170	100	100	0	100	104	4	100	101	1
PCB201	100	108	8	100	122	22	100	126	26
PCB189	100	87	13	100	97	3	100	84	16
PCB195	100	93	7	100	107	7	100	94	6
PCB194	100	95	5	100	104	4	100	92	8
PCB206	100	91	9	100	103	3	100	90	10
PCB209	100	101	1	100	109	9	100	92	8
Average	-	-	9	-	-	7	-	-	9

Polynuclear

Aromatic

Hydrocarbons

(PAHs)

PHYSIS

Summary of Internal Standards

TERRA FACTORY AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

	D10-Anthracene		D-12 Perylene	
	Response	Retention Time	Response	Retention Time
Spex_500ICV	8518860	31.776	6676846	76.304
B_4006	18797637	31.763	4879235	76.339
BS1_6004	31034611	31.746	11881540	76.279
BS2_6004	22460040	31.754	12298059	76.287
22571MS1	22559348	31.745	8852006	76.272
22571MS2	24322752	31.744	11158657	76.266
22576	22582235	31.746	7689117	76.283
22551	33341759	31.747	13965349	76.263
22552	22210350	31.749	10257717	76.261
22553	25818801	31.749	12463985	76.266
22554	28158917	31.747	11730646	76.274
22555	29573722	31.745	13259406	76.268
22556	23414489	31.75	9935255	76.287
PAH500CCV	15646537	31.785	13145490	76.301
22557	25592442	31.749	7234553	76.305
22571	24936917	31.754	10580983	76.282
22571R2	19644983	31.752	9093758	76.283
22572	21823474	31.749	8802667	76.296
22573	29033002	31.743	10270644	76.258
22574	21236974	31.756	9740521	76.28
22575	26494227	31.749	8608615	76.305
22599	21764890	31.75	8032114	76.275
22600	23906778	31.753	10682688	76.271
PAH500FCV	17294450	31.783	12336687	76.306

PHYSIS

Initial Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\

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Method File : Q_PAH140411.M

Title : PAH

Last Update : Tue Jun 03 11:29:59 2014

Response Via : Initial Calibration

Calibration Files

500 =SPEXMIX500_100ICV.D 250 =PAH250.D 1000=PAH1000.D 100 =PAH100.D 50 =PAH50.D 25 =PAH25.D

Compound		500	250	1000	100	50	25	Avg	%RSD

1) I	d10-Anthracene	-----ISTD-----							
2) S	(d8-Naphthalene)	1.213	1.007	0.376	0.923	0.870	0.885	0.879	31.49
3) S	(d10-Acenaphth...	0.671	0.606	0.519	0.573	0.548	0.553	0.578	9.29
4) S	(d10-Phenanthr...	1.058	1.054	1.045	1.054	1.034	1.037	1.047	0.93
5) S	(d12-Chrysene)	1.109	1.189	1.230	1.170	1.241	1.224	1.194	4.16
6) S	(d12-Perylene)	1.082	1.162	1.202	1.129	1.244	1.208	1.171	5.04
7)	Naphthalene	1.169	0.977		0.883	0.839	0.851	0.944	14.52
8)	2-Methylnaphth...	0.823	0.707		0.655	0.622	0.625	0.686	12.20
9)	1-Methylnaphth...	0.729	0.631		0.582	0.553	0.558	0.611	11.95
10)	Biphenyl	1.013	0.888		0.831	0.781	0.787	0.860	11.12
11)	2,6-Dimethylna...	0.737	0.656		0.608	0.572	0.577	0.630	10.88
12)	Acenaphthylene	1.089	0.960		0.919	0.872	0.886	0.945	9.21
13)	Acenaphthene	0.704	0.630		0.602	0.570	0.570	0.615	9.09
14)	2,3,5-Trimethy...	0.673	0.625	0.577	0.596	0.564	0.587	0.604	6.60
15)	Fluorene	0.787	0.732	0.694	0.709	0.706	0.726	0.726	4.59
16)	Dibenzothiophene	1.022	1.009	0.985	1.001	0.981	0.990	0.998	1.59
17)	Phenanthrene	1.081	1.065	1.060	1.053	1.026	1.012	1.050	2.46
18)	Anthracene	1.047	1.043	1.059	1.031	1.010	1.018	1.035	1.79
19)	1-Methylphenan...	0.750	0.775	0.822	0.774	0.753	0.795	0.778	3.51
20)	Fluoranthene	1.105	1.146	1.215	1.137	1.143	1.151	1.149	3.13
21)	Pyrene	1.127	1.179	1.220	1.178	1.174	1.176	1.176	2.52
22)	Benz[a]anthracene	1.067	1.125	1.177	1.117	1.192	1.205	1.147	4.62
23)	Chrysene	1.045	1.107	1.157	1.096	1.155	1.141	1.117	3.87
24)	Benzo[b]fluora...	1.144	1.217	1.232	1.158	1.216	1.209	1.196	3.01
25)	Benzo[k]fluora...	1.250	1.322	1.339	1.259	1.421	1.312	1.317	4.71
26)	Benzo[e]pyrene	1.142	1.221	1.198	1.176	1.244	1.279	1.210	4.04
27)	Benzo[a]pyrene	1.122	1.198	1.196	1.123	1.235	1.198	1.179	3.90
28)	Perylene	1.136	1.220	1.212	1.164	1.271	1.283	1.214	4.75

29) I	d12-Benzo[g,h,i]pe...	-----ISTD-----							
30)	Indeno[1,2,3-c...	1.359	1.351	1.394	1.332	1.320	1.250	1.334	3.64
31)	Dibenz[a,h]ant...	1.340	1.322	1.355	1.310	1.308	1.376	1.335	2.04
32)	Benzo[g,h,i]pe...	1.417	1.451	1.416	1.450	1.419	1.448	1.434	1.25

(#) = Out of Range

PHYSIS

Continuing Calibration Data

TERRA

FAUNA

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AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : SPEXMIX500_100ICV.D
 Acq On : 27 May 2014 06:56 pm
 Operator :
 Sample : SPEXMIX500_100ICV
 Misc :
 ALS Vial : 106 Sample Multiplier: 1

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Quant Time: Jun 03 11:29:21 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Mon Apr 21 14:15:24 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	31.776	188	8518860m	2000.00		-0.48
29) d12-Benzo[g,h,i]perylene	76.304	288	6676846m	2000.00		-0.51
System Monitoring Compounds						
2) (d8-Naphthalene)	12.764	136	4957453	1324.16		-0.44
3) (d10-Acenaphthene)	20.622	164	2588207m	1050.57		-0.73
4) (d10-Phenanthrene)	31.370	188	4056019m	909.48		-0.50
5) (d12-Chrysene)	55.037	240	4012162	788.93		0.27
6) (d12-Perylene)	67.179	264	3927635m	787.24		0.73
Target Compounds						
					Qvalue	
7) Naphthalene	12.817	128	2781091m	582.81		
8) 2-Methylnaphthalene	15.212	142	1754255m	518.84		
9) 1-Methylnaphthalene	15.648	142	1829316m	609.92		
10) Biphenyl	17.435	154	2098982m	502.06		
11) 2,6-Dimethylnaphthalene	18.226	156	1476545m	484.14		
12) Acenaphthylene	19.678	152	2180190m	484.29		
13) Acenaphthene	20.815	153	1537162m	526.33		
14) 2,3,5-Trimethylnaphtha...	23.504	170	1209169m	475.04		
15) Fluorene	24.225	166	1697983m	558.93		
16) Dibenzothiophene	30.528	184	2201167m	520.47		
17) Phenanthrene	31.543	178	2420888m	534.07		
18) Anthracene	31.919	178	1815946m	403.85		
19) 1-Methylphenanthrene	36.984	192	1593101	464.03		98
20) Fluoranthene	41.906	202	2356823	465.05		100
21) Pyrene	43.758	202	2495067	488.08		100
22) Benz[a]anthracene	54.925	228	2007156	408.45		100
23) Chrysene	55.253	228	2240664m	464.10		
24) Benzo[b]fluoranthene	64.266	252	2335100m	451.58		
25) Benzo[k]fluoranthene	64.459	252	2355938m	418.62		
26) Benzo[e]pyrene	66.337	252	2186566m	431.96		
27) Benzo[a]pyrene	66.702	252	2160880m	429.20		
28) Perylene	67.362	252	2060656m	403.93		
30) Indeno[1,2,3-c,d]pyrene	74.873	276	2197250m	475.43		
31) Dibenz[a,h]anthracene	75.167	278	2213477m	490.96		
32) Benzo[g,h,i]perylene	76.456	276	2517025m	531.61		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : PAH500CCV.D
 Acq On : 29 May 2014 05:07 am
 Operator :
 Sample : PAH500CCV
 Misc :
 ALS Vial : 103 Sample Multiplier: 1

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Quant Time: Jun 03 11:31:30 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Tue Jun 03 11:29:59 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	31.785	188	15646537	2000.00		0.00
29) d12-Benzo[g,h,i]perylene	76.301	288	13145490	2000.00		0.00
System Monitoring Compounds						
2) (d8-Naphthalene)	12.757	136	7810003	1135.78		0.00
3) (d10-Acenaphthene)	20.615	164	4607840	1018.33		0.00
4) (d10-Phenanthrene)	31.376	188	7494227	914.92		0.00
5) (d12-Chrysene)	55.053	240	8040594	860.82		0.02
6) (d12-Perylene)	67.185	264	8087048	882.53		0.00
Target Compounds						
					Qvalue	
7) Naphthalene	12.814	128	3705517	422.79		100
8) 2-Methylnaphthalene	15.204	142	2567847	413.50		99
9) 1-Methylnaphthalene	15.637	142	2334673	423.81		98
10) Biphenyl	17.438	154	3222929	419.72		100
11) 2,6-Dimethylnaphthalene	18.229	156	2424066	432.75		99
12) Acenaphthylene	19.669	152	3643391	440.64		100
13) Acenaphthene	20.804	153	2388287	445.23		97
14) 2,3,5-Trimethylnaphtha...	23.506	170	2335638	499.58		98
15) Fluorene	24.237	166	2669326	478.40		99
16) Dibenzothiophene	30.533	184	3518093	452.91		100
17) Phenanthrene	31.552	178	3814244	458.14		100
18) Anthracene	31.929	178	3794476	459.44		100
19) 1-Methylphenanthrene	37.005	192	2784998	441.66		98
20) Fluoranthene	41.932	202	3976449	427.20		100
21) Pyrene	43.779	202	4114157	438.18		100
22) Benz[a]anthracene	54.939	228	3645588	403.91		100
23) Chrysene	55.274	228	3770149	425.16		100
24) Benzo[b]fluoranthene	64.273	252	3807436	400.89		100
25) Benzo[k]fluoranthene	64.473	252	4191122	405.46		100
26) Benzo[e]pyrene	66.338	252	3834161	412.40		100
27) Benzo[a]pyrene	66.714	252	3819835	413.08		100
28) Perylene	67.376	252	3977279	424.47		100
30) Indeno[1,2,3-c,d]pyrene	74.876	276	3886134	427.09		100
31) Dibenz[a,h]anthracene	75.177	278	3894567	438.76		100
32) Benzo[g,h,i]perylene	76.465	276	4275013	458.60		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : PAH500FCV.D
 Acq On : 30 May 2014 04:35 am
 Operator :
 Sample : PAH500FCV
 Misc :
 ALS Vial : 103 Sample Multiplier: 1

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Quant Time: Jun 03 11:33:54 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Tue Jun 03 11:29:59 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	31.783	188	17294450	2000.00		0.00
29) d12-Benzo[g,h,i]perylene	76.306	288	12336687	2000.00		0.00
System Monitoring Compounds						
2) (d8-Naphthalene)	12.755	136	8382739	1102.92		0.00
3) (d10-Acenaphthene)	20.615	164	4977593	995.22		0.00
4) (d10-Phenanthrene)	31.374	188	8153550	900.57		0.00
5) (d12-Chrysene)	55.056	240	8719891	844.59		0.02
6) (d12-Perylene)	67.191	264	8293354	818.81		0.01
Target Compounds						
					Qvalue	
7) Naphthalene	12.813	128	3987124	411.57		100
8) 2-Methylnaphthalene	15.210	142	2773251	404.02		98
9) 1-Methylnaphthalene	15.639	142	2481032	407.47		99
10) Biphenyl	17.443	154	3469986	408.84		100
11) 2,6-Dimethylnaphthalene	18.239	156	2606601	420.99		99
12) Acenaphthylene	19.670	152	3943309	431.47		100
13) Acenaphthene	20.809	153	2583556	435.74		98
14) 2,3,5-Trimethylnaphtha...	23.505	170	2480681	480.05		98
15) Fluorene	24.240	166	2915245	472.69		97
16) Dibenzothiophene	30.531	184	3861933	449.80		100
17) Phenanthrene	31.551	178	4158243	451.87		100
18) Anthracene	31.927	178	4194729	459.51		100
19) 1-Methylphenanthrene	37.019	192	2987880	428.68		98
20) Fluoranthene	41.951	202	4194723	407.71		100
21) Pyrene	43.795	202	4349973	419.15		100
22) Benz[a]anthracene	54.947	228	3767813	377.68		100
23) Chrysene	55.278	228	4089631	417.25		100
24) Benzo[b]fluoranthene	64.281	252	3834927	365.31		100
25) Benzo[k]fluoranthene	64.477	252	4321996	378.28		100
26) Benzo[e]pyrene	66.340	252	3863132	375.92		100
27) Benzo[a]pyrene	66.723	252	3843950	376.08		100
28) Perylene	67.379	252	4024005	388.54		100
30) Indeno[1,2,3-c,d]pyrene	74.886	276	3434400	402.19		100
31) Dibenz[a,h]anthracene	75.193	278	3566536	428.14		100
32) Benzo[g,h,i]perylene	76.470	276	3970276	453.83		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PAH500 ICV			PAH500 CCV			PAH500 FCV		
	5/27/14 6:56 PM			5/29/14 5:07 AM			5/30/14 4:35 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
d8-Naphthalene	1000	1324	32	1000	1136	14	1000	1103	10
d10-Acenaphthene	1000	1051	5	1000	1018	2	1000	995	0
d10-Phenanthrene	1000	909	9	1000	915	9	1000	901	10
d10-Chrysene	1000	789	21	1000	861	14	1000	845	16
d12-Perylene	1000	787	21	1000	883	12	1000	819	18
Naphthalene	500	583	17	500	423	15	500	412	18
2-Methylnaphthalene	500	519	4	500	414	17	500	404	19
1-Methylnaphthalene	500	610	22	500	424	15	500	407	19
Biphenyl	500	502	0	500	420	16	500	409	18
2,6-Dimethylnaphthalene	500	484	3	500	433	13	500	421	16
Acenaphthylene	500	484	3	500	441	12	500	431	14
Acenaphthene	500	526	5	500	445	11	500	436	13
2,3,5-Trimethylnaphthalene	500	475	5	500	500	0	500	480	4
Fluorene	500	559	12	500	478	4	500	473	5
Dibenzothiophene	500	520	4	500	453	9	500	450	10
Phenanthrene	500	534	7	500	458	8	500	452	10
Anthracene	500	404	19	500	459	8	500	460	8
1-Methylphenanthrene	500	464	7	500	442	12	500	429	14
Fluoranthene	500	465	7	500	427	15	500	408	18
Pyrene	500	488	2	500	438	12	500	419	16
Benz[a]anthracene	500	408	18	500	404	19	500	378	24
Chrysene	500	464	7	500	425	15	500	417	17
Benzo[b]fluoranthene	500	452	10	500	401	20	500	365	27
Benzo[k]fluoranthene	500	419	16	500	405	19	500	378	24
Benzo[e]pyrene	500	432	14	500	412	18	500	376	25
Benzo[a]pyrene	500	429	14	500	413	17	500	376	25
Perylene	500	404	19	500	424	15	500	389	22
Indeno[1,2,3-c,d]pyrene	500	475	5	500	427	15	500	402	20
Dibenz[a,h]anthracene	500	491	2	500	439	12	500	428	14
Benzo[g,h,i]perylene	500	532	6	500	459	8	500	454	9
Average	-	-	11	-	-	13	-	-	15

Organics - GC-MS-NCI

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Analytical Solutions
(EPA 8270C)

PHYSIS

Instrument Run Log

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

2014 Jan 06 1735 Sequence Log .LOG
 Starting sequence Mon Jan 06 17:35:21 2014

Instrument Name: GCMSQQQ
 Sequence File: D:\MassHunter\GCMS\1\sequence\140106 NCI . sequence. xml
 Comment:
 Operator: DATASYSTEM01\Admin
 Data Path: D:\MassHunter\GCMS\1\data\140106 NCI\
 Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX	HEX_NCI	HEX
2)	Sample	131	PYR25	PYR_NCI	PYR25
3)	Sample	132	PYR50	PYR_NCI	PYR50
4)	Sample	133	PYR100	PYR_NCI	PYR100
5)	Sample	134	PYR250	PYR_NCI	PYR250
6)	Sample	135	PYR500	PYR_NCI	PYR500
7)	Sample	136	PYR1000	PYR_NCI	PYR1000
8)	Sample	121	PYR1000SPEX		
	Datafile		PYR1000SPEX		
	Method		PYR_NCI		
9)	Sample	122	TRAL01000I CV		
	Datafile		TRAL01000I CV		
	Method		PYR_NCI		
10)	Sample	111	FI P25	PYR_NCI	FI P25
11)	Sample	112	FI P50	PYR_NCI	FI P50
12)	Sample	113	FI P100	PYR_NCI	FI P100
13)	Sample	114	FI P250	PYR_NCI	FI P250
14)	Sample	115	FI P500	PYR_NCI	FI P500
15)	Sample	116	FI P1000	PYR_NCI	FI P1000
16)	Sample	101	TOX10000I CV		
	Datafile		TOX10000I CV		
	Method		PYR_NCI		
17)	Sample	141	HEX2	HEX_NCI	HEX2
18)	Sample	1	B_5057	PYR_NCI	B_5057
19)	Sample	2	BS1_5057	PYR_NCI	BS1_5057
20)	Sample	3	BS2_5057	PYR_NCI	BS2_5057
21)	Sample	4	22628MS1	PYR_NCI	22628MS1
22)	Sample	5	22628MS2	PYR_NCI	22628MS2
23)	Sample	141	HEX3	HEX_NCI	HEX3
24)	Sample	6	22644	PYR_NCI	22644
25)	Sample	7	22628	PYR_NCI	22628
26)	Sample	8	22628R2	PYR_NCI	22628R2
27)	Sample	9	22629	PYR_NCI	22629
28)	Sample	10	22630	PYR_NCI	22630
29)	Sample	11	22631	PYR_NCI	22631
30)	Sample	12	22632	PYR_NCI	22632
31)	Sample	13	22633	PYR_NCI	22633
32)	Sample	14	22634	PYR_NCI	22634
33)	Sample	136	PYR1000CCV		
	Datafile		PYR1000CCV		
	Method		PYR_NCI		
34)	Sample	116	FI P1000CCV		
	Datafile		FI P1000CCV		
	Method		PYR_NCI		
35)	Sample	101	TOX10000CCV		
	Datafile		TOX10000CCV		
	Method		PYR_NCI		
36)	Sample	141	HEX4	HEX_NCI	HEX4
37)	Sample	15	22635	PYR_NCI	22635
38)	Sample	16	22636	PYR_NCI	22636
39)	Sample	17	22637	PYR_NCI	22637
40)	Sample	18	22638	PYR_NCI	22638

2014 Jan 06 1735 Sequence Log . LOG

41)	Sample	19	22639	PYR_NCI	22639
42)	Sample	20	22640	PYR_NCI	22640
43)	Sample	21	22641	PYR_NCI	22641
44)	Sample	22	22642	PYR_NCI	22642
45)	Sample	23	22643	PYR_NCI	22643
46)	Sample	24	22743	PYR_NCI	22743
47)	Sample	25	22744	PYR_NCI	22744
48)	Sample	136	PYR1000FCV		
	Datafile		PYR1000FCV		
	Method		PYR_NCI		
49)	Sample	116	FIP1000FCV		
	Datafile		FIP1000FCV		
	Method		PYR_NCI		
50)	Sample	101	TOX10000FCV		
	Datafile		TOX10000FCV		
	Method		PYR_NCI		
51)	Sample	31	22573	PYR_NCI	22573
52)	Sample	32	22574	PYR_NCI	22574
53)	Sample	33	22575	PYR_NCI	22575
54)	Sample	34	22599	PYR_NCI	22599
55)	Sample	35	22600	PYR_NCI	22600

Sequence completed Thu Jan 09 01:51:34 2014

D:\MassHunter\GCMS\1\data\140106 NCI\2014 Jan 06 1735 Sequence Log . LOG

2013 Nov 14 1434 Sequence Log .LOG
 Starting sequence Thu Nov 14 14:34:14 2013

Instrument Name: GCMSQQQ
 Sequence File: D:\MASSHUNTER\GCMS\1\SEQUENCE\131113 NCI . sequence. xml
 Comment:
 Operator: DATASYSTEM01\Admin
 Data Path: D:\MassHunter\GCMS\1\data\131114 NCI\
 Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX	HEX_NCI	HEX
2)	Sample	121	FIP25	PYR_NCI	FIP25
3)	Sample	122	FIP50	PYR_NCI	FIP50
4)	Sample	123	FIP100	PYR_NCI	FIP100
5)	Sample	124	FIP250	PYR_NCI	FIP250
6)	Sample	125	FIP500	PYR_NCI	FIP500
7)	Sample	126	FIP1000	PYR_NCI	FIP1000
8)	Sample	131	PYR25	PYR_NCI	PYR25
9)	Sample	132	PYR50	PYR_NCI	PYR50
10)	Sample	133	PYR100	PYR_NCI	PYR100
11)	Sample	134	PYR250	PYR_NCI	PYR250
12)	Sample	135	PYR500	PYR_NCI	PYR500
13)	Sample	136	PYR1000	PYR_NCI	PYR1000
14)	Sample	138	TRAL01000I CV		
	Datafile		TRAL01000I CV		
	Method		PYR_NCI		
15)	Sample	101	TOX10000I CV		
	Datafile		TOX10000I CV		
	Method		PYR_NCI		
16)	Sample	137	PYR1000SPEX		
	Datafile		PYR1000SPEX		
	Method		PYR_NCI		
17)	Sample	141	HEX2	HEX_NCI	HEX2
18)	Sample	1	B_5039	PYR_NCI	B_5039
19)	Sample	2	BS1_5039	PYR_NCI	BS1_5039
20)	Sample	3	BS2_5039	PYR_NCI	BS2_5039
21)	Sample	4	22571MS1	PYR_NCI	22571MS1
22)	Sample	5	22571MS2	PYR_NCI	22571MS2
23)	Sample	141	HEX3	HEX_NCI	HEX3
24)	Sample	6	22576	PYR_NCI	22576
25)	Sample	7	22551	PYR_NCI	22551
26)	Sample	31	22551RE	PYR_NCI	22551RE
27)	Sample	8	22552	PYR_NCI	22552
28)	Sample	9	22553	PYR_NCI	22553
29)	Sample	10	22554	PYR_NCI	22554
30)	Sample	11	22555	PYR_NCI	22555
31)	Sample	12	22556	PYR_NCI	22556
32)	Sample	13	22557	PYR_NCI	22557
33)	Sample	126	FIP1000CCV		
	Datafile		FIP1000CCV		
	Method		PYR_NCI		
34)	Sample	136	PYR1000CCV		
	Datafile		PYR1000CCV		
	Method		PYR_NCI		
35)	Sample	101	TOX10000CCV		
	Datafile		TOX10000CCV		
	Method		PYR_NCI		
36)	Sample	141	HEX4	HEX_NCI	HEX4
37)	Sample	14	22571	PYR_NCI	22571
38)	Sample	15	22571R2	PYR_NCI	22571R2
39)	Sample	16	22572	PYR_NCI	22572

2013 Nov 14 1434 Sequence Log .LOG

Sat Nov 16 07:01:04 2013

Fatal sequence error detected.

MS is in fault state: QqQ fault detected: 2.5 Emission current controller cannot regulate the requested setting after a fixed amount of time.

D: \MassHunter\GCMS\1\data\131114 NCI\2013 Nov 14 1434 Sequence Log .LOG

2013 Nov 22 0828 Sequence Log .LOG
Starting sequence Thu Nov 21 19:07:49 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MassHunter\GCMS\1\sequence\131121 PBDE NCI . sequence.xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131121 PBDE NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX	HEX_NCI	HEX

Thu Nov 21 19:41:43 2013
Fatal sequence error detected.
There was no bottle in the gripper.

D:\MassHunter\GCMS\1\data\131121 PBDE NCI\2013 Nov 21 1907 Sequence Log .LOG

Resuming sequence Fri Nov 22 08:28:46 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MassHunter\GCMS\1\sequence\131121 PBDE NCI . sequence.xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131121 PBDE NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
3)	Sample	121	PBDE10RR		
	Datafile		PBDE10RR		
	Method		NCI -15m PBDE		
4)	Sample	122	PBDE25		
	Datafile		PBDE25		
	Method		NCI -15m PBDE		
5)	Sample	123	PBDE50		
	Datafile		PBDE50		
	Method		NCI -15m PBDE		
6)	Sample	124	PBDE75		
	Datafile		PBDE75		
	Method		NCI -15m PBDE		
7)	Sample	125	PBDE100		
	Datafile		PBDE100		
	Method		NCI -15m PBDE		
8)	Sample	126	PBDE200		
	Datafile		PBDE200		
	Method		NCI -15m PBDE		
9)	Sample	141	HEX2	HEX_NCI	HEX2
10)	Sample	1	B_5039		
	Datafile		B_5039		
	Method		NCI -15m PBDE		
11)	Sample	2	BS1_5039		
	Datafile		BS1_5039		
	Method		NCI -15m PBDE		
12)	Sample	3	BS2_5039		
	Datafile		BS2_5039		
	Method		NCI -15m PBDE		
13)	Sample	4	22571MS1		
	Datafile		22571MS1		
	Method		NCI -15m PBDE		
14)	Sample	5	22571MS2		

2013 Nov 22 0828 Sequence Log .LOG

	Datafile		22571MS2		
	Method		NCI -15m PBDE		
15)	Sample	141	HEX3	HEX_NCI	HEX3
16)	Sample	6	22576		
	Datafile		22576		
	Method		NCI -15m PBDE		
17)	Sample	7	22551RE		
	Datafile		22551RE		
	Method		NCI -15m PBDE		
18)	Sample	8	22552		
	Datafile		22552		
	Method		NCI -15m PBDE		
19)	Sample	9	22553		
	Datafile		22553		
	Method		NCI -15m PBDE		
20)	Sample	10	22554		
	Datafile		22554		
	Method		NCI -15m PBDE		
21)	Sample	11	22555		
	Datafile		22555		
	Method		NCI -15m PBDE		
22)	Sample	126	PBDE200CCV		
	Datafile		PBDE200CCV		
	Method		NCI -15m PBDE		
23)	Sample	141	HEX4	HEX_NCI	HEX4
24)	Sample	12	22556		
	Datafile		22556		
	Method		NCI -15m PBDE		
25)	Sample	13	22557		
	Datafile		22557		
	Method		NCI -15m PBDE		
26)	Sample	14	22571		
	Datafile		22571		
	Method		NCI -15m PBDE		
27)	Sample	15	22571R2		
	Datafile		22571R2		
	Method		NCI -15m PBDE		
28)	Sample	16	22572		
	Datafile		22572		
	Method		NCI -15m PBDE		
29)	Sample	17	22573		
	Datafile		22573		
	Method		NCI -15m PBDE		
30)	Sample	18	22574		
	Datafile		22574		
	Method		NCI -15m PBDE		
31)	Sample	19	22575		
	Datafile		22575		
	Method		NCI -15m PBDE		
32)	Sample	20	22599		
	Datafile		22599		
	Method		NCI -15m PBDE		
33)	Sample	21	22600		
	Datafile		22600		
	Method		NCI -15m PBDE		
34)	Sample	7	22551		
	Datafile		22551		
	Method		NCI -15m PBDE		
35)	Sample	126	PBDE200FCV		
	Datafile		PBDE200FCV		
	Method		NCI -15m PBDE		

Sequence completed Sat Nov 23 05:29:53 2013

2013 Nov 22 0828 Sequence Log .LOG

D:\MassHunter\GCMS\1\data\131121 PBDE NCI\2013 Nov 22 0828 Sequence Log .LOG

2014 May 30 1739 Sequence Log .LOG
 Starting sequence Fri May 30 17:39:40 2014

Instrument Name: GCMS3

Sequence File: D:\MassHunter\GCMS\1\sequence\Q3_140524 EI 0-6004.sequence.xml

Comment:

Operator:

Data Path: D:\MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\

Method Path: D:\MassHunter\GCMS\1\methods\checkout\

Line	Type	Vials	DataFile	Sample Name

Acquisition Method: EI Scan. M				
48)	Sample	111	TOX1000	TOX1000
49)	Sample	112	TOX2500	TOX2500
50)	Sample	113	TOX5000	TOX5000
51)	Sample	114	TOX7500	TOX7500
52)	Sample	115	TOX10000	TOX10000
53)	Sample	121	PYR25	PYR25
54)	Sample	122	PYR50	PYR50
55)	Sample	123	PYR100	PYR100
56)	Sample	124	PYR250	PYR250
57)	Sample	125	PYR500	PYR500
58)	Sample	131	FIP+RES25	FIP+RES25
59)	Sample	132	FIP+RES50	FIP+RES50
60)	Sample	133	FIP+RES100	FIP+RES100
Sequence Table edit performed Sat May 31 16:12:21 2014				
61)	Sample	134	FIP+RES250	FIP+RES250
62)	Sample	135	FIP+RES500	FIP+RES500
Acquisition Method: EI_HEX. M				
63)	Sample	141	HEX6	HEX6
Acquisition Method: EI Scan. M				
64)	Sample	91	OCP_PAH_PCB_SPE..._100	OCP_PAH_PCB_SPEX500_100
Acquisition Method: EI_HEX. M				
65)	Sample	141	HEX7	HEX7
Acquisition Method: EI Scan. M				
66)	Sample	1	B1_6004CC	B1_6004CC
Comment: 22544, NA, B1, 5/16/2014, 0-6004,				
67)	Sample	2	BS1_6004CC	BS1_6004CC
Comment: 22544, NA, BS1, 5/16/2014, 0-6004,				
68)	Sample	3	BS2_6004CC	BS2_6004CC
Comment: 22544, NA, BS2, 5/16/2014, 0-6004,				
69)	Sample	4	22571MS1CC	22571MS1CC
Comment: 22571, NA, MS1, 5/16/2014, 0-6004,				
70)	Sample	5	22571MS2CC	22571MS2CC
Comment: 22571, NA, MS2, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
71)	Sample	141	HEX3CC	HEX3CC
Acquisition Method: EI Scan. M				
72)	Sample	6	22576CC	22576CC
Comment: 22576, NA, CRM1, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
73)	Sample	141	HEX4CC	HEX4CC
Acquisition Method: EI Scan. M				
74)	Sample	7	22551CC	22551CC

2014 May 30 1739 Sequence Log . LOG

75)	Comment:	22551, NA, R1, 5/16/2014, 0-6004,	
	Sample	8	22552CC
	Comment:	22552, NA, R1, 5/16/2014, 0-6004,	22552CC
76)	Sample	9	22553CC
	Comment:	22553, NA, R1, 5/16/2014, 0-6004,	22553CC
77)	Sample	10	22554CC
	Comment:	22554, NA, R1, 5/16/2014, 0-6004,	22554CC
78)	Sample	103	PAH500CCV2
79)	Sample	105	OCP500_PCB100CCV2

Acqui si ti on Method: EI_HEX. M

80)	Sample	141	HEX52	HEX52
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Acqui si ti on Method: EI Scan. M

81)	Sample	11	22555CC	22555CC
	Comment:	22555, NA, R1, 5/16/2014, 0-6004,		
82)	Sample	12	22556CC	22556CC
	Comment:	22556, NA, R1, 5/16/2014, 0-6004,		
83)	Sample	21	22557CC	22557CC
	Comment:	22557, NA, R1, 5/16/2014, 0-6004,		
84)	Sample	13	22571CC	22571CC
	Comment:	22571, NA, R1, 5/16/2014, 0-6004,		
85)	Sample	14	22571R2CC	22571R2CC
	Comment:	22571, NA, R2, 5/16/2014, 0-6004,		
86)	Sample	15	22572CC	22572CC
	Comment:	22572, NA, R1, 5/16/2014, 0-6004,		
87)	Sample	16	22573CC	22573CC
	Comment:	22573, NA, R1, 5/16/2014, 0-6004,		
88)	Sample	17	22574CC	22574CC
	Comment:	22574, NA, R1, 5/16/2014, 0-6004,		
89)	Sample	22	22575CC	22575CC
	Comment:	22575, NA, R1, 5/16/2014, 0-6004,		
90)	Sample	18	22599CC	22599CC
	Comment:	22599, NA, R1, 5/16/2014, 0-6004,		
91)	Sample	19	22600CC	22600CC
	Comment:	22600, NA, R1, 5/16/2014, 0-6004,		
92)	Sample	103	PAH500FCV2	PAH500FCV2
93)	Sample	105	OCP500_PCB100FCV2	OCP500_PCB100FCV2
94)	Sample	61	PYR500CCV	PYR500CCV
95)	Sample	62	RES500CCV	RES500CCV

Acqui si ti on Method: EI_HEX. M

96)	Sample	141	HEX8	HEX8
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Acqui si ti on Method: EI Scan. M

97)	Sample	31	26212	26212
	Comment:	26212, NA, R1, 5/28/2014, 0-6016,		
98)	Sample	32	26213	26213
	Comment:	26213, NA, R1, 5/28/2014, 0-6016,		
99)	Sample	33	26214	26214
	Comment:	26214, NA, R1, 5/28/2014, 0-6016,		
100)	Sample	34	26215	26215
	Comment:	26215, NA, R1, 5/28/2014, 0-6016,		
101)	Sample	35	26781	26781
	Comment:	26781, NA, R1, 5/28/2014, 0-6016,		
102)	Sample	36	26782	26782
	Comment:	26782, NA, R1, 5/28/2014, 0-6016,		
103)	Sample	37	26783	26783
	Comment:	26783, NA, R1, 5/28/2014, 0-6016,		
104)	Sample	38	26784	26784
	Comment:	26784, NA, R1, 5/28/2014, 0-6016,		
105)	Sample	39	26785	26785
	Comment:	26785, NA, R1, 5/28/2014, 0-6016,		

2014 May 30 1739 Sequence Log .LOG
 Sequence Table edit performed Tue Jun 03 10:46:33 2014

106) Sample	40	26786	26786
Comment: 26786, NA, R1, 5/28/2014, 0-6016,			
107) Sample	41	26787	26787
Comment: 26787, NA, R1, 5/28/2014, 0-6016,			
108) Sample	61	PYR500FCV	PYR500FCV
109) Sample	62	RES500FCV	RES500FCV
110) Sample	121	PYR25_POST	PYR25_POST
111) Sample	122	PYR50_POST	PYR50_POST
112) Sample	123	PYR100_POST	PYR100_POST
113) Sample	124	PYR250_POST	PYR250_POST

Sequence completed Tue Jun 03 23:55:35 2014

D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 30 1739 Quality Log.
 D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 30 1739 Sequence Log

2014 May 27 1040 Sequence Log .LOG
 Starting sequence Tue May 27 10:40:05 2014

Instrument Name: GCMS3

Sequence File: D:\MassHunter\GCMS\1\sequence\Q3_140524 EI 0-6004.sequence.xml

Comment:

Operator:

Data Path: D:\MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\

Method Path: D:\MassHunter\GCMS\1\methods\checkout\

Line	Type	Vials	DataFile	Sample Name
Acquisition Method: EI Scan. M				
2)	Sample	101	PYR_RES1000	PYR_RES1000
3)	Sample	102	TRAL0500	TRAL0500
4)	Sample	103	PAH500	PAH500
5)	Sample	104	FIP500	FIP500
6)	Sample	105	OCP500_PCB100	OCP500_PCB100
7)	Sample	106	SPEXMI X500_100I CV	SPEXMI X500_100I CV
8)	Sample	51	OXY1000I CV	OXY1000I CV
9)	Sample	51	OXY1000I CV_2	OXY1000I CV_2
10)	Sample	142	TUNE	TUNE
Acquisition Method: EI_HEX. M				
11)	Sample	141	HEX2	HEX2
Acquisition Method: EI Scan. M				
12)	Sample	1	B1_6004	B1_6004
Comment: 22544, NA, B1, 5/16/2014, 0-6004,				
13)	Sample	2	BS1_6004	BS1_6004
Comment: 22544, NA, BS1, 5/16/2014, 0-6004,				
14)	Sample	3	BS2_6004	BS2_6004
Comment: 22544, NA, BS2, 5/16/2014, 0-6004,				
15)	Sample	4	22571MS1	22571MS1
Comment: 22571, NA, MS1, 5/16/2014, 0-6004,				
16)	Sample	5	22571MS2	22571MS2
Comment: 22571, NA, MS2, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
17)	Sample	141	HEX3	HEX3
Acquisition Method: EI Scan. M				
18)	Sample	6	22576	22576
Comment: 22576, NA, CRM1, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
19)	Sample	141	HEX4	HEX4
Acquisition Method: EI Scan. M				
20)	Sample	7	22551	22551
Comment: 22551, NA, R1, 5/16/2014, 0-6004,				
21)	Sample	8	22552	22552
Comment: 22552, NA, R1, 5/16/2014, 0-6004,				
22)	Sample	9	22553	22553
Comment: 22553, NA, R1, 5/16/2014, 0-6004,				
23)	Sample	10	22554	22554
Comment: 22554, NA, R1, 5/16/2014, 0-6004,				
24)	Sample	11	22555	22555
Comment: 22555, NA, R1, 5/16/2014, 0-6004,				
25)	Sample	12	22556	22556
Comment: 22556, NA, R1, 5/16/2014, 0-6004,				
26)	Sample	41	22492_RR_CC	22492_RR_CC
Comment: 22492, NA, CRM1, 4/22/2014, 0-5136,				

2014 May 27 1040 Sequence Log . LOG

27) Sample	42	22492_RR	22492_RR
Comment:	22492, NA, CRM1, 4/22/2014, 0-5136,		
28) Sample	101	PYR_RES1000CCV	PYR_RES1000CCV
29) Sample	102	TRAL0500CCV	TRAL0500CCV
30) Sample	103	PAH500CCV	PAH500CCV
31) Sample	104	FI P500CCV	FI P500CCV
32) Sample	105	OCP500_PCB100CCV	OCP500_PCB100CCV

Acquisition Method: EI_HEX.M

33) Sample	141	HEX5	HEX5
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Acquisition Method: EI Scan.M

34) Sample	13	22557	22557
Comment:	22557, NA, R1, 5/16/2014, 0-6004,		
35) Sample	14	22571	22571
Comment:	22571, NA, R1, 5/16/2014, 0-6004,		
36) Sample	15	22571R2	22571R2
Comment:	22571, NA, R2, 5/16/2014, 0-6004,		
37) Sample	16	22572	22572
Comment:	22572, NA, R1, 5/16/2014, 0-6004,		
38) Sample	17	22573	22573
Comment:	22573, NA, R1, 5/16/2014, 0-6004,		
39) Sample	18	22574	22574
Comment:	22574, NA, R1, 5/16/2014, 0-6004,		
40) Sample	19	22575	22575
Comment:	22575, NA, R1, 5/16/2014, 0-6004,		
41) Sample	20	22599	22599
Comment:	22599, NA, R1, 5/16/2014, 0-6004,		
42) Sample	21	22600	22600
Comment:	22600, NA, R1, 5/16/2014, 0-6004,		
43) Sample	101	PYR_RES1000FCV	PYR_RES1000FCV
44) Sample	102	TRAL0500FCV	TRAL0500FCV
45) Sample	103	PAH500FCV	PAH500FCV
46) Sample	104	FI P500FCV	FI P500FCV
47) Sample	105	OCP500_PCB100FCV	OCP500_PCB100FCV

Sequence completed Fri May 30 09: 24: 46 2014

D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 27 1040 Quality Log.
D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 27 1040 Sequence Log

Fipronil & Degradates

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PHYSIS

Summary of Internal Standards

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	2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time
B_5039	665239.1157	23.86106667
BS1_5039	1121031.73	23.85261667
BS2_5039	1054898.844	23.85261667
22571MS1	1275478.318	23.85261667
22571MS2	608447.6971	23.85261667
22576	1394868.324	23.92025
22551	1751884.691	23.85261667
22552	1135524.663	23.86106667
22553	1193325.975	23.85261667
22554	1308345.845	23.86106667
22555	1582844.148	23.86106667
22556	898130.4143	23.85261667
22557	1532588.457	23.86106667
FIP1000CCV	548187.2766	23.85261667
22571	1120259.977	23.86106667
22571R2	1064672.301	23.86106667
22572	1356060.984	23.85261667
22573	202759.4227	23.04105
22574	247201.6907	23.02415
22575	170521.311	23.04105
22599	162743.01	23.04105
22600	162525.183	23.04105
FIP1000FCV	105535	23.05

PHYSIS

Initial Calibration Data

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Quantitative Analysis Calibration Report

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Batch Info

Batch Data Path C:\msdchem\1\DATA\O-5039 NCI\QuantResults\O-5039 FIP.batch.bin
Analysis Time 1/13/2014 11:32 AM **Analyst Name**
Report Time 6/16/2014 7:23 AM **Reporter Name**
Last Calib Update 1/13/2014 11:16 AM **Batch State**

Calibration Information

Fipronil Desulfinyl

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5039 NCI\FIP100.D	Calibration	4	80845	100.0000	4.4977	10.00511267
C:\msdchem\1\DATA\O-5039 NCI\FIP1000.D	Calibration	1	832430	1000.0000	4.5463	
C:\msdchem\1\DATA\O-5039 NCI\FIP25.D	Calibration	6	22929	25.0000	5.1616	
C:\msdchem\1\DATA\O-5039 NCI\FIP250.D	Calibration	3	187380	250.0000	4.2810	
C:\msdchem\1\DATA\O-5039 NCI\FIP50.D	Calibration	5	45531	50.0000	4.7371	
C:\msdchem\1\DATA\O-5039 NCI\FIP500.D	Calibration	2	330895	500.0000	3.8127	

Fipronil Sulfide

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5039 NCI\FIP100.D	Calibration	4	76569	100.0000	4.2598	7.711105697
C:\msdchem\1\DATA\O-5039 NCI\FIP1000.D	Calibration	1	831487	1000.0000	4.5412	
C:\msdchem\1\DATA\O-5039 NCI\FIP25.D	Calibration	6	21021	25.0000	4.7321	
C:\msdchem\1\DATA\O-5039 NCI\FIP250.D	Calibration	3	179673	250.0000	4.1050	
C:\msdchem\1\DATA\O-5039 NCI\FIP50.D	Calibration	5	43599	50.0000	4.5361	
C:\msdchem\1\DATA\O-5039 NCI\FIP500.D	Calibration	2	332052	500.0000	3.8260	

Fipronil

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5039 NCI\FIP100.D	Calibration	4	14445	100.0000	0.8036	7.39155141
C:\msdchem\1\DATA\O-5039 NCI\FIP1000.D	Calibration	1	155768	1000.0000	0.8507	
C:\msdchem\1\DATA\O-5039 NCI\FIP25.D	Calibration	6	3318	25.0000	0.7469	
C:\msdchem\1\DATA\O-5039 NCI\FIP250.D	Calibration	3	30413	250.0000	0.6948	
C:\msdchem\1\DATA\O-5039 NCI\FIP50.D	Calibration	5	7258	50.0000	0.7551	
C:\msdchem\1\DATA\O-5039 NCI\FIP500.D	Calibration	2	62781	500.0000	0.7234	

Fipronil Sulfone

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5039 NCI\FIP100.D	Calibration	4	25580	100.0000	1.4231	9.353027874
C:\msdchem\1\DATA\O-5039 NCI\FIP1000.D	Calibration	1	257902	1000.0000	1.4085	
C:\msdchem\1\DATA\O-5039 NCI\FIP25.D	Calibration	6	5980	25.0000	1.3462	
C:\msdchem\1\DATA\O-5039 NCI\FIP250.D	Calibration	3	49544	250.0000	1.1319	
C:\msdchem\1\DATA\O-5039 NCI\FIP50.D	Calibration	5	12242	50.0000	1.2737	

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\O-
5030 NCI\FIP500.D

Calibration

2

128500

500.0000

1.4806

2,2',5,5'-Tetrabromobiphenyl

Calibration STD

CalType

Level

Response

Exp Conc

RF

%RSD

C:\msdchem\1\DATA\O-
5030 NCI\FIP100.D

Calibration

4

179747

1000.0000

179.7466

3.760921015

C:\msdchem\1\DATA\O-
5030 NCI\FIP1000.D

Calibration

1

183100

1000.0000

183.1003

C:\msdchem\1\DATA\O-
5030 NCI\FIP25.D

Calibration

6

177686

1000.0000

177.6864

C:\msdchem\1\DATA\O-
5030 NCI\FIP250.D

Calibration

3

175079

1000.0000

175.0794

C:\msdchem\1\DATA\O-
5030 NCI\FIP50.D

Calibration

5

192230

1000.0000

192.2303

C:\msdchem\1\DATA\O-
5030 NCI\FIP500.D

Calibration

2

173577

1000.0000

173.5766

PHYSIS

Continuing Calibration Data

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\msdchem\1\DATA\O-5039 NCI\QuantResults\O-5039 FIP.batch.bin		
Analysis Time	1/13/2014 11:32 AM	Analyst Name	eugenechae
Report Time	6/16/2014 7:23 AM	Reporter Name	eugenechae
Last Calib Update	1/13/2014 11:16 AM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	FIP1000CCV
Level		Data File	FIP1000CCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD 2,2',5,5'-	RT	Response	ISTD Resp	RR	Final Conc	
Fipronil Desulfinyl	Tetrabromobiphenyl	17.022	2294014	548187	4.1847	951.9987	ng
Fipronil Sulfide	Tetrabromobiphenyl	18.916	2126501	548187	3.8792	884.9074	ng
Fipronil	Tetrabromobiphenyl	19.186	501580	548187	0.9150	1117.4980	ng
Fipronil Sulfone	Tetrabromobiphenyl	21.274	799613	548187	1.4586	1035.3055	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\msdchem\1\DATA\O-5057 NCI\QuantResults\O-5057 FIP.batch.bin		
Analysis Time	1/16/2014 1:04 PM	Analyst Name	eugenechae
Report Time	6/12/2014 9:46 AM	Reporter Name	eugenechae
Last Calib Update	1/16/2014 12:54 PM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	FIP1000FCV
Level		Data File	FIP1000FCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD 2,2',5,5'-	RT	Response	ISTD Resp	RR	Final Conc	
Fipronil Desulfinyl	Tetrabromobiphenyl	16.489	624430	105535	5.9168	1597.1992	ng
Fipronil Sulfide	Tetrabromobiphenyl	18.265	982262	105535	9.3074	1744.2241	ng
Fipronil	Tetrabromobiphenyl	18.510	298877	105535	2.8320	1962.2487	ng
Fipronil Sulfone	Tetrabromobiphenyl	20.480	255377	105535	2.4198	1424.1564	ng

	FIP1000 CCV			FIP1000 FCV		
	1/13/14 11:32 AM			1/13/14 11:32 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Fipronil Desulfinyl	1000	952	5	1000	1597	60
Fipronil Sulfide	1000	885	12	1000	1744	74
Fipronil	1000	1117	12	1000	1962	96
Fipronil Sulfone	1000	1035	4	1000	1424	42
Average	-	-	8	-	-	69

PolyBrominated Diphenyl Ethers (PBDEs)

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Summary of Internal Standards

TERRA FACTORY AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

	2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time
PBDE200ICV	953570.5306	16.67921667
B_5039	4676807.647	16.67448333
BS1_5039	3591351.281	16.66951667
BS2_5039	2944555.961	16.67436667
22571MS1	4851583.649	16.67436667
22571MS2	2720244.22	16.67436667
22576	4130593.455	16.72775
22551	3111871.999	16.67436667
22552	7524644.433	16.68405
22553	4933763.836	16.67921667
22554	5950076.989	16.67921667
22555	5027026.001	16.67436667
PBDE200CCV	870708.9844	16.67436667
22556	5562542.72	16.67448333
22557	2412738.031	16.67436667
22571	5859813.944	16.67921667
22571R2	2042794.64	16.67436667
22572	3868828.156	16.67436667
22573	2191636.493	16.66951667
22574	1206.566939	16.66951667
22575	4950954.606	16.66951667
22599	4074408.09	16.67436667
22600	5634492.763	16.67921667
22551	2855057.357	16.67436667
PBDE200FCV	840166.3222	16.66951667

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Initial Calibration Data

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Quantitative Analysis Calibration Report

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Batch Info

Batch Data Path C:\msdchem\1\DATA\O-5039 PBDE\QuantResults\O-5039 PBDE.batch.bin
Analysis Time 1/8/2014 1:31 PM **Analyst Name**
Report Time 6/11/2014 1:13 PM **Reporter Name**
Last Calib Update 1/8/2014 9:56 AM **Batch State**

Calibration Information

(FTBDE)

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	362466	50.0000	0.8609	9.33923862
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	337714	50.0000	0.8698	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	607995	50.0000	1.0693	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	307831	50.0000	0.8625	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	296957	50.0000	0.8792	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	282764	50.0000	0.8521	

PBDE017

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	52253	10.0000	0.6205	6.238080774
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	528996	100.0000	0.6812	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1704812	200.0000	0.7496	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	123267	25.0000	0.6908	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	223360	50.0000	0.6613	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	332929	75.0000	0.6688	

PBDE028

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	58500	10.0000	0.6947	9.320306201
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	566816	100.0000	0.7300	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1874211	200.0000	0.8241	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	117608	25.0000	0.6590	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	216999	50.0000	0.6425	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	338205	75.0000	0.6794	

2,2',5,5'Tetrabromobiphenyl

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	8420757	1000.0000	8420.7572	22.14354227
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	7765091	1000.0000	7765.0915	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	11371385	1000.0000	11371.3849	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	7138104	1000.0000	7138.1044	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	6755020	1000.0000	6755.0195	

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D Calibration 3 6636959 1000.0000 6636.9590

PBDE049

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	61371	10.0000	0.7288	5.217898315
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	585232	100.0000	0.7537	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1850487	200.0000	0.8137	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	133638	25.0000	0.7489	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	238360	50.0000	0.7057	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	355624	75.0000	0.7144	

PBDE071

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	54217	10.0000	0.6438	8.935920972
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	493999	100.0000	0.6362	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1680098	200.0000	0.7387	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	110183	25.0000	0.6174	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	192682	50.0000	0.5705	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	301875	75.0000	0.6065	

PBDE047

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	54571	10.0000	0.6481	11.4127573
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	454915	100.0000	0.5858	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1606336	200.0000	0.7063	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	103036	25.0000	0.5774	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	173451	50.0000	0.5135	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	279045	75.0000	0.5606	

PBDE066

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	76790	10.0000	0.9119	17.54376011
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	505778	100.0000	0.6513	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1657219	200.0000	0.7287	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	120178	25.0000	0.6734	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	194152	50.0000	0.5748	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	300050	75.0000	0.6028	

PBDE100

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
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C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	47004	10.0000	0.5582	9.077650409
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	424904	100.0000	0.5472	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1356524	200.0000	0.5965	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	92995	25.0000	0.5211	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	155825	50.0000	0.4614	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	246104	75.0000	0.4944	

(DFPBDE)

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	255002	50.0000	0.6057	13.11949559
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	271392	50.0000	0.6990	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	448005	50.0000	0.7880	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	211378	50.0000	0.5923	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	189019	50.0000	0.5596	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	205194	50.0000	0.6183	

PBDE099

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	50407	10.0000	0.5986	11.90445015
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	442583	100.0000	0.5700	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1386670	200.0000	0.6097	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	92620	25.0000	0.5190	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	148404	50.0000	0.4394	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	253216	75.0000	0.5087	

PBDE085

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	39462	10.0000	0.4686	10.83932623
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	360304	100.0000	0.4640	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1060242	200.0000	0.4662	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	72504	25.0000	0.4063	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	120379	50.0000	0.3564	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	199688	75.0000	0.4012	

PBDE154

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	44515	10.0000	0.5286	9.07372955
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	412441	100.0000	0.5311	

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1209803	200.0000	0.5320
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	83023	25.0000	0.4652
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	142484	50.0000	0.4219
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	243445	75.0000	0.4891

PBDE153

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	39939	10.0000	0.4743	9.209985408
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	390618	100.0000	0.5030	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1095420	200.0000	0.4817	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	80633	25.0000	0.4518	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	129283	50.0000	0.3828	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	219510	75.0000	0.4410	

PBDE138

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	33029	10.0000	0.3922	13.43955488
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	358264	100.0000	0.4614	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	993361	200.0000	0.4368	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	72370	25.0000	0.4055	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	102656	50.0000	0.3039	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	198720	75.0000	0.3992	

PBDE183

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	38071	10.0000	0.4521	13.07345306
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	311176	100.0000	0.4007	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	846727	200.0000	0.3723	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	66367	25.0000	0.3719	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	101259	50.0000	0.2998	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	185387	75.0000	0.3724	

PBDE190

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	13841	10.0000	0.1644	15.49968796
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	154666	100.0000	0.1992	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	367277	200.0000	0.1615	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	32494	25.0000	0.1821	

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	41375	50.0000	0.1225
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	88271	75.0000	0.1773

PBDE209

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	1273	50.0000	0.0030	27.1696364
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	7426	500.0000	0.0019	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	19867	1000.0000	0.0017	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	2479	125.0000	0.0028	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	2622	250.0000	0.0016	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	5048	375.0000	0.0020	

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\msdchem\1\DATA\O-5039 PBDE\QuantResults\O-5039 PBDE.batch.bin		
Analysis Time	1/8/2014 1:31 PM	Analyst Name	eugenechae
Report Time	6/11/2014 1:13 PM	Reporter Name	eugenechae
Last Calib Update	1/8/2014 9:56 AM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	PBDE200
Level		Data File	PBDE200.D
Position		Acq Method File	NCI-15m PBDE.M
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphenyl	15.144	36295	953571	0.0381	42.3395	ng
PBDE017	2,2',5,5'Tetrabromobiphenyl	15.701	120116	953571	0.1260	173.5818	ng
PBDE028	2,2',5,5'Tetrabromobiphenyl	16.050	137578	953571	0.1443	183.8906	ng
PBDE049	2,2',5,5'Tetrabromobiphenyl	18.026	95928	953571	0.1006	127.5715	ng
PBDE071	2,2',5,5'Tetrabromobiphenyl	18.108	129925	953571	0.1363	194.6250	ng
PBDE047	2,2',5,5'Tetrabromobiphenyl	18.418	114301	953571	0.1199	180.9976	ng
PBDE066	2,2',5,5'Tetrabromobiphenyl	18.757	122674	953571	0.1286	184.6530	ng
PBDE100	2,2',5,5'Tetrabromobiphenyl	20.244	108978	953571	0.1143	199.8912	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphenyl	20.578	31451	953571	0.0330	51.2301	ng
PBDE099	2,2',5,5'Tetrabromobiphenyl	20.752	110038	953571	0.1154	197.2282	ng
PBDE085	2,2',5,5'Tetrabromobiphenyl	21.619	90368	953571	0.0948	208.6000	ng
PBDE154	2,2',5,5'Tetrabromobiphenyl	22.200	107917	953571	0.1132	216.6695	ng
PBDE153	2,2',5,5'Tetrabromobiphenyl	22.917	105567	953571	0.1107	232.1524	ng
PBDE138	2,2',5,5'Tetrabromobiphenyl	23.784	89046	953571	0.0934	216.5024	ng
PBDE183	2,2',5,5'Tetrabromobiphenyl	24.922	91640	953571	0.0961	256.8186	ng
PBDE190	2,2',5,5'Tetrabromobiphenyl	26.075	36560	953571	0.0383	228.2469	ng
PBDE209	2,2',5,5'Tetrabromobiphenyl	29.921	1973	953571		1145.3132	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path C:\msdchem\1\DATA\O-5039 PBDE\QuantResults\O-5039 PBDE.batch.bin
Analysis Time 1/8/2014 1:31 PM **Analyst Name** eugenechae
Report Time 6/11/2014 1:13 PM **Reporter Name** eugenechae
Last Calib Update 1/8/2014 9:56 AM **Batch State** Processed

Analysis Info

Acq Time
Level
Position
Sample Type Sample
Dilution 1
Sample Name PBDE200CCV
Data File PBDE200CCV.D
Acq Method File NCI-15m PBDE.M
Sample Info
Comment

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphe nyl	15.139	38127	870709	0.0438	48.7096	ng
PBDE017	2,2',5,5'Tetrabromobiphe nyl	15.691	118381	870709	0.1360	187.3549	ng
PBDE028	2,2',5,5'Tetrabromobiphe nyl	16.040	130828	870709	0.1503	191.5094	ng
PBDE049	2,2',5,5'Tetrabromobiphe nyl	18.016	84922	870709	0.0975	123.6829	ng
PBDE071	2,2',5,5'Tetrabromobiphe nyl	18.103	113970	870709	0.1309	186.9713	ng
PBDE047	2,2',5,5'Tetrabromobiphe nyl	18.408	98726	870709	0.1134	171.2123	ng
PBDE066	2,2',5,5'Tetrabromobiphe nyl	18.742	104620	870709	0.1202	172.4642	ng
PBDE100	2,2',5,5'Tetrabromobiphe nyl	20.234	89194	870709	0.1024	179.1719	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphe nyl	20.568	26375	870709	0.0303	47.0501	ng
PBDE099	2,2',5,5'Tetrabromobiphe nyl	20.738	89502	870709	0.1028	175.6851	ng
PBDE085	2,2',5,5'Tetrabromobiphe nyl	21.605	71874	870709	0.0825	181.6977	ng
PBDE154	2,2',5,5'Tetrabromobiphe nyl	22.191	87719	870709	0.1007	192.8758	ng
PBDE153	2,2',5,5'Tetrabromobiphe nyl	22.908	84622	870709	0.0972	203.8003	ng
PBDE138	2,2',5,5'Tetrabromobiphe nyl	23.770	68580	870709	0.0788	182.6102	ng
PBDE183	2,2',5,5'Tetrabromobiphe nyl	24.913	63064	870709	0.0724	193.5536	ng
PBDE190	2,2',5,5'Tetrabromobiphe nyl	26.061	29393	870709	0.0338	200.9639	ng
PBDE209	2,2',5,5'Tetrabromobiphe nyl	30.003	436	870709		276.8817	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path C:\msdchem\1\DATA\O-5039 PBDE\QuantResults\O-5039 PBDE.batch.bin
Analysis Time 1/8/2014 1:31 PM **Analyst Name** eugenechae
Report Time 6/11/2014 1:13 PM **Reporter Name** eugenechae
Last Calib Update 1/8/2014 9:56 AM **Batch State** Processed

Analysis Info

Acq Time
Level
Position
Sample Type Sample
Dilution 1

Sample Name PBDE200FCV
Data File PBDE200FCV.D
Acq Method File NCI-15m PBDE.M
Sample Info
Comment

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphe nyl	15.134	32710	840166	0.0389	43.3077	ng
PBDE017	2,2',5,5'Tetrabromobiphe nyl	15.686	110038	840166	0.1310	180.4817	ng
PBDE028	2,2',5,5'Tetrabromobiphe nyl	16.040	123617	840166	0.1471	187.5326	ng
PBDE049	2,2',5,5'Tetrabromobiphe nyl	18.011	77217	840166	0.0919	116.5489	ng
PBDE071	2,2',5,5'Tetrabromobiphe nyl	18.098	108670	840166	0.1293	184.7579	ng
PBDE047	2,2',5,5'Tetrabromobiphe nyl	18.408	92260	840166	0.1098	165.8156	ng
PBDE066	2,2',5,5'Tetrabromobiphe nyl	18.742	99400	840166	0.1183	169.8153	ng
PBDE100	2,2',5,5'Tetrabromobiphe nyl	20.229	85130	840166	0.1013	177.2247	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphe nyl	20.563	27670	840166	0.0329	51.1558	ng
PBDE099	2,2',5,5'Tetrabromobiphe nyl	20.738	83976	840166	0.1000	170.8304	ng
PBDE085	2,2',5,5'Tetrabromobiphe nyl	21.600	69447	840166	0.0827	181.9452	ng
PBDE154	2,2',5,5'Tetrabromobiphe nyl	22.191	84177	840166	0.1002	191.8171	ng
PBDE153	2,2',5,5'Tetrabromobiphe nyl	22.908	78534	840166	0.0935	196.0160	ng
PBDE138	2,2',5,5'Tetrabromobiphe nyl	23.760	68440	840166	0.0815	188.8638	ng
PBDE183	2,2',5,5'Tetrabromobiphe nyl	24.908	63417	840166	0.0755	201.7147	ng
PBDE190	2,2',5,5'Tetrabromobiphe nyl	26.056	25957	840166	0.0309	183.9223	ng
PBDE209	2,2',5,5'Tetrabromobiphe nyl	29.925	825	840166		543.3356	ng

	PBDE200 CCV			PBDE200 FCV			PBDE200 FCV		
	1/8/14 1:31 PM			1/8/14 1:31 PM			1/8/14 1:31 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
FTBDE	50	42	15	50	49	3	50	43	13
DFTBDE	50	51	2	50	47	6	50	51	2
PBDE017	200	174	13	200	187	6	200	180	10
PBDE028	200	184	8	200	192	4	200	188	6
PBDE049	200	128	36	200	124	38	200	117	42
PBDE071	200	195	3	200	187	7	200	185	8
PBDE047	200	181	10	200	171	14	200	166	17
PBDE066	200	185	8	200	172	14	200	170	15
PBDE100	200	200	0	200	179	10	200	177	11
PBDE099	200	197	1	200	176	12	200	171	15
PBDE085	200	209	4	200	182	9	200	182	9
PBDE154	200	217	8	200	193	4	200	192	4
PBDE153	200	232	16	200	204	2	200	196	2
PBDE138	200	217	8	200	183	9	200	189	6
PBDE183	200	257	28	200	194	3	200	202	1
PBDE190	200	228	14	200	201	0	200	184	8
PBDE209	1000	1145	15	1000	277	72	1000	543	46
Average	-	-	11	-	-	13	-	-	13

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Pyrethroids

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Summary of Internal Standards

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	4,4'-Dibromobiphenyl		2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time	Response	Retention Time
Spex_500ICV	1216332	39.81	236069	50.862
B_6004	4364806	39.803	865025	50.859
BS1_6004	4872095	39.795	1054479	50.855
BS2_6004	5014326	39.794	1090869	50.853
22571MS1	3698524	39.787	751887	50.829
22571MS2	3352768	39.787	685069	50.83
22576	4370363	39.812	853512	50.887
22551	4969409	39.798	908562	50.855
22552	4543875	39.797	1025891	50.857
22553	3928486	39.799	936527	50.86
22554	5004037	39.797	968541	50.856
22555	3643532	39.795	851572	50.854
22556	4917382	39.797	1086888	50.851
PYR1000CCV	1512225	39.841	311662	50.863
22557	4504366	39.794	1001001	50.851
22571	6012476	39.793	1224777	50.85
22571R2	5303805	39.795	1147905	50.85
22572	4810109	39.795	1046552	50.85
22573	5061036	39.797	908979	50.854
22574	5251251	39.796	1021303	50.847
22575	4287450	39.796	826008	50.85
22599	4535059	39.79	805724	50.848
22600	4747246	39.791	936840	50.847
PYR1000FCV	1663011	39.855	347568	50.865

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Initial Calibration Data

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Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Method File : Q_PYR_EI_140528.M
 Title : Pyrethroids
 Last Update : Mon Jun 02 09:29:20 2014
 Response Via : Initial Calibration

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Calibration Files

1000=PYR1000.D 500 =PYR500.D 250 =PYR250.D 100 =PYR100.D 50 =PYR50.D 25 =PYR25.D

	Compound	1000	500	250	100	50	25	Avg	%RSD
1) I	4,4'-Dibromobiphenyl	-----ISTD-----							
2) S	(TCMX)-PYR	0.478	0.416	0.468	0.447	0.469	0.461	0.456	4.90
3) s	(PCB030)-PYR	1.264	1.137	1.239	1.222	1.237	1.263	1.227	3.82
4)	Allethrin	1.021	0.960	0.808	0.663	0.642	0.666	0.793	20.75
5)	Prallethrin	0.894	0.866	0.600	0.476	0.441	0.428	0.618	34.40
6)	Resmethrin	0.443						0.443	0.00
7) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
8) s	(PCB112)-PYR	4.555	4.269	4.481	4.685	4.608	4.648	4.541	3.33
9) s	(PCB198)-PYR	1.471	1.406	1.410	1.450	1.410	1.427	1.429	1.85
10)	Bifenthrin	9.881	9.548	8.406	7.814	7.001	7.556	8.368	13.64
11)	Danitol (Fenpr...	2.748	2.662	2.281	2.151	1.909	1.635	2.231	19.24
12)	Cyhalothrin-la...	2.032	1.983	1.552	1.346	1.229	1.339	1.580	22.00
13)	Permethrin-cis	5.612	5.669	4.597	4.799	4.244	5.159	5.013	11.36
14)	Permethrin-trans	4.772	4.860	3.976	3.881	3.637	4.211	4.223	11.74
15)	Cyfluthrin-1	0.388	0.396	0.330	0.288	0.258	0.467	0.355	21.77
16)	Cyfluthrin-2	0.528	0.549	0.401	0.372	0.334	0.538	0.454	21.00
17)	Cyfluthrin-3	0.294	0.305	0.255	0.285	0.262	0.243	0.274	8.84
18)	Cyfluthrin-4	0.250	0.266	0.216	0.245	0.299	0.334	0.269	15.67
19)	Cypermethrin-1	0.426	0.450	0.371	0.248	0.438	0.355	0.381	19.84
20)	Cypermethrin-2	0.375	0.410	0.324	0.281	0.243	0.303	0.323	18.94
21)	Cypermethrin-3	0.376	0.393	0.293	0.265	0.314	0.400	0.340	16.77
22)	Cypermethrin-4	0.294	0.303	0.244	0.193	0.261	0.214	0.251	17.16
23)	Fenvalerate	1.623	1.689	1.232	1.142	1.285	1.371	1.390	15.82
24)	Esfenvalerate	1.758	1.850	1.460	1.254	1.245	1.627	1.532	16.65
25)	Fluvalinate	1.446	1.541	1.051	0.835	0.911	0.795	1.097	29.28
26)	Deltamethrin/T...	0.433	0.460	0.206	0.247	0.179		0.305	43.11

(#) = Out of Range

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Continuing Calibration Data

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Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : SPEXMIX500_100ICV.D
 Acq On : 27 May 2014 06:56 pm
 Operator :
 Sample : SPEXMIX500_100ICV
 Misc :
 ALS Vial : 106 Sample Multiplier: 1

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Quant Time: Jun 13 14:38:32 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PYR_EI_140528.M
 Quant Title : Pyrethroids
 QLast Update : Mon Jun 02 09:29:20 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	39.810	312	1216332	1000.00		-0.07
7) 2,2',5,5'-Tetrabromobi...	50.862	391	236069	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)-PYR	25.543	244	233211	420.01		0.00
3) (PCB030)-PYR	30.578	256	587048	393.36		-0.02
8) (PCB112)-PYR	45.059	326	459245	428.40		0.01
9) (PCB198)-PYR	59.203	358	128068	379.69		0.03
Target Compounds						
					Qvalue	
4) Allethrin	42.708	123	767380m	633.79		
5) Prallethrin	43.713	123	440741m	416.16		
6) Resmethrin	0.000		0	N.D.		
10) Bifenthrin	55.857	181	2814174	1225.61		99
11) Danitol (Fenpropathrin)	56.235	97	503398	788.85		95
12) Cyhalothrin-lambda	59.732	181	231104	491.19		90
13) Permethrin-cis	62.329	183	255605	194.53		97
14) Permethrin-trans	62.836	183	1084524	968.75		98
15) Cyfluthrin-1	64.685	163	63065	692.92	#	83
16) Cyfluthrin-2	65.064	163	79020	638.14	#	70
17) Cyfluthrin-3	65.332	163	58092m	836.51		
18) Cyfluthrin-4	65.509	163	80624	1355.57	#	85
19) Cypermethrin-1	65.829	163	97603m	969.88		
20) Cypermethrin-2	66.227	163	97625	1094.11		92
21) Cypermethrin-3	66.495	163	94053	1064.56		95
22) Cypermethrin-4	66.658	163	88056	1275.70	#	90
23) Fenvalerate	69.247	125	483373	1269.58	#	80
24) Esfenvalerate	70.037	125	474394	1144.29	#	88
25) Fluvalinate	70.371	250	360871	1062.18	#	42
26) Deltamethrin/Tralomethrin	72.039	253	79254	789.69	#	26

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : PYR_RES1000CCV.D
 Acq On : 29 May 2014 01:49 am
 Operator :
 Sample : PYR_RES1000CCV
 Misc :
 ALS Vial : 101 Sample Multiplier: 1

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Quant Time: Jun 13 14:40:21 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PYR_EI_140528.M
 Quant Title : Pyrethroids
 QLast Update : Mon Jun 02 09:29:20 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	39.841	312	1512225	1000.00		-0.04
7) 2,2',5,5'-Tetrabromobi...	50.863	391	311662	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)-PYR	25.550	244	264296	382.85		0.01
3) (PCB030)-PYR	30.588	256	715384	385.56		0.00
8) (PCB112)-PYR	45.058	326	593413	419.30		0.00
9) (PCB198)-PYR	59.194	358	180681	405.75		0.02
Target Compounds						
					Qvalue	
4) Allethrin	42.698	123	1106015m	734.74		
5) Prallethrin	43.703	123	942697m	715.95		
6) Resmethrin	53.832	123	875513m	1307.59		
10) Bifenthrin	55.849	181	3838889	1266.38		99
11) Danitol (Fenpropathrin)	56.231	97	715825	849.66		94
12) Cyhalothrin-lambda	59.727	181	672876	1083.26		93
13) Permethrin-cis	62.327	183	706014	406.99		99
14) Permethrin-trans	62.838	183	1531225	1036.02		99
15) Cyfluthrin-1	64.672	163	153541m	1277.84		
16) Cyfluthrin-2	65.048	163	212177m	1297.87		
17) Cyfluthrin-3	65.332	163	110225m	1202.25		
18) Cyfluthrin-4	65.506	163	102084	1300.08	#	69
19) Cypermethrin-1	65.830	163	190582m	1434.47		
20) Cypermethrin-2	66.215	163	164931m	1400.09		
21) Cypermethrin-3	66.493	163	157592	1351.10		93
22) Cypermethrin-4	66.652	163	129170m	1417.44		
23) Fenvalerate	69.246	125	675043	1342.97	#	77
24) Esfenvalerate	70.034	125	791910	1446.87	#	87
25) Fluvalinate	70.364	250	704695	1571.10	#	44
26) Deltamethrin/Tralomethrin	72.041	253	181220	1367.72	#	26

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : PYR_RES1000FCV.D
 Acq On : 30 May 2014 01:17 am
 Operator :
 Sample : PYR_RES1000FCV
 Misc :
 ALS Vial : 101 Sample Multiplier: 1

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Quant Time: Jun 13 14:41:28 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PYR_EI_140528.M
 Quant Title : Pyrethroids
 QLast Update : Mon Jun 02 09:29:20 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	39.855	312	1663011	1000.00		-0.03
7) 2,2',5,5'-Tetrabromobi...	50.865	391	347568	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)-PYR	25.549	244	289319	381.10		0.00
3) (PCB030)-PYR	30.586	256	786808	385.61		0.00
8) (PCB112)-PYR	45.053	326	650979	412.45		0.00
9) (PCB198)-PYR	59.184	358	189168	380.92		0.01
Target Compounds						
					Qvalue	
4) Allethrin	42.688	123	1118864m	675.88		
5) Prallethrin	43.693	123	823642m	568.81		
6) Resmethrin	53.842	123	892369m	1211.92		
10) Bifenthrin	55.843	181	3919800	1159.48		99
11) Danitol (Fenpropathrin)	56.228	97	747624	795.73		91
12) Cyhalothrin-lambda	59.722	181	616857	890.48		91
13) Permethrin-cis	62.324	183	659863	341.09		98
14) Permethrin-trans	62.836	183	1490339	904.19		99
15) Cyfluthrin-1	64.672	163	151008m	1126.92		
16) Cyfluthrin-2	65.054	163	203065	1113.81		94
17) Cyfluthrin-3	65.333	163	112349	1098.82		88
18) Cyfluthrin-4	65.506	163	108916	1243.78	#	85
19) Cypermethrin-1	65.819	163	188866m	1274.69		
20) Cypermethrin-2	66.226	163	164059	1248.82		94
21) Cypermethrin-3	66.494	163	154833	1190.31		95
22) Cypermethrin-4	66.641	163	122111m	1201.55		
23) Fenvalerate	69.242	125	661585	1180.22	#	79
24) Esfenvalerate	70.033	125	785473	1286.85	#	88
25) Fluvalinate	70.366	250	616941m	1233.36		
26) Deltamethrin/Tralomethrin	72.031	253	185878m	1257.95		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PYR500 ICV			PYR1000 CCV			PYR500 FCV		
	5/27/14 6:56 PM			5/29/14 1:49 AM			5/30/14 1:17 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PCB112	400	428	7	400	419	5	400	412	3
PCB198	400	380	5	400	406	1	400	381	5
Allethrin	500	634	27	1000	735	27	1000	676	32
Prallethrin	500	416	17	1000	716	28	1000	569	43
Resmethrin	500	0	100	1000	1308	31	1000	1212	21
Bifenthrin	500	1226	145	1000	1266	27	1000	1159	16
Danitol (Fenpropathrin)	500	789	58	1000	850	15	1000	796	20
Cyhalothrin-lambda	500	491	2	1000	1083	8	1000	890	11
Permethrin-cis	134	195	46	267	407	52	267	341	28
Permethrin-trans	358	969	171	716	1036	45	716	904	26
Cyfluthrin-1	500	693	39	1000	1278	28	1000	1127	13
Cyfluthrin-2	500	638	28	1000	1298	30	1000	1114	11
Cyfluthrin-3	500	837	67	1000	1202	20	1000	1099	10
Cyfluthrin-4	500	1356	171	1000	1300	30	1000	1244	24
Cypermethrin-1	500	970	94	1000	1434	43	1000	1275	27
Cypermethrin-2	500	1094	119	1000	1400	40	1000	1249	25
Cypermethrin-3	500	1065	113	1000	1351	35	1000	1190	19
Cypermethrin-4	500	1276	155	1000	1417	42	1000	1202	20
Fenvalerate	500	1270	154	1000	1343	34	1000	1180	18
Esfenvalerate	500	1144	129	1000	1447	45	1000	1287	29
Fluvalinate	500	1062	112	1000	1571	57	1000	1233	23
Deltamethrin-Tralomethrin	500	790	58	1000	1368	37	1000	1258	26
Average	-	-	95	-	-	35	-	-	21

PHYSIS

Toxaphene

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS

Continuing Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

	TOX10000 CCV			TOX10000 FCV		
	1/9/14 2:01 PM			1/9/14 2:01 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Toxaphene	10000	12789	28	10000	8585	14

June 05, 2014

Chris Stransky
 AMEC
 9210 Sky Park Court
 Suite 200
 San Diego, CA 92123-

Project Name: RHMP Bight '13
 Physis Project ID: 1307002-014

Dear Chris,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 8/30/2013. A total of 5 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventionals
Percent Solids by SM 2540B
Ammonia as N by SM 4500-NH ₃ D
Acid Volatile Sulfides (AVS) by Plumb, 1981 and TERL
Elements
Trace Metals by EPA 6020
Trace Mercury by EPA 245.7
Total Phosphorus by EPA 6020
Simultaneously Extracted Metals Analysis (AVS-SEM) by EPA 200.8
Organics
Toxaphene w/ OCPs by EPA 8270C-NCI
Synthetic Pyrethroid Pesticides by EPA 8270C-NCI
Polynuclear Aromatic Hydrocarbons by EPA 8270C
PBDE Congeners by EPA 8270C-NCI
Organochlorine Pesticides & PCB Congeners/Aroclors by EPA 8270C
Fipronil & Degradates by EPA 8270C-NCI
Subcontract
Total Organic Carbon by SM 5310 B
Total Nitrogen by SM 4500-N

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

Misty Mercier
Extension 202
714-335-5918 cell
mistymercier@physislabs.com

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and are used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use was assessed through the analysis of procedural blanks at a minimum frequency of one per batch. Physis' QM requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the procedural blanks be flagged in the project sample results with a B qualifier.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS1/MS2, BS1/BS2, LCS1/LCS2, LCM1/LCM2, CRM1/CRM2, surrogate spikes and/or replicate project sample analysis (R1/R2) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

MATRIX SPIKES: MS samples were employed to assess the effect a particular project sample matrix has on the accuracy of a measurement. It is prepared by adding a known amount of the target analyte(s) to an aliquot of the project sample. Matrix spikes indicate the bias of analytical measurements due to chemical interferences inherent in the sample matrix. If the matrix spike recovery does not fall within the specified acceptance limits, it may be an indication of sample matrix interference in the specific project sample used for the MS. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

BLANK SPIKES: BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

CERTIFIED REFERENCE MATERIALS: CRMs are pre-homogenized materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of a preparation and analytical method. CRMs are analyzed to provide evidence that the laboratory method produces results that are comparable to those obtained by an independent organization.

SURROGATES: Where CRMs are unavailable, target analyte recovery can be assessed by monitoring added surrogate compounds/elements. A surrogate is a pure analyte unlikely to be found in any project sample and most often used with organic analytical procedures. Percent recovery is calculated for each surrogate and is used to monitor method performance within each discrete sample and is indicative of the procedure's ability to recover the actual analytes of interest.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored

under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes. Physis' QM requires that all samples analyzed beyond the method recommended holding time be flagged in the sample results with an H qualifier.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
*	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified recovery and/or RPD acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore MS recovery and/or RPD acceptance limits do not apply
SL	analyte results for R1 and/or R2 were lower than 10 times the MDL, therefore RPD acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore MS recovery and/or RPD were outside the specified acceptance limits
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples



CASE NARRATIVE

QUALIFIER NOTES

In addition to the use of analyte specific Physis Qualifier Codes where applicable, the following were also noted.

ELEMENTS CRM: Four elements, Aluminum (Al), Antimony (Sb), Beryllium (Be), and Chromium (Cr), were above the specified acceptance limits in one or more CRM - RTC 016-050 and/or CRM - ERA 540. This occurred as a result of a more rigorous digestion employed by Physis, which causes a higher yield for some lithogenous elements. These values are in agreement with past internal results for CRM - RTC 016-050 and CRM - ERA 540.

ORGANICS: Blank spikes (BS1/BS2) for Endosulfan-II, Endrin Aldehyde and blank spikes and matrix spikes (MS1/MS2) for Resmethrin fell outside of the acceptance range required by the associated project QAPP (70% – 130%), but passed PHYSIS' internal acceptance range for this analysis (50%-150% for Endosulfan-II, 0%-125% for Endrin Aldehyde, 0%-130% for Resmethrin).

One LMW Chlorinated Pesticide surrogate (TCMX) was below the specified acceptance limits. This occurred in one or more project samples and/or QC samples as a result of the chromatography column cleanup procedure for the sediment matrix.

Relative percent difference between blank spikes (BS1/BS2) failed for PAHs due to overspiking of BS1 compared to BS2.

ORGANICS TUNE: Physis uses the software supplied with its Agilent GCMS systems to tune its instruments. Moreover, with today's technology software algorithms provided by the instrument manufacturer provide a more stable system across a wider mass range than manual tuning to achieve specific tuning targets such as DFTPP. The following quote is from EPA Method 8270D Section 11.3.1.

"The analyst is always free to choose criteria that are tighter than those included in this method or to use other documented criteria provided they are used consistently throughout the initial calibration, calibration verification, and sample analyses."

The key here is that the instrument is tuned and that those tune settings are used for the subsequent analysis of the calibration curve, calibration verification, and samples. Moreover, another key reason for tuning to specific criteria is to insure that the GCMS is generating spectra that match the spectra in the NIST Library for confirming the identification of the target analyte. Physis can provide library search results for our calibration standards indicating a very high match quality with the NIST library spectra.



Physis did analyze the DFTPP tune solution with each batch (except for the first batch where the tune solution was mis-injected) and the passing tune reports have been provided indicating that using the instrument tuning software is closely matched to DFTPP tune requirements.

ORGANICS CALIBRATION: A calibration point in the middle of the curve (100 ng) for PCB201 was not used for the calibration of the instrument. This was an error of the analyst that has since been corrected.

ORGANICS CCVS: CCVs for Fipronils were done at 1000 ng, PBDEs were done at 200 ng, and Pyrethroids were done at 1000 ng. These values are at the high point of the calibration. This was an error of the analyst that has since been corrected.

Revisions 6/20/2014-

- Aroclors:
 - Updated Aroclor MDLs/RLs from 10/20 to 1/2
 - Added Aroclor 1262 and Aroclor 1268
 - After review of the data, the Technical Director made a decision to revise the data for the Aroclors
- RPDs:
 - Reviewed and updated all RPDs to 25%, per the RHMP QAPP. Revised Passes to Fails and added QA Qualifiers, where needed due to update.
- Acceptance Ranges
 - Reviewed and updated all Acceptance ranges per the RHMP QAPP. Revised Passes to Fails and added QA Qualifier, where needed due to update.
- CRM
 - After review of the data, the Technical Director made a decision to revise the Organics data for the CRM (SRM 1944).
- Matrix Spikes
 - After review of the data, the Technical Director made a decision to revise the Organics Data for the MS1/MS2.
- Recovery surrogates
 - After review of the recovery surrogates, the Technical Director made a decision to revise PAH recovery surrogates for sample B13-8058 & B13-8031 (Physis Sample ID: 22571 and 22575)

Revisions 8/20/2014-

- Analytical Report:
 - Added Time Analyzed to all analysis.
- Level 3 reports:



- Revised tune report.

Performance-Based Chemistry-

The chemistry results provided in this report are derived from “performance-based” chemistry rather than the use of specific EPA published laboratory methods. This does not eliminate our responsibility to use Good Laboratory Practices. It does allow for incorporation of improvements in technology or the use of laboratory preferences for techniques that improve the efficiency and sensitivity of the laboratory and maintain or enhance the quality of the data.

“The Environmental Protection Agency (EPA) is actively working to implement the President’s program for reinventing government and reforming regulatory policy. As part of this program, EPA has been working at breaking down barriers to using new monitoring techniques. One barrier is the requirement to use specific measurement methods or technologies in complying with some of the Agency’s regulations. EPA’s Environmental Monitoring Management Council (EMMC), members of the regulated community, and Congress agree that EPA needs to change the way it specifies monitoring requirements in regulations and permits. There is broad acceptance for Agency-wide use of a nonprescriptive performance-based measurement system (PBMS)”. PBMS conveys "what" needs to be accomplished, but not prescriptively "how" to do it. EPA defines PBMS as a set of processes wherein the data needs, mandates, or limitations of a program or project are specified, and serve as criteria for selecting appropriate methods to meet those needs in a cost-effective manner. The criteria may be published in regulations, technical guidance documents, permits, work plans, or enforcement orders. Under a performance-based approach, EPA would specify:

- Questions to be answered by monitoring.
- Decisions to be supported by the data.
- Level of uncertainty acceptable for making decisions.
- Documentation to be generated to support this approach in the RCRA monitoring program.

(Taken from OSWER PBMS Implementation Plan, October 9, 1998, A Cooperative Effort Among: OSW, OERR, OUST, TIO, FFROL and CEPPPO).”

The US EPA has included references to being “performance-based” in many of their newer methods. The use of performance-based methods is even more critical for programs like this study in order to allow the laboratory to adapt methods that optimize the goal of the project in terms of achieving



ultra-low sensitivity and analysis of new chemicals of concern. I would also like to quote US EPA Method 8270-

“In addition, SW-846 methods, with the exception of required method use for the analysis of method-defined parameters, are intended to be guidance methods which contain general information on how to perform an analytical procedure or technique which a laboratory can use as a basic starting point for generating its own detailed Standard Operating Procedure (SOP), either for its own general use or for a specific project application.”

Performance-based chemistry was first used for NOAA’s National Status and Trends Program in the early 1980’s which is now operated under the US EPA as the National Coastal Condition Assessment Program (NCCA). The NS&T program included 3 large well-established laboratories for the analysis of samples from each of 3 regions of the United States. It was concluded at the beginning of this program that a significant improvement in the quality and comparability of the results would be achieved by allowing the participating laboratories to optimize their own individual methods. The key to this approach and any subsequent performance-based chemistry programs is the successful inclusion of an interlaboratory comparison as well as the clear detailed specification of data quality objectives (DQOs) for the project. All the Bight Survey projects from 1994 to 2013 have been performance-based and each of the surveys included interlaboratory comparisons as a key component for ensuring high quality data that is comparable between laboratories over time.

The one area that has not evolved along with the advent of performance-based chemistry is the data validation process. Today’s data validation process still relies upon collecting and evaluating laboratory analytical information and comparing it to the details of a specific EPA analytical method such as EPA 8270 for GCMS analysis or EPA 6020 for ICPMS analysis. This can occur even when the requirement in the method is out-dated and based on old technology. Data validation procedures need to be adapted to performance-based chemistry allowing for any individual laboratory to use or not use any method or any part of a method they choose as long as they can demonstrate their ability to successfully pass interlaboratory comparisons, performance evaluation samples, and meet the data quality objectives of the project QA Plan.

EPA Method Modifications-

With reference to performance-based methods, the following information is provided as a basis of comparison between the Physis methods used for this study and the associated EPA Method. Its purpose is solely to provide information and is not intended to highlight errors. Physis has successfully participated in several interlaboratory comparison studies including the Bight 13 Project demonstrating the viability of our analytical process. Physis has included the QAQC data in this



report necessary to show that the results comply with the project QA Plan and indicate acceptable accuracy and precision.

1. Internal Laboratory QAQC Frequency for GCMS Analyses- Physis uses GC columns that are longer and narrower and the GC oven is programmed at a very slow rate of 2.5°C per minute both of which are not typically used by most laboratories. The purpose for this is to maximize separation of the 100's to 1000's of compounds present in environmental samples reducing co-elution with interfering compounds, reducing background noise, and enhancing the accuracy of quantitation. At the same time this process extends the run-time for each sample to ca. 90 minutes as compared to the 15-30 minutes with typical conditions. At 90 minutes per run, the maximum number of runs for any 12-hour period is 8. Each batch of samples typically includes the DFTPP tune solution and the initial calibration verification of from 1 to 4 solutions (Depending on the target parameters) for a total of 2-5 runs leaving an opening for 3-6 samples before having to redo the QA samples if the 12-hour constraint is applied. At this rate it's not economically viable to follow the 12-hour rule and complete the analyses of the samples.

Since the 12-hour criteria was established when the state-of-the-art was GCs equipped with packed columns and GCMS systems were not anywhere near as stable as the electronics of today. Physis does follow the criteria's intent by analyzing the calibration verification standards at the beginning, middle, and end of each batch of no more than 20 samples rather than every 12 hours.

2. Calibration and Quantitation- Physis bases its calibration curve on the mass of each compound rather than concentration. Using the internal standard method of quantitation, use of mass rather than concentration eliminates the extract or digestate volume term from the formula used to calculate concentrations in the samples. Therefore there is no need to measure the precise volume of the extract or digestate. For GCMS analysis, extract volumes can be quite low and small volume changes will be reflected in increased variation of the internal standard response from sample to sample due to differences in the extract volume and not due to the instability of the GCMS. Through long-term experience, Physis chemists are trained to take into consideration this change in volume when evaluating whether a change in the internal standard response is caused by a change in the GCMS sensitivity or extract volume.

The "recovery" of the Internal Standard and its variability is reported in Form VII SV-1 for reporting IS peak areas. For the sample IS compared to the ICV/CCV IS peak area, this form



has a wide acceptance range at 50-200% which is considerably larger than the variation in the nominal estimate made of our extract volumes. Therefore significant deviations from expected IS responses are clearly obvious to the analyst and would require corrective action and re-analysis. The difficulty is the fact that Form VII SV-1 does not accommodate volumes and therefore does not allow for evaluation of the sample IS as it compares to the ICV/CCV on an even basis.

3. Negative Chemical Ionization- Some target analytes are analyzed using the GCMS in the Negative Chemical Ionization Mode (NCI). This results in non-standard mass spectra that cannot be compared to the EI spectra in the NIST library.
4. Aroclor PCBs- Physis analyzes PCBs using a congener-based calibration standard composed of 52 or more different congeners representing ca. 75-80% of the PCBs discharged into the environment. Physis uses the results from the congener analysis to estimate Aroclor concentrations. To do this, Physis determines the Aroclor mixture present in the sample, sums the results for the congeners present in that Aroclor mixture then corrects the result to account for the missing mass based on a previous comparison of an Aroclor calibration standard to the congener mixture. Physis does not perform blank or matrix spikes using Aroclor mixtures since PCB spiking is done via the congener solution. Aroclor-based quantitation is inherently inaccurate and imprecise and results based on our process are as accurate if not more accurate than the Aroclor-based process since the quantitation is based on individual peaks rather than summing peaks.
5. Pyrethroid/Fipronil Surrogates- Physis spikes all samples with a surrogate solution containing TCMX, PCB030, PCB112, and PCB198 for the Chlorinated Pesticides, Congener PCBs, Pyrethroids, and Fipronils; d8-Naphthalene, d10-Acenaphthene, d10-Phenanthrene, d12-Chrysene, and d12-Perylene for the PAHs; and FBDE-3002, FBDE-5004, and FBDE-8001 for the PBDEs. Since Pyrethroids and Fipronils are quantified using NCI, only the PCB112 and PCB198 surrogates are used as surrogates for these compounds.
6. Sample Preservation - According to the Standard Operating Procedure for Sample Logistics, sediment and tissue samples were placed in a freezer maintained at $-20 \pm 4^{\circ}\text{C}$ until preserved or processed.

ANALYTICAL

REPORT

PHYSICS

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CA ELAP #2769

Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div> Sample ID: 22571-R1 Method: EPA 8270C </div> <div> B13-8058 Grab Matrix: Sediment Batch ID: O-6004 </div> <div> Sampled: 30-Aug-13 7:12 Prepared: 16-May-14 </div> <div> Received: 30-Aug-13 Analyzed: 01-Jun-14 0:00 </div> </div>						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	ND	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	
<div> <div> Sample ID: 22572-R1 Method: EPA 8270C </div> <div> B13-8068 Grab Matrix: Sediment Batch ID: O-6004 </div> <div> Sampled: 30-Aug-13 8:23 Prepared: 16-May-14 </div> <div> Received: 30-Aug-13 Analyzed: 02-Jun-14 0:00 </div> </div>						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	ND	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	
<div> <div> Sample ID: 22573-R1 Method: EPA 8270C </div> <div> B13-8090 Grab Matrix: Sediment Batch ID: O-6004 </div> <div> Sampled: 30-Aug-13 9:36 Prepared: 16-May-14 </div> <div> Received: 30-Aug-13 Analyzed: 02-Jun-14 0:00 </div> </div>						
Aroclor 1016	NA	340.3	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	



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Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1260	NA	812.9	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22574-R1**B13-8045 Grab****Matrix: Sediment****Sampled: 30-Aug-13 11:10****Received: 30-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 02-Jun-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	2	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22575-R1**B13-8031 Grab****Matrix: Sediment****Sampled: 30-Aug-13 12:23****Received: 30-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 02-Jun-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	ND	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22571-R1 B13-8058 Grab Matrix: Sediment Sampled: 30-Aug-13 7:12 Received: 30-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5039 Prepared: 12-Nov-13 Analyzed: 16-Nov-13 2:50						
Toxaphene	NA	ND	0.1	0.2	ng/dry g	
Method: EPA 8270C Batch ID: O-6004 Prepared: 16-May-14 Analyzed: 01-Jun-14 23:54						
(PCB030)	NA	87			% Recovery	
(PCB112)	NA	91			% Recovery	
(PCB198)	NA	77			% Recovery	
(TCMX)	NA	92			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22572-R1**B13-8068 Grab****Matrix: Sediment****Sampled: 30-Aug-13 8:23****Received: 30-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 16-Nov-13 4:58

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-6004	Prepared: 16-May-14	Analyzed: 02-Jun-14 3:12		
(PCB030)	NA	76			% Recovery	
(PCB112)	NA	86			% Recovery	
(PCB198)	NA	71			% Recovery	
(TCMX)	NA	84			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22573-R1**B13-8090 Grab****Matrix: Sediment****Sampled: 30-Aug-13 9:36****Received: 30-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 08-Jan-14 20:38

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-6004	Prepared: 16-May-14	Analyzed: 02-Jun-14 4:51		
(PCB030)	NA	95			% Recovery	
(PCB112)	NA	94			% Recovery	
(PCB198)	NA	67			% Recovery	
(TCMX)	NA	95			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	0.19	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	0.44	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	0.32	0.05	0.1	ng/dry g	

Sample ID: 22574-R1**B13-8045 Grab****Matrix: Sediment****Sampled: 30-Aug-13 11:10****Received: 30-Aug-13**

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 08-Jan-14 21:41

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-6004	Prepared: 16-May-14	Analyzed: 02-Jun-14 6:29		
(PCB030)	NA	86		% Recovery		
(PCB112)	NA	78		% Recovery		
(PCB198)	NA	64		% Recovery		
(TCMX)	NA	88		% Recovery		



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22575-R1 B13-8031 Grab Matrix: Sediment Sampled: 30-Aug-13 12:23 Received: 30-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5039 Prepared: 12-Nov-13 Analyzed: 08-Jan-14 22:45						
Toxaphene	NA	ND	0.1	0.2	ng/dry g	
Method: EPA 8270C Batch ID: O-6004 Prepared: 16-May-14 Analyzed: 02-Jun-14 8:08						
(PCB030)	NA	68			% Recovery	
(PCB112)	NA	81			% Recovery	
(PCB198)	NA	73			% Recovery	
(TCMX)	NA	46			% Recovery	*
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlorane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22571-R1 B13-8058 Grab Matrix: Sediment Sampled: 30-Aug-13 7:12 Received: 30-Aug-13 Method: Plumb, 1981 and TER Batch ID: C-14065 Prepared: 15-Oct-13 Analyzed: 15-Oct-13 0:00						
Acid Volatile Sulfides	NA	5.66	0.05	0.1	mg/dry kg	
Method: SM 4500-NH ₃ D Batch ID: C-14071 Prepared: 16-Oct-13 Analyzed: 16-Oct-13 0:00						
Ammonia as N	NA	0.39	0.02	0.03	mg/dry kg	
Method: SM 2540B Batch ID: E-7004 Prepared: 14-Oct-13 Analyzed: 14-Oct-13 0:00						
Percent Solids	NA	62.8	0.1	0.1	% Dry Weight	
Method: EPA 6020 Batch ID: E-7007 Prepared: 12-Oct-13 Analyzed: 21-Oct-13 17:21						
Total Phosphorus	NA	327.319	0.016	0.05	µg/dry g	
Sample ID: 22572-R1 B13-8068 Grab Matrix: Sediment Sampled: 30-Aug-13 8:23 Received: 30-Aug-13 Method: Plumb, 1981 and TER Batch ID: C-14065 Prepared: 15-Oct-13 Analyzed: 15-Oct-13 0:00						
Acid Volatile Sulfides	NA	8.67	0.05	0.1	mg/dry kg	
Method: SM 4500-NH ₃ D Batch ID: C-14071 Prepared: 16-Oct-13 Analyzed: 16-Oct-13 0:00						
Ammonia as N	NA	0.33	0.02	0.03	mg/dry kg	
Method: SM 2540B Batch ID: E-7004 Prepared: 14-Oct-13 Analyzed: 14-Oct-13 0:00						
Percent Solids	NA	70.5	0.1	0.1	% Dry Weight	
Method: EPA 6020 Batch ID: E-7007 Prepared: 12-Oct-13 Analyzed: 21-Oct-13 17:31						
Total Phosphorus	NA	211.801	0.016	0.05	µg/dry g	
Sample ID: 22573-R1 B13-8090 Grab Matrix: Sediment Sampled: 30-Aug-13 9:36 Received: 30-Aug-13 Method: Plumb, 1981 and TER Batch ID: C-14065 Prepared: 15-Oct-13 Analyzed: 15-Oct-13 0:00						
Acid Volatile Sulfides	NA	107.51	0.05	0.1	mg/dry kg	
Method: SM 4500-NH ₃ D Batch ID: C-14071 Prepared: 16-Oct-13 Analyzed: 16-Oct-13 0:00						
Ammonia as N	NA	2.01	0.02	0.03	mg/dry kg	
Method: SM 2540B Batch ID: E-7004 Prepared: 14-Oct-13 Analyzed: 14-Oct-13 0:00						
Percent Solids	NA	34.5	0.1	0.1	% Dry Weight	
Method: EPA 6020 Batch ID: E-7007 Prepared: 12-Oct-13 Analyzed: 21-Oct-13 17:35						
Total Phosphorus	NA	928.395	0.016	0.05	µg/dry g	
Sample ID: 22574-R1 B13-8045 Grab Matrix: Sediment Sampled: 30-Aug-13 11:10 Received: 30-Aug-13 Method: Plumb, 1981 and TER Batch ID: C-14065 Prepared: 15-Oct-13 Analyzed: 15-Oct-13 0:00						
Acid Volatile Sulfides	NA	17.16	0.05	0.1	mg/dry kg	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
	Method: SM 4500-NH ₃ D	Batch ID: C-14071		Prepared: 16-Oct-13		Analyzed: 16-Oct-13 0:00
Ammonia as N	NA	0.49	0.02	0.03	mg/dry kg	
	Method: SM 2540B	Batch ID: E-7004		Prepared: 14-Oct-13		Analyzed: 14-Oct-13 0:00
Percent Solids	NA	47.9	0.1	0.1	% Dry Weight	
	Method: EPA 6020	Batch ID: E-7007		Prepared: 12-Oct-13		Analyzed: 21-Oct-13 17:40
Total Phosphorus	NA	487.866	0.016	0.05	µg/dry g	
Sample ID: 22575-R1		B13-8031 Grab	Matrix: Sediment	Sampled: 30-Aug-13 12:23	Received: 30-Aug-13	
	Method: Plumb, 1981 and TER	Batch ID: C-14065		Prepared: 15-Oct-13		Analyzed: 15-Oct-13 0:00
Acid Volatile Sulfides	NA	1.3	0.05	0.1	mg/dry kg	
	Method: SM 4500-NH ₃ D	Batch ID: C-14071		Prepared: 16-Oct-13		Analyzed: 16-Oct-13 0:00
Ammonia as N	NA	0.08	0.02	0.03	mg/dry kg	
	Method: SM 2540B	Batch ID: E-7004		Prepared: 14-Oct-13		Analyzed: 14-Oct-13 0:00
Percent Solids	NA	65.8	0.1	0.1	% Dry Weight	
	Method: EPA 6020	Batch ID: E-7007		Prepared: 12-Oct-13		Analyzed: 21-Oct-13 17:44
Total Phosphorus	NA	288.108	0.016	0.05	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22571-R1 B13-8058 Grab Matrix: Sediment Sampled: 30-Aug-13 7:12 Received: 30-Aug-13 Method: EPA 245.7 Batch ID: E-6038 Prepared: 22-Oct-13 Analyzed: 22-Oct-13 0:00						
Mercury (Hg)	NA	0.242	0.00001	0.00002	µg/dry g	
Method: EPA 6020 Batch ID: E-7007 Prepared: 12-Oct-13 Analyzed: 22-Oct-13 20:14						
Aluminum (Al)	NA	17640.6	1	5	µg/dry g	
Antimony (Sb)	NA	0.148	0.025	0.05	µg/dry g	
Arsenic (As)	NA	5.486	0.025	0.05	µg/dry g	
Barium (Ba)	NA	45.785	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.295	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1369	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	29.4994	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	51.5881	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	16905.8	1	5	µg/dry g	
Lead (Pb)	NA	17.5958	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	7.35	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.134	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.58	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	105.86	0.025	0.05	µg/dry g	
Sample ID: 22572-R1 B13-8068 Grab Matrix: Sediment Sampled: 30-Aug-13 8:23 Received: 30-Aug-13 Method: EPA 245.7 Batch ID: E-6038 Prepared: 22-Oct-13 Analyzed: 22-Oct-13 0:00						
Mercury (Hg)	NA	0.1605	0.00001	0.00002	µg/dry g	
Method: EPA 6020 Batch ID: E-7007 Prepared: 12-Oct-13 Analyzed: 22-Oct-13 20:24						
Aluminum (Al)	NA	9916.5	1	5	µg/dry g	
Antimony (Sb)	NA	0.145	0.025	0.05	µg/dry g	
Arsenic (As)	NA	3.824	0.025	0.05	µg/dry g	
Barium (Ba)	NA	26.283	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.162	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1243	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	16.9877	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	33.6519	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	8920.4	1	5	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Lead (Pb)	NA	12.4168	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	4.06	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.102	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.39	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	70.868	0.025	0.05	µg/dry g	

Sample ID: 22573-R1**B13-8090 Grab****Matrix: Sediment****Sampled: 30-Aug-13 9:36****Received: 30-Aug-13**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.9626	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7007		Prepared: 12-Oct-13		Analyzed: 22-Oct-13 20:28
Aluminum (Al)	NA	45466.9	1	5	µg/dry g	
Antimony (Sb)	NA	0.853	0.025	0.05	µg/dry g	
Arsenic (As)	NA	15.223	0.025	0.05	µg/dry g	
Barium (Ba)	NA	125.596	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.839	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.5009	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	93.5734	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	268.3021	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	46493.9	1	5	µg/dry g	
Lead (Pb)	NA	78.0578	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	26.78	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.622	0.025	0.05	µg/dry g	
Silver (Ag)	NA	1.59	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	350.08	0.025	0.05	µg/dry g	

Sample ID: 22574-R1**B13-8045 Grab****Matrix: Sediment****Sampled: 30-Aug-13 11:10****Received: 30-Aug-13**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.22	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7007		Prepared: 12-Oct-13		Analyzed: 22-Oct-13 20:33
Aluminum (Al)	NA	38436.8	1	5	µg/dry g	
Antimony (Sb)	NA	0.274	0.025	0.05	µg/dry g	
Arsenic (As)	NA	9.031	0.025	0.05	µg/dry g	
Barium (Ba)	NA	99.855	0.025	0.05	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Beryllium (Be)	NA	0.608	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.197	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	50.3686	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	130.3025	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	34116.6	1	5	µg/dry g	
Lead (Pb)	NA	24.6857	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	14.13	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.288	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.54	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	163.857	0.025	0.05	µg/dry g	

Sample ID: 22575-R1**B13-8031 Grab****Matrix: Sediment****Sampled: 30-Aug-13 12:23****Received: 30-Aug-13**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.016	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7007		Prepared: 12-Oct-13		Analyzed: 22-Oct-13 20:38
Aluminum (Al)	NA	30894.5	1	5	µg/dry g	
Antimony (Sb)	NA	0.134	0.025	0.05	µg/dry g	
Arsenic (As)	NA	6.806	0.025	0.05	µg/dry g	
Barium (Ba)	NA	70.429	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.444	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1134	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	32.2135	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	17.3493	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	27974.3	1	5	µg/dry g	
Lead (Pb)	NA	4.7332	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	11.61	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.149	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.06	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	53.224	0.025	0.05	µg/dry g	



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22571-R1 B13-8058 Grab Matrix: Sediment Sampled: 30-Aug-13 7:12 Received: 30-Aug-13 Method: EPA 200.8 Batch ID: E-7011 Prepared: 18-Oct-13 Analyzed: 18-Oct-13 20:27						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.2865	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0571	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0098	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.9665	0.0015	0.003	µmol/dry g	
Sample ID: 22572-R1 B13-8068 Grab Matrix: Sediment Sampled: 30-Aug-13 8:23 Received: 30-Aug-13 Method: EPA 200.8 Batch ID: E-7011 Prepared: 18-Oct-13 Analyzed: 18-Oct-13 20:36						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.1394	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0379	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0054	0.0033	0.0066	µmol/dry g	J
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.6722	0.0015	0.003	µmol/dry g	
Sample ID: 22573-R1 B13-8090 Grab Matrix: Sediment Sampled: 30-Aug-13 9:36 Received: 30-Aug-13 Method: EPA 200.8 Batch ID: E-7011 Prepared: 18-Oct-13 Analyzed: 18-Oct-13 20:41						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.4552	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.1777	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0278	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	2.8066	0.0015	0.003	µmol/dry g	
Sample ID: 22574-R1 B13-8045 Grab Matrix: Sediment Sampled: 30-Aug-13 11:10 Received: 30-Aug-13 Method: EPA 200.8 Batch ID: E-7011 Prepared: 18-Oct-13 Analyzed: 18-Oct-13 20:46						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.3844	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.078	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0185	0.0033	0.0066	µmol/dry g	



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.4108	0.0015	0.003	µmol/dry g	

Sample ID: 22575-R1**B13-8031 Grab****Matrix: Sediment****Sampled: 30-Aug-13 12:23****Received: 30-Aug-13**

Method: EPA 200.8

Batch ID: E-7011

Prepared: 18-Oct-13

Analyzed: 18-Oct-13 20:51

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.0237	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0094	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0061	0.0033	0.0066	µmol/dry g	J
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.1106	0.0015	0.003	µmol/dry g	



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Fipronil & Degradates**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22571-R1 B13-8058 Grab Matrix: Sediment Sampled: 30-Aug-13 7:12 Received: 30-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5039 Prepared: 12-Nov-13 Analyzed: 16-Nov-13 2:50						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22572-R1 B13-8068 Grab Matrix: Sediment Sampled: 30-Aug-13 8:23 Received: 30-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5039 Prepared: 12-Nov-13 Analyzed: 16-Nov-13 4:58						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22573-R1 B13-8090 Grab Matrix: Sediment Sampled: 30-Aug-13 9:36 Received: 30-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5039 Prepared: 12-Nov-13 Analyzed: 08-Jan-14 20:38						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22574-R1 B13-8045 Grab Matrix: Sediment Sampled: 30-Aug-13 11:10 Received: 30-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5039 Prepared: 12-Nov-13 Analyzed: 08-Jan-14 21:41						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22575-R1 B13-8031 Grab Matrix: Sediment Sampled: 30-Aug-13 12:23 Received: 30-Aug-13 Method: EPA 8270C-NCI Batch ID: O-5039 Prepared: 12-Nov-13 Analyzed: 08-Jan-14 22:45						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	



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Fipronil & Degradates**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22571-R1</div> <div>B13-8058 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-6004</div> </div> <div> <div>Sampled: 30-Aug-13 7:12</div> <div>Prepared: 16-May-14</div> </div> <div> <div>Received: 30-Aug-13</div> <div>Analyzed: 01-Jun-14 23:54</div> </div>						
PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	0.48	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	0.31	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22572-R1

B13-8068 Grab

Matrix: Sediment

Sampled: 30-Aug-13 8:23

Received: 30-Aug-13

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 02-Jun-14 3:12

PCB003	NA	ND	0.05	0.1	ng/dry g	
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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	ND	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22573-R1**B13-8090 Grab****Matrix: Sediment****Sampled: 30-Aug-13 9:36****Received: 30-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 02-Jun-14 4:51

PCB003	NA	1.06	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	1.67	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	15.04	0.05	0.1	ng/dry g	
PCB049	NA	9.29	0.05	0.1	ng/dry g	
PCB052	NA	31.81	0.05	0.1	ng/dry g	
PCB056(060)	NA	4	0.1	0.2	ng/dry g	
PCB066	NA	9.94	0.05	0.1	ng/dry g	
PCB070	NA	21.15	0.05	0.1	ng/dry g	
PCB074	NA	4.94	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	30.79	0.05	0.1	ng/dry g	
PCB095	NA	52.06	0.05	0.1	ng/dry g	
PCB097	NA	18.78	0.05	0.1	ng/dry g	
PCB099	NA	18.56	0.05	0.1	ng/dry g	
PCB101	NA	66.13	0.05	0.1	ng/dry g	
PCB105	NA	17.22	0.05	0.1	ng/dry g	
PCB110	NA	63.51	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	45.29	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	9.33	0.05	0.1	ng/dry g	
PCB137	NA	3.39	0.05	0.1	ng/dry g	
PCB138	NA	63.3	0.05	0.1	ng/dry g	
PCB141	NA	9.04	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB149	NA	35.56	0.05	0.1	ng/dry g	
PCB151	NA	8.73	0.05	0.1	ng/dry g	
PCB153	NA	43.54	0.05	0.1	ng/dry g	
PCB156	NA	5.16	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	5.52	0.05	0.1	ng/dry g	
PCB167	NA	1.34	0.05	0.1	ng/dry g	
PCB168+132	NA	18.1	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	9.95	0.05	0.1	ng/dry g	
PCB174	NA	7.84	0.05	0.1	ng/dry g	
PCB177	NA	4.49	0.05	0.1	ng/dry g	
PCB180	NA	16.94	0.05	0.1	ng/dry g	
PCB183	NA	4.92	0.05	0.1	ng/dry g	
PCB187	NA	10	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	3.55	0.05	0.1	ng/dry g	
PCB195	NA	2.19	0.05	0.1	ng/dry g	
PCB199(200)	NA	0.6	0.1	0.2	ng/dry g	
PCB201	NA	5.83	0.05	0.1	ng/dry g	
PCB203	NA	5.65	0.05	0.1	ng/dry g	
PCB206	NA	1.79	0.05	0.1	ng/dry g	
PCB209	NA	0.49	0.05	0.1	ng/dry g	

Sample ID: 22574-R1**B13-8045 Grab****Matrix: Sediment****Sampled: 30-Aug-13 11:10****Received: 30-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 02-Jun-14 6:29

PCB003	NA	ND	0.05	0.1	ng/dry g
PCB005	NA	ND	0.05	0.1	ng/dry g
PCB008	NA	ND	0.05	0.1	ng/dry g
PCB015	NA	ND	0.05	0.1	ng/dry g
PCB018	NA	ND	0.05	0.1	ng/dry g
PCB027	NA	ND	0.05	0.1	ng/dry g
PCB028	NA	ND	0.05	0.1	ng/dry g



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.31	0.05	0.1	ng/dry g	
PCB101	NA	0.4	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	0.33	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	0.58	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22575-R1**B13-8031 Grab****Matrix: Sediment****Sampled: 30-Aug-13 12:23****Received: 30-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 02-Jun-14 8:08

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.57	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	ND	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	ND	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	ND	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Sample ID: 22571-R1

B13-8058 Grab

Matrix: Sediment

Sampled: 30-Aug-13 7:12

Received: 30-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13 23:04

(DFPBDE)	NA	82			% Recovery	
(FTBDE)	NA	82			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22572-R1

B13-8068 Grab

Matrix: Sediment

Sampled: 30-Aug-13 8:23

Received: 30-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 23-Nov-13 0:23

(DFPBDE)	NA	80			% Recovery	
(FTBDE)	NA	86			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22573-R1

B13-8090 Grab

Matrix: Sediment

Sampled: 30-Aug-13 9:36

Received: 30-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 23-Nov-13 1:02

(DFPBDE)	NA	76			% Recovery	
(FTBDE)	NA	90			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22574-R1

B13-8045 Grab

Matrix: Sediment

Sampled: 30-Aug-13 11:10

Received: 30-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 23-Nov-13 1:41

(DFPBDE)	NA	72			% Recovery	
(FTBDE)	NA	71			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	8.94	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22575-R1

B13-8031 Grab

Matrix: Sediment

Sampled: 30-Aug-13 12:23

Received: 30-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 23-Nov-13 2:20

(DFPBDE)	NA	88			% Recovery
(FTBDE)	NA	84			% Recovery
PBDE017	NA	ND	0.05	0.1	ng/dry g
PBDE028	NA	ND	0.05	0.1	ng/dry g
PBDE047	NA	ND	0.05	0.1	ng/dry g
PBDE049	NA	ND	0.05	0.1	ng/dry g
PBDE066	NA	ND	0.05	0.1	ng/dry g
PBDE071	NA	ND	0.05	0.1	ng/dry g
PBDE085	NA	ND	0.05	0.1	ng/dry g
PBDE099	NA	ND	0.05	0.1	ng/dry g
PBDE100	NA	ND	0.05	0.1	ng/dry g
PBDE138	NA	ND	0.05	0.1	ng/dry g
PBDE153	NA	ND	0.05	0.1	ng/dry g
PBDE154	NA	ND	0.05	0.1	ng/dry g
PBDE183	NA	ND	0.05	0.1	ng/dry g
PBDE190	NA	ND	0.05	0.1	ng/dry g



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PolyBrominated Diphenyl Ethers**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE209	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22571-R1 B13-8058 Grab Matrix: Sediment Sampled: 30-Aug-13 7:12 Received: 30-Aug-13 Method: EPA 8270C Batch ID: O-6004 Prepared: 16-May-14 Analyzed: 01-Jun-14 23:54						
(d10-Acenaphthene)	NA	74			% Recovery	
(d10-Phenanthrene)	NA	65			% Recovery	
(d12-Chrysene)	NA	71			% Recovery	
(d8-Naphthalene)	NA	88			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	1.3	1	5	ng/dry g	J
Anthracene	NA	1.8	1	5	ng/dry g	J
Benz[a]anthracene	NA	4.7	1	5	ng/dry g	J
Benzo[a]pyrene	NA	8.3	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	5.8	1	5	ng/dry g	
Benzo[e]pyrene	NA	6.5	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	13.4	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	4.7	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	7.9	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	1.5	1	5	ng/dry g	J
Dibenzothiophene	NA	1	1	5	ng/dry g	J
Fluoranthene	NA	8.4	1	5	ng/dry g	
Fluorene	NA	ND	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	9.5	1	5	ng/dry g	
Naphthalene	NA	2	1	5	ng/dry g	J
Perylene	NA	1.8	1	5	ng/dry g	J
Phenanthrene	NA	5.6	1	5	ng/dry g	
Pyrene	NA	12	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22572-R1</div> <div>B13-8068 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-6004</div> </div> <div> <div>Sampled: 30-Aug-13 8:23</div> <div>Prepared: 16-May-14</div> </div> <div> <div>Received: 30-Aug-13</div> <div>Analyzed: 02-Jun-14 3:12</div> </div>						
(d10-Acenaphthene)	NA	83			% Recovery	
(d10-Phenanthrene)	NA	77			% Recovery	
(d12-Chrysene)	NA	71			% Recovery	
(d8-Naphthalene)	NA	86			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	1.1	1	5	ng/dry g	J
Benz[a]anthracene	NA	2.4	1	5	ng/dry g	J
Benzo[a]pyrene	NA	4	1	5	ng/dry g	J
Benzo[b]fluoranthene	NA	2.7	1	5	ng/dry g	J
Benzo[e]pyrene	NA	3.2	1	5	ng/dry g	J
Benzo[g,h,i]perylene	NA	8.6	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	1.7	1	5	ng/dry g	J
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	3.6	1	5	ng/dry g	J
Dibenz[a,h]anthracene	NA	ND	1	5	ng/dry g	
Dibenzothiophene	NA	ND	1	5	ng/dry g	
Fluoranthene	NA	7.4	1	5	ng/dry g	
Fluorene	NA	1.2	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	6.4	1	5	ng/dry g	
Naphthalene	NA	1.4	1	5	ng/dry g	J
Perylene	NA	1	1	5	ng/dry g	J
Phenanthrene	NA	7.1	1	5	ng/dry g	
Pyrene	NA	8.9	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22573-R1</div> <div>B13-8090 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-6004</div> </div> <div> <div>Sampled: 30-Aug-13 9:36</div> <div>Prepared: 16-May-14</div> </div> <div> <div>Received: 30-Aug-13</div> <div>Analyzed: 02-Jun-14 4:51</div> </div>						
(d10-Acenaphthene)	NA	97			% Recovery	
(d10-Phenanthrene)	NA	94			% Recovery	
(d12-Chrysene)	NA	75			% Recovery	
(d8-Naphthalene)	NA	80			% Recovery	
1-Methylnaphthalene	NA	1.8	1	5	ng/dry g	J
1-Methylphenanthrene	NA	16.1	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	4.2	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	3.5	1	5	ng/dry g	J
2-Methylnaphthalene	NA	3.1	1	5	ng/dry g	J
Acenaphthene	NA	5.6	1	5	ng/dry g	
Acenaphthylene	NA	52.3	1	5	ng/dry g	
Anthracene	NA	106.2	1	5	ng/dry g	
Benz[a]anthracene	NA	190.4	1	5	ng/dry g	
Benzo[a]pyrene	NA	288	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	264.7	1	5	ng/dry g	
Benzo[e]pyrene	NA	211.3	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	338.7	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	160.4	1	5	ng/dry g	
Biphenyl	NA	3.7	1	5	ng/dry g	J
Chrysene	NA	332.5	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	90.5	1	5	ng/dry g	
Dibenzothiophene	NA	6.4	1	5	ng/dry g	
Fluoranthene	NA	238.7	1	5	ng/dry g	
Fluorene	NA	12.5	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	337.1	1	5	ng/dry g	
Naphthalene	NA	12	1	5	ng/dry g	
Perylene	NA	55.5	1	5	ng/dry g	
Phenanthrene	NA	100.9	1	5	ng/dry g	
Pyrene	NA	319.2	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22574-R1</div> <div>B13-8045 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-6004</div> </div> <div> <div>Sampled: 30-Aug-13 11:10</div> <div>Prepared: 16-May-14</div> </div> <div> <div>Received: 30-Aug-13</div> <div>Analyzed: 02-Jun-14 6:29</div> </div>						
(d10-Acenaphthene)	NA	75			% Recovery	
(d10-Phenanthrene)	NA	64			% Recovery	
(d12-Chrysene)	NA	65			% Recovery	
(d8-Naphthalene)	NA	79			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	2.2	1	5	ng/dry g	J
Anthracene	NA	3.2	1	5	ng/dry g	J
Benz[a]anthracene	NA	7	1	5	ng/dry g	
Benzo[a]pyrene	NA	12.1	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	10.3	1	5	ng/dry g	
Benzo[e]pyrene	NA	9.6	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	17.4	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	7.7	1	5	ng/dry g	
Biphenyl	NA	1.2	1	5	ng/dry g	J
Chrysene	NA	12.6	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	2.5	1	5	ng/dry g	J
Dibenzothiophene	NA	1.1	1	5	ng/dry g	J
Fluoranthene	NA	12.7	1	5	ng/dry g	
Fluorene	NA	1.7	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	14.2	1	5	ng/dry g	
Naphthalene	NA	3	1	5	ng/dry g	J
Perylene	NA	2.6	1	5	ng/dry g	J
Phenanthrene	NA	8.5	1	5	ng/dry g	
Pyrene	NA	15.9	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22575-R1 B13-8031 Grab Matrix: Sediment Sampled: 30-Aug-13 12:23 Received: 30-Aug-13 Method: EPA 8270C Batch ID: O-6004 Prepared: 16-May-14 Analyzed: 02-Jun-14 8:08						
(d10-Acenaphthene)	NA	55			% Recovery	
(d10-Phenanthrene)	NA	59			% Recovery	
(d12-Chrysene)	NA	57			% Recovery	
(d8-Naphthalene)	NA	42			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	ND	1	5	ng/dry g	
Benz[a]anthracene	NA	ND	1	5	ng/dry g	
Benzo[a]pyrene	NA	ND	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	ND	1	5	ng/dry g	
Benzo[e]pyrene	NA	ND	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	ND	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	ND	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	ND	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	ND	1	5	ng/dry g	
Dibenzothiophene	NA	ND	1	5	ng/dry g	
Fluoranthene	NA	1.1	1	5	ng/dry g	J
Fluorene	NA	ND	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	ND	1	5	ng/dry g	
Naphthalene	NA	ND	1	5	ng/dry g	
Perylene	NA	ND	1	5	ng/dry g	
Phenanthrene	NA	3.2	1	5	ng/dry g	J
Pyrene	NA	ND	1	5	ng/dry g	



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CA ELAP #2769

Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Sample ID: 22571-R1

B13-8058 Grab

Matrix: Sediment

Sampled: 30-Aug-13 7:12

Received: 30-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 12:07

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22572-R1

B13-8068 Grab

Matrix: Sediment

Sampled: 30-Aug-13 8:23

Received: 30-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 15:24

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Resmethrin	NA	ND	0.25	0.5	ng/dry g	
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Sample ID: 22573-R1

B13-8090 Grab

Matrix: Sediment

Sampled: 30-Aug-13 9:36

Received: 30-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 17:03

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22574-R1

B13-8045 Grab

Matrix: Sediment

Sampled: 30-Aug-13 11:10

Received: 30-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 18:42

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22575-R1

B13-8031 Grab

Matrix: Sediment

Sampled: 30-Aug-13 12:23

Received: 30-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 20:20

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22576-R1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 10:35

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

QUALITY CONTROL REPORT

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CA ELAP #2769

Aroclor PCBs**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22570-B1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 31-May-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g					
Aroclor 1221	NA	ND	1	2	ng/dry g					
Aroclor 1232	NA	ND	1	2	ng/dry g					
Aroclor 1242	NA	ND	1	2	ng/dry g					
Aroclor 1248	NA	ND	1	2	ng/dry g					
Aroclor 1254	NA	ND	1	2	ng/dry g					
Aroclor 1260	NA	ND	1	2	ng/dry g					
Aroclor 1262	NA	ND	1	2	ng/dry g					
Aroclor 1268	NA	ND	1	2	ng/dry g					

Sample ID: 22571-R2**B13-8058 Grab****Matrix: Sediment****Sampled: 30-Aug-13 7:12****Received: 30-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 02-Jun-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g				0	25	PASS	
Aroclor 1221	NA	ND	1	2	ng/dry g				0	25	PASS	
Aroclor 1232	NA	ND	1	2	ng/dry g				0	25	PASS	
Aroclor 1242	NA	ND	1	2	ng/dry g				0	25	PASS	
Aroclor 1248	NA	ND	1	2	ng/dry g				0	25	PASS	
Aroclor 1254	NA	ND	1	2	ng/dry g				0	25	PASS	
Aroclor 1260	NA	1.7	1	2	ng/dry g				52	25	FAIL	J,SL
Aroclor 1262	NA	ND	1	2	ng/dry g				0	25	PASS	
Aroclor 1268	NA	ND	1	2	ng/dry g				0	25	PASS	



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22570-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C-NCI		Batch ID: O-5039		Prepared: 12-Nov-13		Analyzed: 15-Nov-13 7:42		
Toxaphene	NA	ND	0.1	0.2	ng/dry g					
		Method: EPA 8270C		Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 31-May-14 21:59		
(PCB030)	NA	100			% Recovery	100		100	50 - 150%	PASS
(PCB112)	NA	107			% Recovery	100		107	50 - 150%	PASS
(PCB198)	NA	97			% Recovery	100		97	50 - 150%	PASS
(TCMX)	NA	94			% Recovery	100		94	50 - 150%	PASS
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g					
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g					
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g					
Aldrin	NA	ND	0.05	0.1	ng/dry g					
BHC-alpha	NA	ND	0.05	0.1	ng/dry g					
BHC-beta	NA	ND	0.05	0.1	ng/dry g					
BHC-delta	NA	ND	0.05	0.1	ng/dry g					
BHC-gamma	NA	ND	0.05	0.1	ng/dry g					
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g					
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g					
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g					
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g					
Dicofol	NA	ND	0.05	0.1	ng/dry g					
Dieldrin	NA	ND	0.05	0.1	ng/dry g					
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g					
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g					
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g					
Endrin	NA	ND	0.05	0.1	ng/dry g					
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g					



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CA ELAP #2769

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g					
Heptachlor	NA	ND	0.05	0.1	ng/dry g					
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g					
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g					
Methoxychlor	NA	ND	0.05	0.1	ng/dry g					
Mirex	NA	ND	0.05	0.1	ng/dry g					
Oxychlorodane	NA	ND	0.05	0.1	ng/dry g					
Perthane	NA	ND	0.05	0.1	ng/dry g					
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 22570-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13 8:46

Toxaphene	NA	9366	0.1	0.2	ng/dry g	10000	0	94	70 - 130%	PASS
Method: EPA 8270C Batch ID: O-6004 Prepared: 16-May-14 Analyzed: 31-May-14 23:38										
(PCB030)	NA	108			% Recovery	100	0	108	70 - 130%	PASS
(PCB112)	NA	114			% Recovery	100	0	114	70 - 130%	PASS
(PCB198)	NA	97			% Recovery	100	0	97	70 - 130%	PASS
(TCMX)	NA	111			% Recovery	100	0	111	70 - 130%	PASS
2,4'-DDD	NA	1278.4	0.05	0.1	ng/dry g	1000	0	128	70 - 130%	PASS
2,4'-DDE	NA	1128.51	0.05	0.1	ng/dry g	1000	0	113	70 - 130%	PASS
2,4'-DDT	NA	1203.52	0.05	0.1	ng/dry g	1000	0	120	70 - 130%	PASS
4,4'-DDD	NA	1226.55	0.05	0.1	ng/dry g	1000	0	123	70 - 130%	PASS
4,4'-DDE	NA	1119.38	0.05	0.1	ng/dry g	1000	0	112	70 - 130%	PASS
4,4'-DDMU	NA	1010	0.05	0.1	ng/dry g	1000	0	101	70 - 130%	PASS
4,4'-DDT	NA	1195.76	0.05	0.1	ng/dry g	1000	0	120	70 - 130%	PASS
Aldrin	NA	1210.54	0.05	0.1	ng/dry g	1000	0	121	70 - 130%	PASS
BHC-alpha	NA	1228.76	0.05	0.1	ng/dry g	1000	0	123	70 - 130%	PASS
BHC-beta	NA	934.51	0.05	0.1	ng/dry g	1000	0	93	70 - 130%	PASS
BHC-delta	NA	1108.68	0.05	0.1	ng/dry g	1000	0	111	70 - 130%	PASS
BHC-gamma	NA	1281.95	0.05	0.1	ng/dry g	1000	0	128	70 - 130%	PASS
Chlordane-alpha	NA	1192.68	0.05	0.1	ng/dry g	1000	0	119	70 - 130%	PASS
Chlordane-gamma	NA	1259.1	0.05	0.1	ng/dry g	1000	0	126	70 - 130%	PASS



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
cis-Nonachlor	NA	1130.26	0.05	0.1	ng/dry g	1000	0	113 70 - 130% PASS		
DCPA (Dacthal)	NA	1189.43	0.05	0.1	ng/dry g	1000	0	119 70 - 130% PASS		
Dicofol	NA	930.12	0.05	0.1	ng/dry g	1000	0	93 70 - 130% PASS		
Dieldrin	NA	1168.44	0.05	0.1	ng/dry g	1000	0	117 70 - 130% PASS		
Endosulfan sulfate	NA	1063.09	0.05	0.1	ng/dry g	1000	0	106 70 - 130% PASS		
Endosulfan-I	NA	451.1	0.05	0.1	ng/dry g	1000	0	45 70 - 130% FAIL		R
Endosulfan-II	NA	679.96	0.05	0.1	ng/dry g	1000	0	68 70 - 130% FAIL		*
Endrin	NA	1299.88	0.05	0.1	ng/dry g	1000	0	130 70 - 130% PASS		
Endrin aldehyde	NA	115.62	0.05	0.1	ng/dry g	1000	0	12 70 - 130% FAIL		*
Endrin ketone	NA	1050.16	0.05	0.1	ng/dry g	1000	0	105 70 - 130% PASS		
Heptachlor	NA	1280.59	0.05	0.1	ng/dry g	1000	0	128 70 - 130% PASS		
Heptachlor epoxide	NA	1230.67	0.05	0.1	ng/dry g	1000	0	123 70 - 130% PASS		
Hexachlorobenzene	NA	1132.8	0.05	0.1	ng/dry g	1000	0	113 70 - 130% PASS		
Methoxychlor	NA	1229.02	0.05	0.1	ng/dry g	1000	0	123 70 - 130% PASS		
Mirex	NA	1088.74	0.05	0.1	ng/dry g	1000	0	109 70 - 130% PASS		
Oxychlorthane	NA	1200.56	0.05	0.1	ng/dry g	1000	0	120 70 - 130% PASS		
Perthane	NA	1211.01	0.05	0.1	ng/dry g	1000	0	121 70 - 130% PASS		
trans-Nonachlor	NA	1234.18	0.05	0.1	ng/dry g	1000	0	123 70 - 130% PASS		

Sample ID: 22570-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13 9:50

Toxaphene	NA	9874	0.1	0.2	ng/dry g	10000	0	99 70 - 130% PASS	5	25	PASS
		Method: EPA 8270C				Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 01-Jun-14 1:17	
(PCB030)	NA	101			% Recovery	100	0	101 70 - 130% PASS	7	25	PASS
(PCB112)	NA	105			% Recovery	100	0	105 70 - 130% PASS	8	25	PASS
(PCB198)	NA	93			% Recovery	100	0	93 70 - 130% PASS	4	25	PASS
(TCMX)	NA	103			% Recovery	100	0	103 70 - 130% PASS	7	25	PASS
2,4'-DDD	NA	1112.38	0.05	0.1	ng/dry g	1000	0	111 70 - 130% PASS	14	25	PASS
2,4'-DDE	NA	1006.37	0.05	0.1	ng/dry g	1000	0	101 70 - 130% PASS	11	25	PASS
2,4'-DDT	NA	1233.04	0.05	0.1	ng/dry g	1000	0	123 70 - 130% PASS	2	25	PASS
4,4'-DDD	NA	1042.23	0.05	0.1	ng/dry g	1000	0	104 70 - 130% PASS	17	25	PASS
4,4'-DDE	NA	996.8	0.05	0.1	ng/dry g	1000	0	100 70 - 130% PASS	11	25	PASS

PHYSIS Project ID: 1307002-014

Client: AMEC

Project: RHMP Bight '13

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CA ELAP #2769

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
4,4'-DDMU	NA	1130	0.05	0.1	ng/dry g	1000	0	113 70 - 130% PASS	11 25 PASS	
4,4'-DDT	NA	1182.73	0.05	0.1	ng/dry g	1000	0	118 70 - 130% PASS	2 25 PASS	
Aldrin	NA	1193.48	0.05	0.1	ng/dry g	1000	0	119 70 - 130% PASS	2 25 PASS	
BHC-alpha	NA	1136.6	0.05	0.1	ng/dry g	1000	0	114 70 - 130% PASS	8 25 PASS	
BHC-beta	NA	865.1	0.05	0.1	ng/dry g	1000	0	87 70 - 130% PASS	7 25 PASS	
BHC-delta	NA	979.66	0.05	0.1	ng/dry g	1000	0	98 70 - 130% PASS	12 25 PASS	
BHC-gamma	NA	1232.16	0.05	0.1	ng/dry g	1000	0	123 70 - 130% PASS	4 25 PASS	
Chlordane-alpha	NA	1083.85	0.05	0.1	ng/dry g	1000	0	108 70 - 130% PASS	10 25 PASS	
Chlordane-gamma	NA	1141.53	0.05	0.1	ng/dry g	1000	0	114 70 - 130% PASS	10 25 PASS	
cis-Nonachlor	NA	1060.62	0.05	0.1	ng/dry g	1000	0	106 70 - 130% PASS	6 25 PASS	
DCPA (Dacthal)	NA	1120.07	0.05	0.1	ng/dry g	1000	0	112 70 - 130% PASS	6 25 PASS	
Dicofol	NA	810.84	0.05	0.1	ng/dry g	1000	0	81 70 - 130% PASS	14 25 PASS	
Dieldrin	NA	1050.79	0.05	0.1	ng/dry g	1000	0	105 70 - 130% PASS	11 25 PASS	
Endosulfan sulfate	NA	1021.52	0.05	0.1	ng/dry g	1000	0	102 70 - 130% PASS	4 25 PASS	
Endosulfan-I	NA	268.16	0.05	0.1	ng/dry g	1000	0	27 70 - 130% FAIL	50 25 FAIL	*
Endosulfan-II	NA	579.93	0.05	0.1	ng/dry g	1000	0	58 70 - 130% FAIL	16 25 PASS	*
Endrin	NA	1210.72	0.05	0.1	ng/dry g	1000	0	121 70 - 130% PASS	7 25 PASS	
Endrin aldehyde	NA	158.43	0.05	0.1	ng/dry g	1000	0	16 70 - 130% FAIL	29 25 FAIL	*
Endrin ketone	NA	1086.45	0.05	0.1	ng/dry g	1000	0	109 70 - 130% PASS	4 25 PASS	
Heptachlor	NA	1274.29	0.05	0.1	ng/dry g	1000	0	127 70 - 130% PASS	1 25 PASS	
Heptachlor epoxide	NA	1233.05	0.05	0.1	ng/dry g	1000	0	123 70 - 130% PASS	0 25 PASS	
Hexachlorobenzene	NA	1057.26	0.05	0.1	ng/dry g	1000	0	106 70 - 130% PASS	6 25 PASS	
Methoxychlor	NA	1195.72	0.05	0.1	ng/dry g	1000	0	120 70 - 130% PASS	2 25 PASS	
Mirex	NA	1112.94	0.05	0.1	ng/dry g	1000	0	111 70 - 130% PASS	2 25 PASS	
Oxychlordane	NA	1246.19	0.05	0.1	ng/dry g	1000	0	125 70 - 130% PASS	4 25 PASS	
Perthane	NA	1197.12	0.05	0.1	ng/dry g	1000	0	120 70 - 130% PASS	1 25 PASS	
trans-Nonachlor	NA	1120.33	0.05	0.1	ng/dry g	1000	0	112 70 - 130% PASS	9 25 PASS	

Sample ID: 22571-MS1

B13-8058 Grab

Matrix: Sediment

Sampled: 30-Aug-13 7:12

Received: 30-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13 10:54

Toxaphene	NA	12817	0.1	0.2	ng/dry g	10000	0	128 50 - 150% PASS		
					Method: EPA 8270C	Batch ID: O-6004	Prepared: 16-May-14	Analyzed: 01-Jun-14 2:55		



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
(PCB030)	NA	92			% Recovery	100	0	92 50 - 150% PASS		
(PCB112)	NA	96			% Recovery	100	0	96 50 - 150% PASS		
(PCB198)	NA	88			% Recovery	100	0	88 50 - 150% PASS		
(TCMX)	NA	98			% Recovery	100	0	98 50 - 150% PASS		
2,4'-DDD	NA	267.8	0.05	0.1	ng/dry g	234.3	0	114 50 - 150% PASS		
2,4'-DDE	NA	234.42	0.05	0.1	ng/dry g	234.3	0	100 50 - 150% PASS		
2,4'-DDT	NA	262.46	0.05	0.1	ng/dry g	234.3	0	112 25 - 125% PASS		
4,4'-DDD	NA	262.59	0.05	0.1	ng/dry g	234.3	0	112 50 - 150% PASS		
4,4'-DDE	NA	235.49	0.05	0.1	ng/dry g	234.3	0	101 50 - 150% PASS		
4,4'-DDMU	NA	109.3	0.05	0.1	ng/dry g	103.8	0	105 50 - 150% PASS		
4,4'-DDT	NA	268.13	0.05	0.1	ng/dry g	234.3	0	114 25 - 125% PASS		
Aldrin	NA	260.05	0.05	0.1	ng/dry g	234.3	0	111 50 - 150% PASS		
BHC-alpha	NA	268.86	0.05	0.1	ng/dry g	234.3	0	115 50 - 150% PASS		
BHC-beta	NA	195.37	0.05	0.1	ng/dry g	234.3	0	83 50 - 150% PASS		
BHC-delta	NA	242.04	0.05	0.1	ng/dry g	234.3	0	103 50 - 150% PASS		
BHC-gamma	NA	284.66	0.05	0.1	ng/dry g	234.3	0	121 50 - 150% PASS		
Chlordane-alpha	NA	250.97	0.05	0.1	ng/dry g	234.3	0	107 50 - 150% PASS		
Chlordane-gamma	NA	264.67	0.05	0.1	ng/dry g	234.3	0	113 50 - 150% PASS		
cis-Nonachlor	NA	236.78	0.05	0.1	ng/dry g	234.3	0	101 50 - 150% PASS		
DCPA (Dacthal)	NA	260.72	0.05	0.1	ng/dry g	234.3	0	111 50 - 150% PASS		
Dicofol	NA	230.86	0.05	0.1	ng/dry g	234.3	0	99 50 - 150% PASS		
Dieldrin	NA	237.58	0.05	0.1	ng/dry g	234.3	0	101 50 - 150% PASS		
Endosulfan sulfate	NA	242.3	0.05	0.1	ng/dry g	234.3	0	103 50 - 150% PASS		
Endosulfan-I	NA	130.44	0.05	0.1	ng/dry g	234.3	0	56 50 - 150% PASS		
Endosulfan-II	NA	174.79	0.05	0.1	ng/dry g	234.3	0	75 50 - 150% PASS		
Endrin	NA	278.85	0.05	0.1	ng/dry g	234.3	0	119 25 - 125% PASS		
Endrin aldehyde	NA	53.73	0.05	0.1	ng/dry g	234.3	0	23 0 - 125% PASS		
Endrin ketone	NA	229.13	0.05	0.1	ng/dry g	234.3	0	98 25 - 125% PASS		
Heptachlor	NA	297.45	0.05	0.1	ng/dry g	234.3	0	127 50 - 150% PASS		
Heptachlor epoxide	NA	269.53	0.05	0.1	ng/dry g	234.3	0	115 50 - 150% PASS		
Hexachlorobenzene	NA	246.91	0.05	0.1	ng/dry g	234.3	0	105 50 - 150% PASS		



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CA ELAP #2769

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Methoxychlor	NA	283.03	0.05	0.1	ng/dry g	234.3	0	121	50 - 150%	PASS		
Mirex	NA	236.77	0.05	0.1	ng/dry g	234.3	0	101	50 - 150%	PASS		
Oxychlorane	NA	289.43	0.05	0.1	ng/dry g	234.3	0	124	50 - 150%	PASS		
Perthane	NA	298.4	0.05	0.1	ng/dry g	234.3	0	127	50 - 150%	PASS		
trans-Nonachlor	NA	258.12	0.05	0.1	ng/dry g	234.3	0	110	50 - 150%	PASS		

Sample ID: 22571-MS2

B13-8058 Grab

Matrix: Sediment

Sampled: 30-Aug-13 7:12

Received: 30-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13 11:58

Toxaphene	NA	11740	0.1	0.2	ng/dry g	10000	0	117	50 - 150%	PASS	9	25	PASS
Method: EPA 8270C Batch ID: O-6004 Prepared: 16-May-14 Analyzed: 01-Jun-14 4:34													
(PCB030)	NA	103			% Recovery	100	0	103	50 - 150%	PASS	11	25	PASS
(PCB112)	NA	107			% Recovery	100	0	107	50 - 150%	PASS	11	25	PASS
(PCB198)	NA	96			% Recovery	100	0	96	50 - 150%	PASS	9	25	PASS
(TCMX)	NA	106			% Recovery	100	0	106	50 - 150%	PASS	8	25	PASS
2,4'-DDD	NA	272.35	0.05	0.1	ng/dry g	217.7	0	125	50 - 150%	PASS	9	25	PASS
2,4'-DDE	NA	239.4	0.05	0.1	ng/dry g	217.7	0	110	50 - 150%	PASS	10	25	PASS
2,4'-DDT	NA	270.61	0.05	0.1	ng/dry g	217.7	0	124	25 - 125%	PASS	10	25	PASS
4,4'-DDD	NA	261.34	0.05	0.1	ng/dry g	217.7	0	120	50 - 150%	PASS	7	25	PASS
4,4'-DDE	NA	240.84	0.05	0.1	ng/dry g	217.7	0	111	50 - 150%	PASS	9	25	PASS
4,4'-DDMU	NA	124.05	0.05	0.1	ng/dry g	102.1	0	121	50 - 150%	PASS	14	25	PASS
4,4'-DDT	NA	271.07	0.05	0.1	ng/dry g	217.7	0	125	25 - 125%	PASS	9	25	PASS
Aldrin	NA	263	0.05	0.1	ng/dry g	217.7	0	121	50 - 150%	PASS	9	25	PASS
BHC-alpha	NA	266.67	0.05	0.1	ng/dry g	217.7	0	122	50 - 150%	PASS	6	25	PASS
BHC-beta	NA	196.3	0.05	0.1	ng/dry g	217.7	0	90	50 - 150%	PASS	8	25	PASS
BHC-delta	NA	241.29	0.05	0.1	ng/dry g	217.7	0	111	50 - 150%	PASS	7	25	PASS
BHC-gamma	NA	254.39	0.05	0.1	ng/dry g	217.7	0	117	50 - 150%	PASS	3	25	PASS
Chlordane-alpha	NA	253.11	0.05	0.1	ng/dry g	217.7	0	116	50 - 150%	PASS	8	25	PASS
Chlordane-gamma	NA	267.28	0.05	0.1	ng/dry g	217.7	0	123	50 - 150%	PASS	8	25	PASS
cis-Nonachlor	NA	241.63	0.05	0.1	ng/dry g	217.7	0	111	50 - 150%	PASS	9	25	PASS
DCEPA (Dacthal)	NA	261.16	0.05	0.1	ng/dry g	217.7	0	120	50 - 150%	PASS	8	25	PASS
Dicofol	NA	233.06	0.05	0.1	ng/dry g	217.7	0	107	50 - 150%	PASS	8	25	PASS
Dieldrin	NA	244.89	0.05	0.1	ng/dry g	217.7	0	112	50 - 150%	PASS	10	25	PASS

CA ELAP #2769

QUALITY CONTROL REPORT

Sample ID: 22571-R2		B13-8058 Grab		Matrix: Sediment		Sampled: 30-Aug-13 7:12		Received: 30-Aug-13	
		Method: EPA 8270C-NCI		Batch ID: O-5039		Prepared: 12-Nov-13		Analyzed: 16-Nov-13 3:54	
Toxaphene	NA	ND	0.1	0.2	ng/dry g			0	25 PASS
		Method: EPA 8270C		Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 02-Jun-14 1:33	
(PCB030)	NA	85			% Recovery 100	85	50 - 150% PASS	2	25 PASS
(PCB112)	NA	87			% Recovery 100	87	50 - 150% PASS	4	25 PASS
(PCB198)	NA	73			% Recovery 100	73	50 - 150% PASS	5	25 PASS
(TCMX)	NA	89			% Recovery 100	89	50 - 150% PASS	3	25 PASS
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g			0	25 PASS
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g			0	25 PASS
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g			0	25 PASS
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g			0	25 PASS
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g			0	25 PASS
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g			0	25 PASS
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g			0	25 PASS
Aldrin	NA	ND	0.05	0.1	ng/dry g			0	25 PASS
BHC-alpha	NA	ND	0.05	0.1	ng/dry g			0	25 PASS



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
BHC-beta	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
BHC-delta	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Dicofol	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Dieldrin	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endrin	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Heptachlor	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Mirex	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
Perthane	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	

Sample ID: 22576-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14 6:37

(PCB030)	NA	117			% Recovery	100	117	60 - 140%	PASS	
(PCB112)	NA	108			% Recovery	100	108	60 - 140%	PASS	
(PCB198)	NA	66			% Recovery	100	66	60 - 140%	PASS	
(TCMX)	NA	119			% Recovery	100	119	60 - 140%	PASS	
2,4'-DDD	NA	38.22	0.05	0.1	ng/dry g	38	101	60 - 140%	PASS	
2,4'-DDE	NA	24.84	0.05	0.1	ng/dry g	19	131	60 - 140%	PASS	



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
4,4'-DDD	NA	90.66	0.05	0.1	ng/dry g	108		84 60 - 140%	PASS	
4,4'-DDE	NA	94.36	0.05	0.1	ng/dry g	86		110 60 - 140%	PASS	
4,4'-DDT	NA	136.47	0.05	0.1	ng/dry g	170		80 60 - 140%	PASS	
Chlordane-alpha	NA	16.09	0.05	0.1	ng/dry g	16.5		98 60 - 140%	PASS	
Chlordane-gamma	NA	21.25	0.05	0.1	ng/dry g	19		112 60 - 140%	PASS	
cis-Nonachlor	NA	3.58	0.05	0.1	ng/dry g	3.7		97 60 - 140%	PASS	
Hexachlorobenzene	NA	6.5	0.05	0.1	ng/dry g	6		108 60 - 140%	PASS	
trans-Nonachlor	NA	9.83	0.05	0.1	ng/dry g	8.2		120 60 - 140%	PASS	



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Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
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Acid Volatile Sulfides

Method: Plumb, 1981 and TERL

Fraction: NA

22570-B1	QAQC Procedural Blank	C-14065 ND Prepared: 15-Oct-13	0.05	0.1	mg/dry kg	Analyzed: 15-Oct-13 0:00						
22570-BS1	QAQC Procedural Blank	C-14065 7.7 Prepared: 15-Oct-13	0.05	0.1	mg/dry kg	8.32	0	93	80 - 120% PASS			
22570-BS2	QAQC Procedural Blank	C-14065 7.22 Prepared: 15-Oct-13	0.05	0.1	mg/dry kg	8.32	0	87	80 - 120% PASS	7	25	PASS
22571-MS1	B13-8058	C-14065 10.98 Prepared: 15-Oct-13	0.05	0.1	mg/dry kg	7.06	6.19	68	50 - 130% PASS			
22571-MS2	B13-8058	C-14065 15.33 Prepared: 15-Oct-13	0.05	0.1	mg/dry kg	8.59	6.19	106	50 - 130% PASS	44	25	FAIL M
22571-R2	B13-8058	C-14065 6.72 Prepared: 15-Oct-13	0.05	0.1	mg/dry kg	Analyzed: 15-Oct-13 0:00				17	25	PASS

Ammonia as N

Method: SM 4500-NH₃ D

Fraction: NA

22570-B1	QAQC Procedural Blank	C-14071 ND Prepared: 16-Oct-13	0.02	0.03	mg/dry kg	Analyzed: 16-Oct-13 0:00						
22570-BS1	QAQC Procedural Blank	C-14071 3.99 Prepared: 15-Oct-13	0.02	0.03	mg/dry kg	3.86	0	103	80 - 120% PASS			
22570-BS2	QAQC Procedural Blank	C-14071 3.86 Prepared: 15-Oct-13	0.02	0.03	mg/dry kg	3.86	0	100	80 - 120% PASS	3	25	PASS
22571-MS1	B13-8058	C-14071 4.17 Prepared: 16-Oct-13	0.02	0.03	mg/dry kg	3.88	0.39	97	70 - 130% PASS			
22571-MS2	B13-8058	C-14071 3.85 Prepared: 16-Oct-13	0.02	0.03	mg/dry kg	3.58	0.39	97	70 - 130% PASS	0	25	PASS
22571-R2	B13-8058	C-14071 0.39 Prepared: 16-Oct-13	0.02	0.03	mg/dry kg	Analyzed: 16-Oct-13 0:00				0	25	PASS

Percent Solids

Method: SM 2540B

Fraction: NA

22570-B1	QAQC Procedural Blank	E-7004 ND Prepared: 14-Oct-13	0.1	0.1	% Dry Weight	Analyzed: 14-Oct-13 0:00						
22571-R2	B13-8058	E-7004 62.8 Prepared: 14-Oct-13	0.1	0.1	% Dry Weight	Analyzed: 14-Oct-13 0:00				0	25	PASS



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CA ELAP #2769

Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Total Phosphorus			Method: EPA 6020			Fraction: NA				
22570-B1	QAQC Procedural Blank	E-7007 ND Prepared: 12-Oct-13	0.016	0.05	µg/dry g	Analyzed: 21-Oct-13 17:03				
22570-BS1	QAQC Procedural Blank	E-7007 49.19 Prepared: 12-Oct-13	0.016	0.05	µg/dry g	50	0	98	80 - 120%	PASS
22570-BS2	QAQC Procedural Blank	E-7007 49.652 Prepared: 12-Oct-13	0.016	0.05	µg/dry g	50	0	99	80 - 120%	PASS
22571-MS1	B13-8058	E-7007 1327.29 Prepared: 12-Oct-13	0.016	0.05	µg/dry g	968	318.587	104	70 - 130%	PASS
22571-MS2	B13-8058	E-7007 1294.451 Prepared: 12-Oct-13	0.016	0.05	µg/dry g	968	318.587	101	70 - 130%	PASS
22571-R2	B13-8058	E-7007 309.855 Prepared: 12-Oct-13	0.016	0.05	µg/dry g	Analyzed: 21-Oct-13 17:26			5	25 PASS



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CA ELAP #2769

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22570-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	ND	0.00001	0.00002	µg/dry g					
Method: EPA 6020										
						Batch ID: E-7007		Prepared: 12-Oct-13	Analyzed: 22-Oct-13 19:55	
Aluminum (Al)	NA	ND	1	5	µg/dry g					
Antimony (Sb)	NA	ND	0.025	0.05	µg/dry g					
Arsenic (As)	NA	ND	0.025	0.05	µg/dry g					
Barium (Ba)	NA	ND	0.025	0.05	µg/dry g					
Beryllium (Be)	NA	ND	0.025	0.05	µg/dry g					
Cadmium (Cd)	NA	ND	0.0025	0.005	µg/dry g					
Chromium (Cr)	NA	ND	0.0025	0.005	µg/dry g					
Copper (Cu)	NA	ND	0.0025	0.005	µg/dry g					
Iron (Fe)	NA	ND	1	5	µg/dry g					
Lead (Pb)	NA	ND	0.0025	0.005	µg/dry g					
Nickel (Ni)	NA	ND	0.01	0.02	µg/dry g					
Selenium (Se)	NA	ND	0.025	0.05	µg/dry g					
Silver (Ag)	NA	ND	0.01	0.02	µg/dry g					
Zinc (Zn)	NA	ND	0.025	0.05	µg/dry g					

Sample ID: 22570-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.892	0.00001	0.00002	µg/dry g	1	0	89	80 - 120%	PASS
Method: EPA 6020										
						Batch ID: E-7007		Prepared: 12-Oct-13	Analyzed: 22-Oct-13 21:15	
Aluminum (Al)	NA	2	1	5	µg/dry g	2	0	100	80 - 120%	PASS
Antimony (Sb)	NA	2.148	0.025	0.05	µg/dry g	2	0	107	80 - 120%	PASS
Arsenic (As)	NA	2.104	0.025	0.05	µg/dry g	2	0	105	80 - 120%	PASS
Barium (Ba)	NA	2.107	0.025	0.05	µg/dry g	2	0	105	80 - 120%	PASS
Beryllium (Be)	NA	1.897	0.025	0.05	µg/dry g	2	0	95	80 - 120%	PASS
Cadmium (Cd)	NA	2.1605	0.0025	0.005	µg/dry g	2	0	108	80 - 120%	PASS
Chromium (Cr)	NA	1.9699	0.0025	0.005	µg/dry g	2	0	98	80 - 120%	PASS
Copper (Cu)	NA	1.9394	0.0025	0.005	µg/dry g	2	0	97	80 - 120%	PASS



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS		
Lead (Pb)	NA	2.0675	0.0025	0.005	µg/dry g	2	0	103	80 - 120%	PASS		
Nickel (Ni)	NA	1.92	0.01	0.02	µg/dry g	2	0	96	80 - 120%	PASS		
Selenium (Se)	NA	2.047	0.025	0.05	µg/dry g	2	0	102	80 - 120%	PASS		
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	0.2	0	100	80 - 120%	PASS		
Zinc (Zn)	NA	2.243	0.025	0.05	µg/dry g	2	0	112	80 - 120%	PASS		

Sample ID: 22570-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.843	0.00001	0.00002	µg/dry g	1	0	84	80 - 120%	PASS	6	25	PASS
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Method: EPA 6020

Batch ID: E-7007

Prepared: 12-Oct-13

Analyzed: 22-Oct-13 21:20

Aluminum (Al)	NA	2	1	5	µg/dry g	2	0	100	80 - 120%	PASS	0	25	PASS
Antimony (Sb)	NA	2.146	0.025	0.05	µg/dry g	2	0	107	80 - 120%	PASS	0	25	PASS
Arsenic (As)	NA	2.155	0.025	0.05	µg/dry g	2	0	108	80 - 120%	PASS	3	25	PASS
Barium (Ba)	NA	2.09	0.025	0.05	µg/dry g	2	0	104	80 - 120%	PASS	1	25	PASS
Beryllium (Be)	NA	1.899	0.025	0.05	µg/dry g	2	0	95	80 - 120%	PASS	0	25	PASS
Cadmium (Cd)	NA	2.1682	0.0025	0.005	µg/dry g	2	0	108	80 - 120%	PASS	0	25	PASS
Chromium (Cr)	NA	1.9904	0.0025	0.005	µg/dry g	2	0	100	80 - 120%	PASS	2	25	PASS
Copper (Cu)	NA	1.9633	0.0025	0.005	µg/dry g	2	0	98	80 - 120%	PASS	1	25	PASS
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS	0	25	PASS
Lead (Pb)	NA	2.0631	0.0025	0.005	µg/dry g	2	0	103	80 - 120%	PASS	0	25	PASS
Nickel (Ni)	NA	1.92	0.01	0.02	µg/dry g	2	0	96	80 - 120%	PASS	0	25	PASS
Selenium (Se)	NA	2.052	0.025	0.05	µg/dry g	2	0	103	80 - 120%	PASS	1	25	PASS
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	0.2	0	100	80 - 120%	PASS	0	25	PASS
Zinc (Zn)	NA	2.265	0.025	0.05	µg/dry g	2	0	113	80 - 120%	PASS	1	25	PASS

Sample ID: 22571-MS1**B13-8058 Grab****Matrix: Sediment****Sampled: 30-Aug-13 7:12****Received: 30-Aug-13**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.42011	0.00001	0.00002	µg/dry g	0.1936	0.24655	90	75 - 125%	PASS			
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Method: EPA 6020

Batch ID: E-7007

Prepared: 12-Oct-13

Analyzed: 22-Oct-13 21:34

Aluminum (Al)	NA	17265.6	1	5	µg/dry g	774	17963.2	-90	75 - 125%	FAIL			SH
Antimony (Sb)	NA	38.861	0.025	0.05	µg/dry g	38.72	0.154	100	75 - 125%	PASS			



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CA ELAP #2769

Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Arsenic (As)	NA	46.748	0.025	0.05	µg/dry g	38.72	5.453	107	75 - 125% PASS	
Barium (Ba)	NA	85.412	0.025	0.05	µg/dry g	38.72	46.987	99	75 - 125% PASS	
Beryllium (Be)	NA	38.992	0.025	0.05	µg/dry g	38.72	0.303	100	75 - 125% PASS	
Cadmium (Cd)	NA	38.2742	0.0025	0.005	µg/dry g	38.72	0.1323	99	75 - 125% PASS	
Chromium (Cr)	NA	70.9295	0.0025	0.005	µg/dry g	38.72	29.6795	107	75 - 125% PASS	
Copper (Cu)	NA	89.0988	0.0025	0.005	µg/dry g	38.72	51.4306	97	75 - 125% PASS	
Iron (Fe)	NA	17068.6	1	5	µg/dry g	774	16911.2	20	75 - 125% FAIL	SH
Lead (Pb)	NA	53.1133	0.0025	0.005	µg/dry g	38.72	17.7299	91	75 - 125% PASS	
Nickel (Ni)	NA	44.63	0.01	0.02	µg/dry g	38.72	7.43	96	75 - 125% PASS	
Selenium (Se)	NA	41.833	0.025	0.05	µg/dry g	38.72	0.12	108	75 - 125% PASS	
Silver (Ag)	NA	4.36	0.01	0.02	µg/dry g	3.87	0.57	98	75 - 125% PASS	
Zinc (Zn)	NA	140.297	0.025	0.05	µg/dry g	38.72	105.656	89	75 - 125% PASS	

Sample ID: 22571-MS2**B13-8058 Grab****Matrix: Sediment****Sampled: 30-Aug-13 7:12****Received: 30-Aug-13**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	0.42786	0.00001	0.00002	µg/dry g	0.1936	0.24655	94	75 - 125% PASS	4	25	PASS	
Method: EPA 6020													
Batch ID: E-7007													
Aluminum (Al)	NA	17526.4	1	5	µg/dry g	774	17963.2	-56	75 - 125% FAIL	47	25	FAIL	SH
Antimony (Sb)	NA	38.88	0.025	0.05	µg/dry g	38.72	0.154	100	75 - 125% PASS	0	25	PASS	
Arsenic (As)	NA	46.189	0.025	0.05	µg/dry g	38.72	5.453	105	75 - 125% PASS	2	25	PASS	
Barium (Ba)	NA	86.027	0.025	0.05	µg/dry g	38.72	46.987	101	75 - 125% PASS	2	25	PASS	
Beryllium (Be)	NA	38.422	0.025	0.05	µg/dry g	38.72	0.303	98	75 - 125% PASS	2	25	PASS	
Cadmium (Cd)	NA	38.4303	0.0025	0.005	µg/dry g	38.72	0.1323	99	75 - 125% PASS	0	25	PASS	
Chromium (Cr)	NA	70.2722	0.0025	0.005	µg/dry g	38.72	29.6795	105	75 - 125% PASS	2	25	PASS	
Copper (Cu)	NA	88.7229	0.0025	0.005	µg/dry g	38.72	51.4306	96	75 - 125% PASS	1	25	PASS	
Iron (Fe)	NA	17269.8	1	5	µg/dry g	774	16911.2	46	75 - 125% FAIL	79	25	FAIL	SH
Lead (Pb)	NA	52.9972	0.0025	0.005	µg/dry g	38.72	17.7299	91	75 - 125% PASS	0	25	PASS	
Nickel (Ni)	NA	44.82	0.01	0.02	µg/dry g	38.72	7.43	97	75 - 125% PASS	1	25	PASS	
Selenium (Se)	NA	42.117	0.025	0.05	µg/dry g	38.72	0.12	108	75 - 125% PASS	0	25	PASS	
Silver (Ag)	NA	4.37	0.01	0.02	µg/dry g	3.87	0.57	98	75 - 125% PASS	0	25	PASS	
Zinc (Zn)	NA	139.95	0.025	0.05	µg/dry g	38.72	105.656	89	75 - 125% PASS	0	25	PASS	



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22571-R2		B13-8058 Grab		Matrix: Sediment		Sampled: 30-Aug-13 7:12		Received: 30-Aug-13		
		Method: EPA 245.7		Batch ID: E-6038		Prepared: 22-Oct-13		Analyzed: 22-Oct-13 0:00		
Mercury (Hg)	NA	0.2511	0.00001	0.00002	µg/dry g			4	25	PASS
		Method: EPA 6020		Batch ID: E-7007		Prepared: 12-Oct-13		Analyzed: 22-Oct-13 20:19		
Aluminum (Al)	NA	18285.8	1	5	µg/dry g			4	25	PASS
Antimony (Sb)	NA	0.161	0.025	0.05	µg/dry g			8	25	PASS
Arsenic (As)	NA	5.42	0.025	0.05	µg/dry g			1	25	PASS
Barium (Ba)	NA	48.19	0.025	0.05	µg/dry g			5	25	PASS
Beryllium (Be)	NA	0.31	0.025	0.05	µg/dry g			5	25	PASS
Cadmium (Cd)	NA	0.1276	0.0025	0.005	µg/dry g			7	25	PASS
Chromium (Cr)	NA	29.8596	0.0025	0.005	µg/dry g			1	25	PASS
Copper (Cu)	NA	51.2731	0.0025	0.005	µg/dry g			1	25	PASS
Iron (Fe)	NA	16916.6	1	5	µg/dry g			0	25	PASS
Lead (Pb)	NA	17.864	0.0025	0.005	µg/dry g			2	25	PASS
Nickel (Ni)	NA	7.51	0.01	0.02	µg/dry g			2	25	PASS
Selenium (Se)	NA	0.106	0.025	0.05	µg/dry g			23	25	PASS
Silver (Ag)	NA	0.55	0.01	0.02	µg/dry g			5	25	PASS
Zinc (Zn)	NA	105.453	0.025	0.05	µg/dry g			0	25	PASS

Sample ID: 22577-CRM1		QAQC CRM - RTC 016-050		Matrix: Sediment		Sampled:		Received:		
		Method: EPA 245.7		Batch ID: E-6038		Prepared: 22-Oct-13		Analyzed: 22-Oct-13 0:00		
Mercury (Hg)	NA	0.1453	0.00001	0.00002	µg/dry g	0.158	92	80 - 120%	PASS	
		Method: EPA 6020		Batch ID: E-7007		Prepared: 12-Oct-13		Analyzed: 22-Oct-13 20:52		
Aluminum (Al)	NA	24169.4	1	5	µg/dry g	8920	271	80 - 120%	FAIL	*
Arsenic (As)	NA	8.969	0.025	0.05	µg/dry g	7.76	116	80 - 120%	PASS	
Beryllium (Be)	NA	0.75	0.025	0.05	µg/dry g	0.49	153	80 - 120%	FAIL	*
Cadmium (Cd)	NA	0.3012	0.0025	0.005	µg/dry g	0.47	64	80 - 120%	FAIL	R
Chromium (Cr)	NA	36.0584	0.0025	0.005	µg/dry g	14.5	249	80 - 120%	FAIL	*
Copper (Cu)	NA	14.104	0.0025	0.005	µg/dry g	15.5	91	80 - 120%	PASS	
Iron (Fe)	NA	19818.1	1	5	µg/dry g	16800	118	80 - 120%	PASS	
Lead (Pb)	NA	14.6795	0.0025	0.005	µg/dry g	14.01	105	80 - 120%	PASS	



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Nickel (Ni)	NA	19.16	0.01	0.02	µg/dry g	16.7		115 80 - 120% PASS		
Zinc (Zn)	NA	71.634	0.025	0.05	µg/dry g	69.7		103 80 - 120% PASS		

Sample ID: 22578-CRM1**QAQC CRM - ERA 540****Matrix: Sediment****Sampled:****Received:**

Method: EPA 245.7

Batch ID: E-6038

Prepared: 22-Oct-13

Analyzed: 22-Oct-13 0:00

Mercury (Hg)	NA	7.1713	0.00001	0.00002	µg/dry g	9.25		78 80 - 120% FAIL	25	R
		Method: EPA 6020				Batch ID: E-7007		Prepared: 12-Oct-13	Analyzed: 22-Oct-13 20:57	
Aluminum (Al)	NA	9889	1	5	µg/dry g	9060		109 80 - 120% PASS		
Antimony (Sb)	NA	151.646	0.025	0.05	µg/dry g	106		143 80 - 120% FAIL		*
Arsenic (As)	NA	158.942	0.025	0.05	µg/dry g	182		87 80 - 120% PASS		
Beryllium (Be)	NA	81.6	0.025	0.05	µg/dry g	98.3		83 80 - 120% PASS		
Cadmium (Cd)	NA	51.8141	0.0025	0.005	µg/dry g	60.4		86 80 - 120% PASS		
Chromium (Cr)	NA	112.5416	0.0025	0.005	µg/dry g	125		90 80 - 120% PASS		
Copper (Cu)	NA	64.7487	0.0025	0.005	µg/dry g	80.1		81 80 - 120% PASS		
Iron (Fe)	NA	12980.6	1	5	µg/dry g	12900		101 80 - 120% PASS		
Lead (Pb)	NA	111.2316	0.0025	0.005	µg/dry g	136		82 80 - 120% PASS		
Nickel (Ni)	NA	107.33	0.01	0.02	µg/dry g	128		84 80 - 120% PASS		
Selenium (Se)	NA	79.076	0.025	0.05	µg/dry g	85.9		92 80 - 120% PASS		
Silver (Ag)	NA	52.13	0.01	0.02	µg/dry g	61.3		85 80 - 120% PASS		
Zinc (Zn)	NA	170.672	0.025	0.05	µg/dry g	204		84 80 - 120% PASS		



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CA ELAP #2769

Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Sample ID: 22570-B1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 200.8			Batch ID: E-7011		Prepared: 18-Oct-13		Analyzed: 18-Oct-13 20:13	
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g					
Copper (Cu) - SEM	NA	ND	0.0062	0.0124	µmol/dry g					
Lead (Pb) - SEM	NA	ND	0.0002	0.0004	µmol/dry g					
Nickel (Ni) - SEM	NA	ND	0.0033	0.0066	µmol/dry g					
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g					
Zinc (Zn) - SEM	NA	ND	0.0015	0.003	µmol/dry g					
Sample ID: 22570-BS1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 200.8			Batch ID: E-7011		Prepared: 18-Oct-13		Analyzed: 18-Oct-13 21:05	
Cadmium (Cd) - SEM	NA	0.019	0.0018	0.0036	µmol/dry g	0.0178	0	107	75 - 130% PASS	
Copper (Cu) - SEM	NA	0.032	0.0062	0.0124	µmol/dry g	0.0315	0	102	70 - 130% PASS	
Lead (Pb) - SEM	NA	0.0098	0.0002	0.0004	µmol/dry g	0.0097	0	101	65 - 135% PASS	
Nickel (Ni) - SEM	NA	0.0342	0.0033	0.0066	µmol/dry g	0.0341	0	100	70 - 130% PASS	
Silver (Ag) - SEM	NA	0.0019	0.0047	0.0094	µmol/dry g	0.0019	0	100	50 - 155% PASS	
Zinc (Zn) - SEM	NA	0.0355	0.0015	0.003	µmol/dry g	0.0306	0	116	50 - 150% PASS	
Sample ID: 22570-BS2		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 200.8			Batch ID: E-7011		Prepared: 18-Oct-13		Analyzed: 18-Oct-13 21:09	
Cadmium (Cd) - SEM	NA	0.0189	0.0018	0.0036	µmol/dry g	0.0178	0	106	75 - 130% PASS	1 25 PASS
Copper (Cu) - SEM	NA	0.0319	0.0062	0.0124	µmol/dry g	0.0315	0	101	70 - 130% PASS	1 25 PASS
Lead (Pb) - SEM	NA	0.0098	0.0002	0.0004	µmol/dry g	0.0097	0	101	65 - 135% PASS	0 25 PASS
Nickel (Ni) - SEM	NA	0.0342	0.0033	0.0066	µmol/dry g	0.0341	0	100	70 - 130% PASS	0 25 PASS
Silver (Ag) - SEM	NA	0.0019	0.0047	0.0094	µmol/dry g	0.0019	0	100	50 - 155% PASS	0 25 PASS
Zinc (Zn) - SEM	NA	0.0356	0.0015	0.003	µmol/dry g	0.0306	0	116	50 - 150% PASS	0 25 PASS
Sample ID: 22571-MS1		B13-8058 Grab			Matrix: Sediment		Sampled: 30-Aug-13 7:12		Received: 30-Aug-13	
		Method: EPA 200.8			Batch ID: E-7011		Prepared: 18-Oct-13		Analyzed: 18-Oct-13 21:14	
Cadmium (Cd) - SEM	NA	0.3254	0.0018	0.0036	µmol/dry g	0.3083	0	106	75 - 130% PASS	
Copper (Cu) - SEM	NA	0.8348	0.0062	0.0124	µmol/dry g	0.5455	0.2954	99	70 - 130% PASS	
Lead (Pb) - SEM	NA	0.2168	0.0002	0.0004	µmol/dry g	0.1673	0.0583	95	65 - 135% PASS	



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Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Nickel (Ni) - SEM	NA	0.6126	0.0033	0.0066	µmol/dry g	0.5906	0.01	102	70 - 130%	PASS		
Silver (Ag) - SEM	NA	0.032	0.0047	0.0094	µmol/dry g	0.0321	0	100	50 - 155%	PASS		
Zinc (Zn) - SEM	NA	1.5465	0.0015	0.003	µmol/dry g	0.5301	0.989	105	50 - 150%	PASS		

Sample ID: 22571-MS2**B13-8058 Grab****Matrix: Sediment****Sampled: 30-Aug-13 7:12****Received: 30-Aug-13**

Method: EPA 200.8

Batch ID: E-7011

Prepared: 18-Oct-13

Analyzed: 18-Oct-13 21:19

Cadmium (Cd) - SEM	NA	0.3257	0.0018	0.0036	µmol/dry g	0.3083	0	106	75 - 130%	PASS	0	25	PASS
Copper (Cu) - SEM	NA	0.8329	0.0062	0.0124	µmol/dry g	0.5455	0.2954	99	70 - 130%	PASS	0	25	PASS
Lead (Pb) - SEM	NA	0.217	0.0002	0.0004	µmol/dry g	0.1673	0.0583	95	65 - 135%	PASS	0	25	PASS
Nickel (Ni) - SEM	NA	0.6143	0.0033	0.0066	µmol/dry g	0.5906	0.01	102	70 - 130%	PASS	0	25	PASS
Silver (Ag) - SEM	NA	0.0317	0.0047	0.0094	µmol/dry g	0.0321	0	99	50 - 155%	PASS	1	25	PASS
Zinc (Zn) - SEM	NA	1.5357	0.0015	0.003	µmol/dry g	0.5301	0.989	103	50 - 150%	PASS	2	25	PASS

Sample ID: 22571-R2**B13-8058 Grab****Matrix: Sediment****Sampled: 30-Aug-13 7:12****Received: 30-Aug-13**

Method: EPA 200.8

Batch ID: E-7011

Prepared: 18-Oct-13

Analyzed: 18-Oct-13 20:32

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g						0	25	PASS
Copper (Cu) - SEM	NA	0.3043	0.0062	0.0124	µmol/dry g						6	25	PASS
Lead (Pb) - SEM	NA	0.0595	0.0002	0.0004	µmol/dry g						4	25	PASS
Nickel (Ni) - SEM	NA	0.0103	0.0033	0.0066	µmol/dry g						5	25	PASS
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g						0	25	PASS
Zinc (Zn) - SEM	NA	1.0115	0.0015	0.003	µmol/dry g						5	25	PASS



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CA ELAP #2769

Fipronil & Degradates

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22570-B1

QAQC Procedural Blank

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5039

Sampled:

Prepared: 12-Nov-13

Received:

Analyzed: 15-Nov-13 7:42

Fipronil	NA	ND	0.25	0.5	ng/dry g					
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g					
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g					
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g					

Sample ID: 22570-BS1

QAQC Procedural Blank

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5039

Sampled:

Prepared: 12-Nov-13

Received:

Analyzed: 15-Nov-13 8:46

Fipronil	NA	1009	0.25	0.5	ng/dry g	1000	0	101	50 - 150%	PASS
Fipronil Desulfinyl	NA	955	0.25	0.5	ng/dry g	1000	0	95	50 - 150%	PASS
Fipronil Sulfide	NA	1014	0.25	0.5	ng/dry g	1000	0	101	50 - 150%	PASS
Fipronil Sulfone	NA	1077	0.25	0.5	ng/dry g	1000	0	108	50 - 150%	PASS

Sample ID: 22570-BS2

QAQC Procedural Blank

Method: EPA 8270C-NCI

Matrix: DI Water

Batch ID: O-5039

Sampled:

Prepared: 12-Nov-13

Received:

Analyzed: 15-Nov-13 9:50

Fipronil	NA	1022	0.25	0.5	ng/dry g	1000	0	102	50 - 150%	PASS	1	25	PASS
Fipronil Desulfinyl	NA	1050	0.25	0.5	ng/dry g	1000	0	105	50 - 150%	PASS	9	25	PASS
Fipronil Sulfide	NA	1093	0.25	0.5	ng/dry g	1000	0	109	50 - 150%	PASS	8	25	PASS
Fipronil Sulfone	NA	1073	0.25	0.5	ng/dry g	1000	0	107	50 - 150%	PASS	1	25	PASS

Sample ID: 22571-MS1

B13-8058 Grab

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5039

Sampled: 30-Aug-13 7:12

Prepared: 12-Nov-13

Received: 30-Aug-13

Analyzed: 15-Nov-13 10:54

Fipronil	NA	1211	0.25	0.5	ng/dry g	1000	0	121	50 - 150%	PASS			
Fipronil Desulfinyl	NA	1053	0.25	0.5	ng/dry g	1000	0	105	50 - 150%	PASS			
Fipronil Sulfide	NA	1008	0.25	0.5	ng/dry g	1000	0	101	50 - 150%	PASS			
Fipronil Sulfone	NA	1277	0.25	0.5	ng/dry g	1000	0	128	50 - 150%	PASS			

Sample ID: 22571-MS2

B13-8058 Grab

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-5039

Sampled: 30-Aug-13 7:12

Prepared: 12-Nov-13

Received: 30-Aug-13

Analyzed: 15-Nov-13 11:58

Fipronil	NA	1114	0.25	0.5	ng/dry g	1000	0	111	50 - 150%	PASS	9	25	PASS
Fipronil Desulfinyl	NA	1120	0.25	0.5	ng/dry g	1000	0	112	50 - 150%	PASS	6	25	PASS



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Fipronil & Degradates

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Fipronil Sulfide	NA	1145	0.25	0.5	ng/dry g	1000	0	114 50 - 150% PASS	12 25 PASS	
Fipronil Sulfone	NA	1098	0.25	0.5	ng/dry g	1000	0	110 50 - 150% PASS	15 25 PASS	

Sample ID: 22571-R2

B13-8058 Grab

Matrix: Sediment

Sampled: 30-Aug-13 7:12

Received: 30-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 16-Nov-13 3:54

Fipronil	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22570-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 31-May-14 21:59		
PCB003	NA	ND	0.05	0.1	ng/dry g					
PCB005	NA	ND	0.05	0.1	ng/dry g					
PCB008	NA	ND	0.05	0.1	ng/dry g					
PCB015	NA	ND	0.05	0.1	ng/dry g					
PCB018	NA	ND	0.05	0.1	ng/dry g					
PCB027	NA	ND	0.05	0.1	ng/dry g					
PCB028	NA	ND	0.05	0.1	ng/dry g					
PCB029	NA	ND	0.05	0.1	ng/dry g					
PCB031	NA	ND	0.05	0.1	ng/dry g					
PCB033	NA	ND	0.05	0.1	ng/dry g					
PCB037	NA	ND	0.05	0.1	ng/dry g					
PCB044	NA	ND	0.05	0.1	ng/dry g					
PCB049	NA	ND	0.05	0.1	ng/dry g					
PCB052	NA	ND	0.05	0.1	ng/dry g					
PCB056(060)	NA	ND	0.1	0.2	ng/dry g					
PCB066	NA	ND	0.05	0.1	ng/dry g					
PCB070	NA	ND	0.05	0.1	ng/dry g					
PCB074	NA	ND	0.05	0.1	ng/dry g					
PCB077	NA	ND	0.05	0.1	ng/dry g					
PCB081	NA	ND	0.05	0.1	ng/dry g					
PCB087	NA	ND	0.05	0.1	ng/dry g					
PCB095	NA	ND	0.05	0.1	ng/dry g					
PCB097	NA	ND	0.05	0.1	ng/dry g					
PCB099	NA	ND	0.05	0.1	ng/dry g					
PCB101	NA	ND	0.05	0.1	ng/dry g					
PCB105	NA	ND	0.05	0.1	ng/dry g					
PCB110	NA	ND	0.05	0.1	ng/dry g					
PCB114	NA	ND	0.05	0.1	ng/dry g					
PCB118	NA	ND	0.05	0.1	ng/dry g					



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB119	NA	ND	0.05	0.1	ng/dry g					
PCB123	NA	ND	0.05	0.1	ng/dry g					
PCB126	NA	ND	0.05	0.1	ng/dry g					
PCB128	NA	ND	0.05	0.1	ng/dry g					
PCB137	NA	ND	0.05	0.1	ng/dry g					
PCB138	NA	ND	0.05	0.1	ng/dry g					
PCB141	NA	ND	0.05	0.1	ng/dry g					
PCB149	NA	ND	0.05	0.1	ng/dry g					
PCB151	NA	ND	0.05	0.1	ng/dry g					
PCB153	NA	ND	0.05	0.1	ng/dry g					
PCB156	NA	ND	0.05	0.1	ng/dry g					
PCB157	NA	ND	0.05	0.1	ng/dry g					
PCB158	NA	ND	0.05	0.1	ng/dry g					
PCB167	NA	ND	0.05	0.1	ng/dry g					
PCB168+132	NA	ND	0.1	0.2	ng/dry g					
PCB169	NA	ND	0.05	0.1	ng/dry g					
PCB170	NA	ND	0.05	0.1	ng/dry g					
PCB174	NA	ND	0.05	0.1	ng/dry g					
PCB177	NA	ND	0.05	0.1	ng/dry g					
PCB180	NA	ND	0.05	0.1	ng/dry g					
PCB183	NA	ND	0.05	0.1	ng/dry g					
PCB187	NA	ND	0.05	0.1	ng/dry g					
PCB189	NA	ND	0.05	0.1	ng/dry g					
PCB194	NA	ND	0.05	0.1	ng/dry g					
PCB195	NA	ND	0.05	0.1	ng/dry g					
PCB199(200)	NA	ND	0.1	0.2	ng/dry g					
PCB201	NA	ND	0.05	0.1	ng/dry g					
PCB203	NA	ND	0.05	0.1	ng/dry g					
PCB206	NA	ND	0.05	0.1	ng/dry g					
PCB209	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 22570-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

PHYSIS Project ID: 1307002-014

Client: AMEC

Project: RHMP Bight '13

qcb - 21 of 48



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION LIMITS	QA CODE
Method: EPA 8270C Batch ID: O-6004 Prepared: 16-May-14 Analyzed: 31-May-14 23:38										
PCB003	NA	239.86	0.05	0.1	ng/dry g	200	0	120	70 - 130% PASS	
PCB008	NA	246.09	0.05	0.1	ng/dry g	200	0	123	70 - 130% PASS	
PCB018	NA	246.87	0.05	0.1	ng/dry g	200	0	123	70 - 130% PASS	
PCB028	NA	239.19	0.05	0.1	ng/dry g	200	0	120	70 - 130% PASS	
PCB031	NA	234.62	0.05	0.1	ng/dry g	200	0	117	70 - 130% PASS	
PCB033	NA	237.85	0.05	0.1	ng/dry g	200	0	119	70 - 130% PASS	
PCB037	NA	225.22	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	
PCB044	NA	234.09	0.05	0.1	ng/dry g	200	0	117	70 - 130% PASS	
PCB049	NA	240.7	0.05	0.1	ng/dry g	200	0	120	70 - 130% PASS	
PCB052	NA	220.54	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	
PCB056(060)	NA	229.3	0.1	0.2	ng/dry g	200	0	115	70 - 130% PASS	
PCB066	NA	198.71	0.05	0.1	ng/dry g	200	0	99	70 - 130% PASS	
PCB070	NA	222.3	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	
PCB074	NA	215.67	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	
PCB077	NA	219.44	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	
PCB081	NA	231.88	0.05	0.1	ng/dry g	200	0	116	70 - 130% PASS	
PCB087	NA	222.51	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	
PCB095	NA	230.19	0.05	0.1	ng/dry g	200	0	115	70 - 130% PASS	
PCB097	NA	218.46	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	
PCB099	NA	217.94	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	
PCB101	NA	225.09	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	
PCB105	NA	222.64	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	
PCB110	NA	227.74	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	
PCB114	NA	225.58	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	
PCB118	NA	215.98	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	
PCB119	NA	211.28	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	
PCB123	NA	216.39	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	
PCB126	NA	216.81	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	
PCB128	NA	227.15	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	
PCB138	NA	231.76	0.05	0.1	ng/dry g	200	0	116	70 - 130% PASS	



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB141	NA	228.18	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	
PCB149	NA	224.92	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	
PCB151	NA	227.84	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	
PCB153	NA	226.18	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	
PCB156	NA	217.14	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	
PCB157	NA	220.11	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	
PCB158	NA	223.16	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	
PCB167	NA	212.68	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	
PCB168+132	NA	471.8	0.1	0.2	ng/dry g	400	0	118	70 - 130% PASS	
PCB169	NA	194.72	0.05	0.1	ng/dry g	200	0	97	70 - 130% PASS	
PCB170	NA	222.22	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	
PCB174	NA	230.31	0.05	0.1	ng/dry g	200	0	115	70 - 130% PASS	
PCB177	NA	221.95	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	
PCB180	NA	221.86	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	
PCB183	NA	224.94	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	
PCB187	NA	225.72	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	
PCB189	NA	195.53	0.05	0.1	ng/dry g	200	0	98	70 - 130% PASS	
PCB194	NA	213.39	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	
PCB195	NA	209.88	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	
PCB199(200)	NA	240.3	0.1	0.2	ng/dry g	200	0	120	70 - 130% PASS	
PCB201	NA	241.37	0.05	0.1	ng/dry g	200	0	121	70 - 130% PASS	
PCB206	NA	202.61	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS	
PCB209	NA	202.26	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS	

Sample ID: 22570-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14 1:17

PCB003	NA	215.21	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	11	25	PASS
PCB008	NA	233.59	0.05	0.1	ng/dry g	200	0	117	70 - 130% PASS	5	25	PASS
PCB018	NA	223.5	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	9	25	PASS
PCB028	NA	257.7	0.05	0.1	ng/dry g	200	0	129	70 - 130% PASS	7	25	PASS
PCB031	NA	184.71	0.05	0.1	ng/dry g	200	0	92	70 - 130% PASS	24	25	PASS
PCB033	NA	216.19	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	10	25	PASS



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY			PRECISION			QA CODE
								%	LIMITS		%	LIMITS		
PCB037	NA	202.1	0.05	0.1	ng/dry g	200	0	101	70 - 130%	PASS	11	25	PASS	
PCB044	NA	216.17	0.05	0.1	ng/dry g	200	0	108	70 - 130%	PASS	8	25	PASS	
PCB049	NA	223.33	0.05	0.1	ng/dry g	200	0	112	70 - 130%	PASS	7	25	PASS	
PCB052	NA	200.83	0.05	0.1	ng/dry g	200	0	100	70 - 130%	PASS	10	25	PASS	
PCB056(060)	NA	211.9	0.1	0.2	ng/dry g	200	0	106	70 - 130%	PASS	8	25	PASS	
PCB066	NA	194.24	0.05	0.1	ng/dry g	200	0	97	70 - 130%	PASS	2	25	PASS	
PCB070	NA	206.27	0.05	0.1	ng/dry g	200	0	103	70 - 130%	PASS	7	25	PASS	
PCB074	NA	202.27	0.05	0.1	ng/dry g	200	0	101	70 - 130%	PASS	7	25	PASS	
PCB077	NA	212.94	0.05	0.1	ng/dry g	200	0	106	70 - 130%	PASS	4	25	PASS	
PCB081	NA	222.64	0.05	0.1	ng/dry g	200	0	111	70 - 130%	PASS	4	25	PASS	
PCB087	NA	222.44	0.05	0.1	ng/dry g	200	0	111	70 - 130%	PASS	0	25	PASS	
PCB095	NA	218.44	0.05	0.1	ng/dry g	200	0	109	70 - 130%	PASS	5	25	PASS	
PCB097	NA	209.62	0.05	0.1	ng/dry g	200	0	105	70 - 130%	PASS	4	25	PASS	
PCB099	NA	217.9	0.05	0.1	ng/dry g	200	0	109	70 - 130%	PASS	0	25	PASS	
PCB101	NA	216.35	0.05	0.1	ng/dry g	200	0	108	70 - 130%	PASS	5	25	PASS	
PCB105	NA	201.2	0.05	0.1	ng/dry g	200	0	101	70 - 130%	PASS	9	25	PASS	
PCB110	NA	219.61	0.05	0.1	ng/dry g	200	0	110	70 - 130%	PASS	4	25	PASS	
PCB114	NA	216.61	0.05	0.1	ng/dry g	200	0	108	70 - 130%	PASS	5	25	PASS	
PCB118	NA	209.91	0.05	0.1	ng/dry g	200	0	105	70 - 130%	PASS	3	25	PASS	
PCB119	NA	192.9	0.05	0.1	ng/dry g	200	0	96	70 - 130%	PASS	10	25	PASS	
PCB123	NA	207.77	0.05	0.1	ng/dry g	200	0	104	70 - 130%	PASS	4	25	PASS	
PCB126	NA	193.47	0.05	0.1	ng/dry g	200	0	97	70 - 130%	PASS	11	25	PASS	
PCB128	NA	202.06	0.05	0.1	ng/dry g	200	0	101	70 - 130%	PASS	12	25	PASS	
PCB138	NA	210.41	0.05	0.1	ng/dry g	200	0	105	70 - 130%	PASS	10	25	PASS	
PCB141	NA	210.39	0.05	0.1	ng/dry g	200	0	105	70 - 130%	PASS	8	25	PASS	
PCB149	NA	224.76	0.05	0.1	ng/dry g	200	0	112	70 - 130%	PASS	0	25	PASS	
PCB151	NA	226.07	0.05	0.1	ng/dry g	200	0	113	70 - 130%	PASS	1	25	PASS	
PCB153	NA	198.57	0.05	0.1	ng/dry g	200	0	99	70 - 130%	PASS	13	25	PASS	
PCB156	NA	203.16	0.05	0.1	ng/dry g	200	0	102	70 - 130%	PASS	7	25	PASS	
PCB157	NA	211.63	0.05	0.1	ng/dry g	200	0	106	70 - 130%	PASS	4	25	PASS	
PCB158	NA	211.94	0.05	0.1	ng/dry g	200	0	106	70 - 130%	PASS	6	25	PASS	



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB167	NA	203.28	0.05	0.1	ng/dry g	200	0	102 70 - 130% PASS	4 25 PASS	
PCB168+132	NA	438	0.1	0.2	ng/dry g	400	0	110 70 - 130% PASS	7 25 PASS	
PCB169	NA	193.43	0.05	0.1	ng/dry g	200	0	97 70 - 130% PASS	0 25 PASS	
PCB170	NA	213.76	0.05	0.1	ng/dry g	200	0	107 70 - 130% PASS	4 25 PASS	
PCB174	NA	215.93	0.05	0.1	ng/dry g	200	0	108 70 - 130% PASS	6 25 PASS	
PCB177	NA	220.7	0.05	0.1	ng/dry g	200	0	110 70 - 130% PASS	1 25 PASS	
PCB180	NA	211.07	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS	5 25 PASS	
PCB183	NA	211.44	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS	6 25 PASS	
PCB187	NA	215.17	0.05	0.1	ng/dry g	200	0	108 70 - 130% PASS	5 25 PASS	
PCB189	NA	187.54	0.05	0.1	ng/dry g	200	0	94 70 - 130% PASS	4 25 PASS	
PCB194	NA	212.64	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS	1 25 PASS	
PCB195	NA	207.02	0.05	0.1	ng/dry g	200	0	104 70 - 130% PASS	1 25 PASS	
PCB199(200)	NA	230.9	0.1	0.2	ng/dry g	200	0	115 70 - 130% PASS	4 25 PASS	
PCB201	NA	241.04	0.05	0.1	ng/dry g	200	0	121 70 - 130% PASS	0 25 PASS	
PCB206	NA	202.03	0.05	0.1	ng/dry g	200	0	101 70 - 130% PASS	0 25 PASS	
PCB209	NA	214.25	0.05	0.1	ng/dry g	200	0	107 70 - 130% PASS	6 25 PASS	

Sample ID: 22571-MS1

B13-8058 Grab

Matrix: Sediment

Sampled: 30-Aug-13 7:12

Received: 30-Aug-13

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14 2:55

PCB003	NA	234.82	0.05	0.1	ng/dry g	200	0	117 50 - 150% PASS	
PCB008	NA	240.59	0.05	0.1	ng/dry g	200	0	120 50 - 150% PASS	
PCB018	NA	230.48	0.05	0.1	ng/dry g	200	0	115 50 - 150% PASS	
PCB028	NA	217.88	0.05	0.1	ng/dry g	200	0	109 50 - 150% PASS	
PCB031	NA	221.85	0.05	0.1	ng/dry g	200	0	111 50 - 150% PASS	
PCB033	NA	212.54	0.05	0.1	ng/dry g	200	0	106 50 - 150% PASS	
PCB037	NA	205.82	0.05	0.1	ng/dry g	200	0	103 50 - 150% PASS	
PCB044	NA	212.35	0.05	0.1	ng/dry g	200	0	106 50 - 150% PASS	
PCB049	NA	226.02	0.05	0.1	ng/dry g	200	0	113 50 - 150% PASS	
PCB052	NA	206.9	0.05	0.1	ng/dry g	200	0	103 50 - 150% PASS	
PCB056(060)	NA	214	0.1	0.2	ng/dry g	200	0	107 50 - 150% PASS	
PCB066	NA	190.16	0.05	0.1	ng/dry g	200	0	95 50 - 150% PASS	
PCB070	NA	204.36	0.05	0.1	ng/dry g	200	0	102 50 - 150% PASS	



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB074	NA	201.47	0.05	0.1	ng/dry g	200	0	101	50 - 150% PASS	
PCB077	NA	205.21	0.05	0.1	ng/dry g	200	0	103	50 - 150% PASS	
PCB081	NA	211.93	0.05	0.1	ng/dry g	200	0	106	50 - 150% PASS	
PCB087	NA	209.48	0.05	0.1	ng/dry g	200	0	105	50 - 150% PASS	
PCB095	NA	213.02	0.05	0.1	ng/dry g	200	0	107	50 - 150% PASS	
PCB097	NA	214.55	0.05	0.1	ng/dry g	200	0	107	50 - 150% PASS	
PCB099	NA	218.35	0.05	0.1	ng/dry g	200	0.23	109	50 - 150% PASS	
PCB101	NA	208.9	0.05	0.1	ng/dry g	200	0	104	50 - 150% PASS	
PCB105	NA	205.83	0.05	0.1	ng/dry g	200	0	103	50 - 150% PASS	
PCB110	NA	208.16	0.05	0.1	ng/dry g	200	0	104	50 - 150% PASS	
PCB114	NA	207.9	0.05	0.1	ng/dry g	200	0	104	50 - 150% PASS	
PCB118	NA	201.83	0.05	0.1	ng/dry g	200	0	101	50 - 150% PASS	
PCB119	NA	204.3	0.05	0.1	ng/dry g	200	0	102	50 - 150% PASS	
PCB123	NA	204.96	0.05	0.1	ng/dry g	200	0	102	50 - 150% PASS	
PCB126	NA	190.59	0.05	0.1	ng/dry g	200	0	95	50 - 150% PASS	
PCB128	NA	220.17	0.05	0.1	ng/dry g	200	0	110	50 - 150% PASS	
PCB138	NA	217.52	0.05	0.1	ng/dry g	200	0.51	109	50 - 150% PASS	
PCB141	NA	217.13	0.05	0.1	ng/dry g	200	0	109	50 - 150% PASS	
PCB149	NA	208.25	0.05	0.1	ng/dry g	200	0	104	50 - 150% PASS	
PCB151	NA	212.49	0.05	0.1	ng/dry g	200	0	106	50 - 150% PASS	
PCB153	NA	219.75	0.05	0.1	ng/dry g	200	0.33	110	50 - 150% PASS	
PCB156	NA	200.38	0.05	0.1	ng/dry g	200	0	100	50 - 150% PASS	
PCB157	NA	200.9	0.05	0.1	ng/dry g	200	0	100	50 - 150% PASS	
PCB158	NA	209.82	0.05	0.1	ng/dry g	200	0	105	50 - 150% PASS	
PCB167	NA	199.52	0.05	0.1	ng/dry g	200	0	100	50 - 150% PASS	
PCB168+132	NA	424.8	0.1	0.2	ng/dry g	400	0	106	50 - 150% PASS	
PCB169	NA	192.02	0.05	0.1	ng/dry g	200	0	96	50 - 150% PASS	
PCB170	NA	216.26	0.05	0.1	ng/dry g	200	0	108	50 - 150% PASS	
PCB174	NA	212.93	0.05	0.1	ng/dry g	200	0	106	50 - 150% PASS	
PCB177	NA	212.73	0.05	0.1	ng/dry g	200	0	106	50 - 150% PASS	
PCB180	NA	214.01	0.05	0.1	ng/dry g	200	0	107	50 - 150% PASS	



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB183	NA	212.45	0.05	0.1	ng/dry g	200	0	106	50 - 150% PASS	
PCB187	NA	215.69	0.05	0.1	ng/dry g	200	0	108	50 - 150% PASS	
PCB189	NA	196.56	0.05	0.1	ng/dry g	200	0	98	50 - 150% PASS	
PCB194	NA	207.09	0.05	0.1	ng/dry g	200	0	104	50 - 150% PASS	
PCB195	NA	208.06	0.05	0.1	ng/dry g	200	0	104	50 - 150% PASS	
PCB199(200)	NA	221.1	0.1	0.2	ng/dry g	200	0	111	50 - 150% PASS	
PCB201	NA	239.72	0.05	0.1	ng/dry g	200	0	120	50 - 150% PASS	
PCB206	NA	206.43	0.05	0.1	ng/dry g	200	0	103	50 - 150% PASS	
PCB209	NA	201.88	0.05	0.1	ng/dry g	200	0	101	50 - 150% PASS	

Sample ID: 22571-MS2**B13-8058 Grab****Matrix: Sediment****Sampled: 30-Aug-13 7:12****Received: 30-Aug-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14 4:34

PCB003	NA	243.27	0.05	0.1	ng/dry g	200	0	122	50 - 150% PASS	4	25	PASS
PCB008	NA	239.4	0.05	0.1	ng/dry g	200	0	120	50 - 150% PASS	0	25	PASS
PCB018	NA	229.01	0.05	0.1	ng/dry g	200	0	115	50 - 150% PASS	0	25	PASS
PCB028	NA	219.17	0.05	0.1	ng/dry g	200	0	110	50 - 150% PASS	1	25	PASS
PCB031	NA	231.9	0.05	0.1	ng/dry g	200	0	116	50 - 150% PASS	4	25	PASS
PCB033	NA	225.45	0.05	0.1	ng/dry g	200	0	113	50 - 150% PASS	6	25	PASS
PCB037	NA	220.73	0.05	0.1	ng/dry g	200	0	110	50 - 150% PASS	7	25	PASS
PCB044	NA	220.11	0.05	0.1	ng/dry g	200	0	110	50 - 150% PASS	4	25	PASS
PCB049	NA	218.28	0.05	0.1	ng/dry g	200	0	109	50 - 150% PASS	4	25	PASS
PCB052	NA	217.33	0.05	0.1	ng/dry g	200	0	109	50 - 150% PASS	6	25	PASS
PCB056(060)	NA	224	0.1	0.2	ng/dry g	200	0	112	50 - 150% PASS	5	25	PASS
PCB066	NA	203.33	0.05	0.1	ng/dry g	200	0	102	50 - 150% PASS	7	25	PASS
PCB070	NA	217.21	0.05	0.1	ng/dry g	200	0	109	50 - 150% PASS	7	25	PASS
PCB074	NA	210.76	0.05	0.1	ng/dry g	200	0	105	50 - 150% PASS	4	25	PASS
PCB077	NA	212.4	0.05	0.1	ng/dry g	200	0	106	50 - 150% PASS	3	25	PASS
PCB081	NA	220.99	0.05	0.1	ng/dry g	200	0	110	50 - 150% PASS	4	25	PASS
PCB087	NA	220.27	0.05	0.1	ng/dry g	200	0	110	50 - 150% PASS	5	25	PASS
PCB095	NA	225.7	0.05	0.1	ng/dry g	200	0	113	50 - 150% PASS	5	25	PASS
PCB097	NA	222.47	0.05	0.1	ng/dry g	200	0	111	50 - 150% PASS	4	25	PASS
PCB099	NA	215.61	0.05	0.1	ng/dry g	200	0.23	108	50 - 150% PASS	1	25	PASS



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB101	NA	223.84	0.05	0.1	ng/dry g	200	0	112 50 - 150% PASS	7 25 PASS	
PCB105	NA	219.68	0.05	0.1	ng/dry g	200	0	110 50 - 150% PASS	7 25 PASS	
PCB110	NA	224.55	0.05	0.1	ng/dry g	200	0	112 50 - 150% PASS	7 25 PASS	
PCB114	NA	226	0.05	0.1	ng/dry g	200	0	113 50 - 150% PASS	8 25 PASS	
PCB118	NA	220.47	0.05	0.1	ng/dry g	200	0	110 50 - 150% PASS	9 25 PASS	
PCB119	NA	218.43	0.05	0.1	ng/dry g	200	0	109 50 - 150% PASS	7 25 PASS	
PCB123	NA	220.07	0.05	0.1	ng/dry g	200	0	110 50 - 150% PASS	8 25 PASS	
PCB126	NA	211.9	0.05	0.1	ng/dry g	200	0	106 50 - 150% PASS	11 25 PASS	
PCB128	NA	217.26	0.05	0.1	ng/dry g	200	0	109 50 - 150% PASS	1 25 PASS	
PCB138	NA	225.29	0.05	0.1	ng/dry g	200	0.51	112 50 - 150% PASS	3 25 PASS	
PCB141	NA	226.43	0.05	0.1	ng/dry g	200	0	113 50 - 150% PASS	4 25 PASS	
PCB149	NA	220.15	0.05	0.1	ng/dry g	200	0	110 50 - 150% PASS	6 25 PASS	
PCB151	NA	227.42	0.05	0.1	ng/dry g	200	0	114 50 - 150% PASS	7 25 PASS	
PCB153	NA	229.72	0.05	0.1	ng/dry g	200	0.33	115 50 - 150% PASS	4 25 PASS	
PCB156	NA	217.02	0.05	0.1	ng/dry g	200	0	109 50 - 150% PASS	9 25 PASS	
PCB157	NA	221.2	0.05	0.1	ng/dry g	200	0	111 50 - 150% PASS	10 25 PASS	
PCB158	NA	224.57	0.05	0.1	ng/dry g	200	0	112 50 - 150% PASS	6 25 PASS	
PCB167	NA	212.63	0.05	0.1	ng/dry g	200	0	106 50 - 150% PASS	6 25 PASS	
PCB168+132	NA	421.5	0.1	0.2	ng/dry g	400	0	105 50 - 150% PASS	1 25 PASS	
PCB169	NA	212.67	0.05	0.1	ng/dry g	200	0	106 50 - 150% PASS	10 25 PASS	
PCB170	NA	224.61	0.05	0.1	ng/dry g	200	0	112 50 - 150% PASS	4 25 PASS	
PCB174	NA	226.79	0.05	0.1	ng/dry g	200	0	113 50 - 150% PASS	6 25 PASS	
PCB177	NA	224.04	0.05	0.1	ng/dry g	200	0	112 50 - 150% PASS	6 25 PASS	
PCB180	NA	224.47	0.05	0.1	ng/dry g	200	0	112 50 - 150% PASS	5 25 PASS	
PCB183	NA	227.84	0.05	0.1	ng/dry g	200	0	114 50 - 150% PASS	7 25 PASS	
PCB187	NA	222.43	0.05	0.1	ng/dry g	200	0	111 50 - 150% PASS	3 25 PASS	
PCB189	NA	210.32	0.05	0.1	ng/dry g	200	0	105 50 - 150% PASS	7 25 PASS	
PCB194	NA	227.63	0.05	0.1	ng/dry g	200	0	114 50 - 150% PASS	9 25 PASS	
PCB195	NA	222.66	0.05	0.1	ng/dry g	200	0	111 50 - 150% PASS	7 25 PASS	
PCB199(200)	NA	226.5	0.1	0.2	ng/dry g	200	0	113 50 - 150% PASS	2 25 PASS	
PCB201	NA	226.92	0.05	0.1	ng/dry g	200	0	113 50 - 150% PASS	6 25 PASS	



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
PCB206	NA	215.08	0.05	0.1	ng/dry g	200	0	108	50 - 150% PASS	5	25 PASS	
PCB209	NA	210.26	0.05	0.1	ng/dry g	200	0	105	50 - 150% PASS	4	25 PASS	

Sample ID: 22571-R2

B13-8058 Grab

Matrix: Sediment

Sampled: 30-Aug-13 7:12

Received: 30-Aug-13

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 02-Jun-14 1:33

PCB003	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB005	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB008	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB015	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB018	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB027	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB028	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB029	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB031	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB033	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB037	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB044	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB049	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB052	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g					0	25 PASS	
PCB066	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB070	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB074	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB077	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB081	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB087	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB095	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB097	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB099	NA	0.45	0.05	0.1	ng/dry g					160	25 FAIL	SL
PCB101	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB105	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	
PCB110	NA	ND	0.05	0.1	ng/dry g					0	25 PASS	



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PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB114	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB118	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB119	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB123	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB126	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB128	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB137	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB138	NA	0.53	0.05	0.1	ng/dry g				10 25 PASS	
PCB141	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB149	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB151	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB153	NA	0.35	0.05	0.1	ng/dry g				12 25 PASS	
PCB156	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB157	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB158	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB167	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB168+132	NA	ND	0.1	0.2	ng/dry g				0 25 PASS	
PCB169	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB170	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB174	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB177	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB180	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB183	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB187	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB189	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB194	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB195	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g				0 25 PASS	
PCB201	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB203	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PCB206	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB209	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	

Sample ID: 22576-CRM1**QAQC CRM - SRM 1944****Matrix: Sediment****Sampled:****Received:**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14 6:37

PCB008	NA	21.14	0.05	0.1	ng/dry g	22.3	95	60 - 140%	PASS	
PCB018	NA	49.31	0.05	0.1	ng/dry g	51	97	60 - 140%	PASS	
PCB028	NA	78.72	0.05	0.1	ng/dry g	80.8	97	60 - 140%	PASS	
PCB031	NA	80.02	0.05	0.1	ng/dry g	78.7	102	60 - 140%	PASS	
PCB044	NA	52.12	0.05	0.1	ng/dry g	60.2	87	60 - 140%	PASS	
PCB049	NA	59.24	0.05	0.1	ng/dry g	53	112	60 - 140%	PASS	
PCB052	NA	79.92	0.05	0.1	ng/dry g	79.4	101	60 - 140%	PASS	
PCB066	NA	47.66	0.05	0.1	ng/dry g	71.9	66	60 - 140%	PASS	
PCB087	NA	24.14	0.05	0.1	ng/dry g	29.9	81	60 - 140%	PASS	
PCB095	NA	55.69	0.05	0.1	ng/dry g	65	86	60 - 140%	PASS	
PCB099	NA	35	0.05	0.1	ng/dry g	37.5	93	60 - 140%	PASS	
PCB101	NA	70.45	0.05	0.1	ng/dry g	73.4	96	60 - 140%	PASS	
PCB105	NA	23.2	0.05	0.1	ng/dry g	24.5	95	60 - 140%	PASS	
PCB110	NA	57.41	0.05	0.1	ng/dry g	63.5	90	60 - 140%	PASS	
PCB118	NA	43.9	0.05	0.1	ng/dry g	58	76	60 - 140%	PASS	
PCB128	NA	7.65	0.05	0.1	ng/dry g	8.5	90	60 - 140%	PASS	
PCB138	NA	67.61	0.05	0.1	ng/dry g	62.1	109	60 - 140%	PASS	
PCB149	NA	47.37	0.05	0.1	ng/dry g	49.7	95	60 - 140%	PASS	
PCB151	NA	17.61	0.05	0.1	ng/dry g	16.9	104	60 - 140%	PASS	
PCB153	NA	63.09	0.05	0.1	ng/dry g	74	85	60 - 140%	PASS	
PCB156	NA	5.34	0.05	0.1	ng/dry g	6.5	82	60 - 140%	PASS	
PCB170	NA	24.6	0.05	0.1	ng/dry g	22.6	109	60 - 140%	PASS	
PCB180	NA	43.2	0.05	0.1	ng/dry g	44.3	98	60 - 140%	PASS	
PCB183	NA	10.26	0.05	0.1	ng/dry g	12.2	84	60 - 140%	PASS	
PCB187	NA	26.83	0.05	0.1	ng/dry g	25.1	107	60 - 140%	PASS	
PCB194	NA	8.45	0.05	0.1	ng/dry g	11.2	75	60 - 140%	PASS	
PCB195	NA	3.86	0.05	0.1	ng/dry g	3.8	102	60 - 140%	PASS	
PCB206	NA	10.84	0.05	0.1	ng/dry g	9.2	118	60 - 140%	PASS	



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB209	NA	6.26	0.05	0.1	ng/dry g	6.8		92 60 - 140%	PASS	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22570-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13 12:56

(DFPBDE)	NA	73			% Recovery	100		73	50 - 150%	PASS
(FTBDE)	NA	93			% Recovery	100		93	50 - 150%	PASS
PBDE017	NA	ND	0.05	0.1	ng/dry g					
PBDE028	NA	ND	0.05	0.1	ng/dry g					
PBDE047	NA	ND	0.05	0.1	ng/dry g					
PBDE049	NA	ND	0.05	0.1	ng/dry g					
PBDE066	NA	ND	0.05	0.1	ng/dry g					
PBDE071	NA	ND	0.05	0.1	ng/dry g					
PBDE085	NA	ND	0.05	0.1	ng/dry g					
PBDE099	NA	ND	0.05	0.1	ng/dry g					
PBDE100	NA	ND	0.05	0.1	ng/dry g					
PBDE138	NA	ND	0.05	0.1	ng/dry g					
PBDE153	NA	ND	0.05	0.1	ng/dry g					
PBDE154	NA	ND	0.05	0.1	ng/dry g					
PBDE183	NA	ND	0.05	0.1	ng/dry g					
PBDE190	NA	ND	0.05	0.1	ng/dry g					
PBDE209	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 22570-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13 13:35

(DFPBDE)	NA	108			% Recovery	100	0	108	70 - 130%	PASS
(FTBDE)	NA	114			% Recovery	100	0	114	70 - 130%	PASS
PBDE017	NA	128	0.05	0.1	ng/dry g	100	0	128	70 - 130%	PASS
PBDE028	NA	112	0.05	0.1	ng/dry g	100	0	112	70 - 130%	PASS
PBDE047	NA	104	0.05	0.1	ng/dry g	100	0	104	70 - 130%	PASS
PBDE049	NA	71	0.05	0.1	ng/dry g	100	0	71	70 - 130%	PASS
PBDE066	NA	113	0.05	0.1	ng/dry g	100	0	113	70 - 130%	PASS
PBDE071	NA	90	0.05	0.1	ng/dry g	100	0	90	70 - 130%	PASS
PBDE085	NA	110	0.05	0.1	ng/dry g	100	0	110	70 - 130%	PASS



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PBDE099	NA	109	0.05	0.1	ng/dry g	100	0	109 70 - 130%	PASS	
PBDE100	NA	115	0.05	0.1	ng/dry g	100	0	115 70 - 130%	PASS	
PBDE138	NA	86	0.05	0.1	ng/dry g	100	0	86 70 - 130%	PASS	
PBDE153	NA	122	0.05	0.1	ng/dry g	100	0	122 70 - 130%	PASS	
PBDE154	NA	110.18	0.05	0.1	ng/dry g	100	0	110 70 - 130%	PASS	
PBDE183	NA	103	0.05	0.1	ng/dry g	100	0	103 70 - 130%	PASS	
PBDE190	NA	103	0.05	0.1	ng/dry g	100	0	103 70 - 130%	PASS	
PBDE209	NA	450	0.05	0.1	ng/dry g	500	0	90 70 - 130%	PASS	

Sample ID: 22570-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13 14:14

(DFPBDE)	NA	116			% Recovery	100	0	116 70 - 130%	PASS	7	25	PASS
(FTBDE)	NA	110			% Recovery	100	0	110 70 - 130%	PASS	4	25	PASS
PBDE017	NA	125	0.05	0.1	ng/dry g	100	0	125 70 - 130%	PASS	2	25	PASS
PBDE028	NA	113	0.05	0.1	ng/dry g	100	0	113 70 - 130%	PASS	1	25	PASS
PBDE047	NA	109	0.05	0.1	ng/dry g	100	0	109 70 - 130%	PASS	5	25	PASS
PBDE049	NA	71	0.05	0.1	ng/dry g	100	0	71 70 - 130%	PASS	0	25	PASS
PBDE066	NA	121	0.05	0.1	ng/dry g	100	0	121 70 - 130%	PASS	7	25	PASS
PBDE071	NA	94	0.05	0.1	ng/dry g	100	0	94 70 - 130%	PASS	4	25	PASS
PBDE085	NA	120	0.05	0.1	ng/dry g	100	0	120 70 - 130%	PASS	9	25	PASS
PBDE099	NA	119	0.05	0.1	ng/dry g	100	0	119 70 - 130%	PASS	9	25	PASS
PBDE100	NA	119	0.05	0.1	ng/dry g	100	0	119 70 - 130%	PASS	3	25	PASS
PBDE138	NA	93	0.05	0.1	ng/dry g	100	0	93 70 - 130%	PASS	8	25	PASS
PBDE153	NA	110	0.05	0.1	ng/dry g	100	0	110 70 - 130%	PASS	10	25	PASS
PBDE154	NA	119.45	0.05	0.1	ng/dry g	100	0	119 70 - 130%	PASS	8	25	PASS
PBDE183	NA	116	0.05	0.1	ng/dry g	100	0	116 70 - 130%	PASS	12	25	PASS
PBDE190	NA	83	0.05	0.1	ng/dry g	100	0	83 70 - 130%	PASS	22	25	PASS
PBDE209	NA	474	0.05	0.1	ng/dry g	500	0	95 70 - 130%	PASS	5	25	PASS

Sample ID: 22571-MS1

B13-8058 Grab

Matrix: Sediment

Sampled: 30-Aug-13 7:12

Received: 30-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13 14:53

(DFPBDE)	NA	100			% Recovery	100	0	100 70 - 130%	PASS			
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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
(FTBDE)	NA	111			% Recovery	100	0	111 70 - 130% PASS		
PBDE017	NA	127	0.05	0.1	ng/dry g	100	0	127 70 - 130% PASS		
PBDE028	NA	126	0.05	0.1	ng/dry g	100	0	126 70 - 130% PASS		
PBDE047	NA	116	0.05	0.1	ng/dry g	100	0	116 70 - 130% PASS		
PBDE049	NA	77	0.05	0.1	ng/dry g	100	0	77 70 - 130% PASS		
PBDE066	NA	129	0.05	0.1	ng/dry g	100	0	129 70 - 130% PASS		
PBDE071	NA	95	0.05	0.1	ng/dry g	100	0	95 70 - 130% PASS		
PBDE085	NA	116	0.05	0.1	ng/dry g	100	0	116 70 - 130% PASS		
PBDE099	NA	136	0.05	0.1	ng/dry g	100	0.03	136 70 - 130% FAIL		M
PBDE100	NA	112	0.05	0.1	ng/dry g	100	0	112 70 - 130% PASS		
PBDE138	NA	111	0.05	0.1	ng/dry g	100	0	111 70 - 130% PASS		
PBDE153	NA	121	0.05	0.1	ng/dry g	100	0	121 70 - 130% PASS		
PBDE154	NA	135.24	0.05	0.1	ng/dry g	100	0	135 70 - 130% FAIL		M
PBDE183	NA	124	0.05	0.1	ng/dry g	100	0	124 70 - 130% PASS		
PBDE190	NA	118	0.05	0.1	ng/dry g	100	0	118 70 - 130% PASS		
PBDE209	NA	376	0.05	0.1	ng/dry g	500	0	75 70 - 130% PASS		

Sample ID: 22571-MS2

B13-8058 Grab

Matrix: Sediment

Sampled: 30-Aug-13 7:12

Received: 30-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13 15:32

(DFPBDE)	NA	99			% Recovery	100	0	99 70 - 130% PASS	1	25	PASS
(FTBDE)	NA	112			% Recovery	100	0	112 70 - 130% PASS	1	25	PASS
PBDE017	NA	130	0.05	0.1	ng/dry g	100	0	130 70 - 130% PASS	2	25	PASS
PBDE028	NA	123	0.05	0.1	ng/dry g	100	0	123 70 - 130% PASS	2	25	PASS
PBDE047	NA	115	0.05	0.1	ng/dry g	100	0	115 70 - 130% PASS	1	25	PASS
PBDE049	NA	75	0.05	0.1	ng/dry g	100	0	75 70 - 130% PASS	3	25	PASS
PBDE066	NA	126	0.05	0.1	ng/dry g	100	0	126 70 - 130% PASS	2	25	PASS
PBDE071	NA	98	0.05	0.1	ng/dry g	100	0	98 70 - 130% PASS	3	25	PASS
PBDE085	NA	123	0.05	0.1	ng/dry g	100	0	123 70 - 130% PASS	6	25	PASS
PBDE099	NA	124	0.05	0.1	ng/dry g	100	0.03	124 70 - 130% PASS	9	25	PASS
PBDE100	NA	126	0.05	0.1	ng/dry g	100	0	126 70 - 130% PASS	12	25	PASS
PBDE138	NA	108	0.05	0.1	ng/dry g	100	0	108 70 - 130% PASS	3	25	PASS
PBDE153	NA	128	0.05	0.1	ng/dry g	100	0	128 70 - 130% PASS	6	25	PASS



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PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PBDE154	NA	131.91	0.05	0.1	ng/dry g	100	0	132 70 - 130% FAIL	2 25 PASS	M
PBDE183	NA	122	0.05	0.1	ng/dry g	100	0	122 70 - 130% PASS	2 25 PASS	
PBDE190	NA	109	0.05	0.1	ng/dry g	100	0	109 70 - 130% PASS	8 25 PASS	
PBDE209	NA	411	0.05	0.1	ng/dry g	500	0	82 70 - 130% PASS	9 25 PASS	

Sample ID: 22571-R2

B13-8058 Grab

Matrix: Sediment

Sampled: 30-Aug-13 7:12

Received: 30-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13 23:44

(DFPBDE)	NA	81			% Recovery	100	81	50 - 150% PASS	1 25 PASS	
(FTBDE)	NA	102			% Recovery	100	102	50 - 150% PASS	22 25 PASS	
PBDE017	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE028	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE047	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE049	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE066	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE071	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE085	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE099	NA	0.05	0.05	0.1	ng/dry g				0 25 PASS	J
PBDE100	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE138	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE153	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE154	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE183	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE190	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	
PBDE209	NA	ND	0.05	0.1	ng/dry g				0 25 PASS	

Sample ID: 22576-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13 16:42

PBDE047	NA	2.33	0.05	0.1	ng/dry g	1.72	135	60 - 140% PASS		
PBDE099	NA	2.02	0.05	0.1	ng/dry g	2	101	60 - 140% PASS		
PBDE100	NA	0.5	0.05	0.1	ng/dry g	0.4	125	60 - 140% PASS		
PBDE153	NA	5.41	0.05	0.1	ng/dry g	6.44	84	60 - 140% PASS		
PBDE154	NA	0.79	0.05	0.1	ng/dry g	1.06	75	60 - 140% PASS		



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PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PBDE183	NA	38.71	0.05	0.1	ng/dry g	31.8		122 60 - 140% PASS		
PBDE209	NA	127.26	0.05	0.1	ng/dry g	93.5		136 60 - 140% PASS		



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22570-B1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 31-May-14 21:59	
(d10-Acenaphthene)	NA	92			% Recovery	100	92	50 - 150% PASS		
(d10-Phenanthrene)	NA	89			% Recovery	100	89	50 - 150% PASS		
(d12-Chrysene)	NA	74			% Recovery	100	74	50 - 150% PASS		
(d8-Naphthalene)	NA	88			% Recovery	100	88	25 - 125% PASS		
1-Methylnaphthalene	NA	ND	1	5	ng/dry g					
1-Methylphenanthrene	NA	ND	1	5	ng/dry g					
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g					
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g					
2-Methylnaphthalene	NA	ND	1	5	ng/dry g					
Acenaphthene	NA	ND	1	5	ng/dry g					
Acenaphthylene	NA	ND	1	5	ng/dry g					
Anthracene	NA	ND	1	5	ng/dry g					
Benz[a]anthracene	NA	ND	1	5	ng/dry g					
Benzo[a]pyrene	NA	ND	1	5	ng/dry g					
Benzo[b]fluoranthene	NA	ND	1	5	ng/dry g					
Benzo[e]pyrene	NA	ND	1	5	ng/dry g					
Benzo[g,h,i]perylene	NA	ND	1	5	ng/dry g					
Benzo[k]fluoranthene	NA	ND	1	5	ng/dry g					
Biphenyl	NA	ND	1	5	ng/dry g					
Chrysene	NA	ND	1	5	ng/dry g					
Dibenz[a,h]anthracene	NA	ND	1	5	ng/dry g					
Dibenzothiophene	NA	ND	1	5	ng/dry g					
Fluoranthene	NA	ND	1	5	ng/dry g					
Fluorene	NA	ND	1	5	ng/dry g					
Indeno[1,2,3-c,d]pyrene	NA	ND	1	5	ng/dry g					
Naphthalene	NA	ND	1	5	ng/dry g					
Perylene	NA	ND	1	5	ng/dry g					
Phenanthrene	NA	ND	1	5	ng/dry g					
Pyrene	NA	ND	1	5	ng/dry g					



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22570-BS1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 31-May-14 23:38	
(d10-Acenaphthene)	NA	109			% Recovery	100	0	109 70 - 130%	PASS	
(d10-Phenanthrene)	NA	102			% Recovery	100	0	102 70 - 130%	PASS	
(d12-Chrysene)	NA	83			% Recovery	100	0	83 70 - 130%	PASS	
(d8-Naphthalene)	NA	118			% Recovery	100	0	118 70 - 130%	PASS	
1-Methylnaphthalene	NA	1211.5	1	5	ng/dry g	1000	0	121 70 - 130%	PASS	
1-Methylphenanthrene	NA	1258.8	1	5	ng/dry g	1000	0	126 70 - 130%	PASS	
2,3,5-Trimethylnaphthalene	NA	1276	1	5	ng/dry g	1000	0	128 70 - 130%	PASS	
2,6-Dimethylnaphthalene	NA	1271.5	1	5	ng/dry g	1000	0	127 70 - 130%	PASS	
2-Methylnaphthalene	NA	1228.9	1	5	ng/dry g	1000	0	123 70 - 130%	PASS	
Acenaphthene	NA	1208.7	1	5	ng/dry g	1000	0	121 70 - 130%	PASS	
Acenaphthylene	NA	1274.7	1	5	ng/dry g	1000	0	127 70 - 130%	PASS	
Anthracene	NA	1297.6	1	5	ng/dry g	1000	0	130 70 - 130%	PASS	
Benz[a]anthracene	NA	1097.2	1	5	ng/dry g	1000	0	110 70 - 130%	PASS	
Benzo[a]pyrene	NA	834.9	1	5	ng/dry g	1000	0	83 70 - 130%	PASS	
Benzo[b]fluoranthene	NA	858.2	1	5	ng/dry g	1000	0	86 70 - 130%	PASS	
Benzo[e]pyrene	NA	835.5	1	5	ng/dry g	1000	0	84 70 - 130%	PASS	
Benzo[g,h,i]perylene	NA	1284.9	1	5	ng/dry g	1000	0	128 70 - 130%	PASS	
Benzo[k]fluoranthene	NA	877.7	1	5	ng/dry g	1000	0	88 70 - 130%	PASS	
Biphenyl	NA	1229.8	1	5	ng/dry g	1000	0	123 70 - 130%	PASS	
Chrysene	NA	1105.8	1	5	ng/dry g	1000	0	111 70 - 130%	PASS	
Dibenz[a,h]anthracene	NA	1257.7	1	5	ng/dry g	1000	0	126 70 - 130%	PASS	
Dibenzothiophene	NA	1286.9	1	5	ng/dry g	1000	0	129 70 - 130%	PASS	
Fluoranthene	NA	1293.3	1	5	ng/dry g	1000	0	129 70 - 130%	PASS	
Fluorene	NA	1272.6	1	5	ng/dry g	1000	0	127 70 - 130%	PASS	
Indeno[1,2,3-c,d]pyrene	NA	1288.7	1	5	ng/dry g	1000	0	129 70 - 130%	PASS	
Naphthalene	NA	1194.5	1	5	ng/dry g	1000	0	119 70 - 130%	PASS	
Perylene	NA	825.9	1	5	ng/dry g	1000	0	83 70 - 130%	PASS	
Phenanthrene	NA	1281.4	1	5	ng/dry g	1000	0	128 70 - 130%	PASS	
Pyrene	NA	1297.4	1	5	ng/dry g	1000	0	130 70 - 130%	PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Sample ID: 22570-BS2		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 01-Jun-14 1:17		
(d10-Acenaphthene)	NA	110			% Recovery	100	0	110	70 - 130% PASS	1 25 PASS
(d10-Phenanthrene)	NA	102			% Recovery	100	0	102	70 - 130% PASS	0 25 PASS
(d12-Chrysene)	NA	100			% Recovery	100	0	100	70 - 130% PASS	19 25 PASS
(d8-Naphthalene)	NA	116			% Recovery	100	0	116	70 - 130% PASS	2 25 PASS
1-Methylnaphthalene	NA	774.3	1	5	ng/dry g	1000	0	77	70 - 130% PASS	44 25 FAIL *
1-Methylphenanthrene	NA	945.6	1	5	ng/dry g	1000	0	95	70 - 130% PASS	28 25 FAIL *
2,3,5-Trimethylnaphthalene	NA	992.6	1	5	ng/dry g	1000	0	99	70 - 130% PASS	26 25 FAIL *
2,6-Dimethylnaphthalene	NA	831	1	5	ng/dry g	1000	0	83	70 - 130% PASS	42 25 FAIL *
2-Methylnaphthalene	NA	794.4	1	5	ng/dry g	1000	0	79	70 - 130% PASS	44 25 FAIL *
Acenaphthene	NA	874.3	1	5	ng/dry g	1000	0	87	70 - 130% PASS	33 25 FAIL *
Acenaphthylene	NA	855.9	1	5	ng/dry g	1000	0	86	70 - 130% PASS	38 25 FAIL *
Anthracene	NA	922.5	1	5	ng/dry g	1000	0	92	70 - 130% PASS	34 25 FAIL *
Benz[a]anthracene	NA	853.2	1	5	ng/dry g	1000	0	85	70 - 130% PASS	26 25 FAIL *
Benzo[a]pyrene	NA	756.8	1	5	ng/dry g	1000	0	76	70 - 130% PASS	9 25 PASS
Benzo[b]fluoranthene	NA	748.9	1	5	ng/dry g	1000	0	75	70 - 130% PASS	14 25 PASS
Benzo[e]pyrene	NA	750.1	1	5	ng/dry g	1000	0	75	70 - 130% PASS	11 25 PASS
Benzo[g,h,i]perylene	NA	949.5	1	5	ng/dry g	1000	0	95	70 - 130% PASS	30 25 FAIL *
Benzo[k]fluoranthene	NA	788.9	1	5	ng/dry g	1000	0	79	70 - 130% PASS	11 25 PASS
Biphenyl	NA	804.7	1	5	ng/dry g	1000	0	80	70 - 130% PASS	42 25 FAIL *
Chrysene	NA	893.3	1	5	ng/dry g	1000	0	89	70 - 130% PASS	22 25 PASS
Dibenz[a,h]anthracene	NA	896.7	1	5	ng/dry g	1000	0	90	70 - 130% PASS	33 25 FAIL *
Dibenzothiophene	NA	921.9	1	5	ng/dry g	1000	0	92	70 - 130% PASS	33 25 FAIL *
Fluoranthene	NA	922.5	1	5	ng/dry g	1000	0	92	70 - 130% PASS	33 25 FAIL *
Fluorene	NA	951.3	1	5	ng/dry g	1000	0	95	70 - 130% PASS	29 25 FAIL *
Indeno[1,2,3-c,d]pyrene	NA	847.2	1	5	ng/dry g	1000	0	85	70 - 130% PASS	41 25 FAIL *
Naphthalene	NA	781.8	1	5	ng/dry g	1000	0	78	70 - 130% PASS	42 25 FAIL *
Perylene	NA	768	1	5	ng/dry g	1000	0	77	70 - 130% PASS	8 25 PASS
Phenanthrene	NA	931.3	1	5	ng/dry g	1000	0	93	70 - 130% PASS	32 25 FAIL *
Pyrene	NA	951.2	1	5	ng/dry g	1000	0	95	70 - 130% PASS	31 25 FAIL *



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Sample ID: 22571-MS1		B13-8058 Grab		Matrix: Sediment		Sampled: 30-Aug-13 7:12		Received: 30-Aug-13		
		Method: EPA 8270C		Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 01-Jun-14 2:55		
(d10-Acenaphthene)	NA	127			% Recovery	100	0	127	50 - 150%	PASS
(d10-Phenanthrene)	NA	118			% Recovery	100	0	118	50 - 150%	PASS
(d12-Chrysene)	NA	95			% Recovery	100	0	95	50 - 150%	PASS
(d8-Naphthalene)	NA	128			% Recovery	100	0	128	25 - 125%	FAIL R
1-Methylnaphthalene	NA	917.7	1	5	ng/dry g	1000	0	92	50 - 150%	PASS
1-Methylphenanthrene	NA	1043	1	5	ng/dry g	1000	0	104	50 - 150%	PASS
2,3,5-Trimethylnaphthalene	NA	1110.1	1	5	ng/dry g	1000	0	111	50 - 150%	PASS
2,6-Dimethylnaphthalene	NA	953.4	1	5	ng/dry g	1000	0	95	50 - 150%	PASS
2-Methylnaphthalene	NA	928.4	1	5	ng/dry g	1000	0	93	50 - 150%	PASS
Acenaphthene	NA	969.3	1	5	ng/dry g	1000	0	97	50 - 150%	PASS
Acenaphthylene	NA	980.5	1	5	ng/dry g	1000	1.3	98	50 - 150%	PASS
Anthracene	NA	1043.5	1	5	ng/dry g	1000	2	104	50 - 150%	PASS
Benz[a]anthracene	NA	835.9	1	5	ng/dry g	1000	5.8	83	50 - 150%	PASS
Benzo[a]pyrene	NA	658.1	1	5	ng/dry g	1000	9.7	65	50 - 150%	PASS
Benzo[b]fluoranthene	NA	688.6	1	5	ng/dry g	1000	7.1	68	50 - 150%	PASS
Benzo[e]pyrene	NA	653	1	5	ng/dry g	1000	7.7	65	50 - 150%	PASS
Benzo[g,h,i]perylene	NA	1114.3	1	5	ng/dry g	1000	15.5	110	50 - 150%	PASS
Benzo[k]fluoranthene	NA	688.6	1	5	ng/dry g	1000	5.2	68	50 - 150%	PASS
Biphenyl	NA	926	1	5	ng/dry g	1000	0	93	50 - 150%	PASS
Chrysene	NA	847.3	1	5	ng/dry g	1000	9.3	84	50 - 150%	PASS
Dibenz[a,h]anthracene	NA	1078.3	1	5	ng/dry g	1000	1.7	108	50 - 150%	PASS
Dibenzothiophene	NA	1038	1	5	ng/dry g	1000	0.5	104	50 - 150%	PASS
Fluoranthene	NA	1010.6	1	5	ng/dry g	1000	9.1	100	50 - 150%	PASS
Fluorene	NA	1099.9	1	5	ng/dry g	1000	0	110	50 - 150%	PASS
Indeno[1,2,3-c,d]pyrene	NA	1076	1	5	ng/dry g	1000	11.4	106	50 - 150%	PASS
Naphthalene	NA	911.9	1	5	ng/dry g	1000	2.2	91	25 - 125%	PASS
Perylene	NA	629.9	1	5	ng/dry g	1000	2.1	63	50 - 150%	PASS
Phenanthrene	NA	1060.7	1	5	ng/dry g	1000	5.7	105	50 - 150%	PASS
Pyrene	NA	1031.3	1	5	ng/dry g	1000	12.4	102	50 - 150%	PASS



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Sample ID: 22571-MS2		B13-8058 Grab		Matrix: Sediment		Sampled: 30-Aug-13 7:12		Received: 30-Aug-13		
		Method: EPA 8270C		Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 01-Jun-14 4:34		
(d10-Acenaphthene)	NA	113			% Recovery	100	0	113	50 - 150%	PASS
(d10-Phenanthrene)	NA	105			% Recovery	100	0	105	50 - 150%	PASS
(d12-Chrysene)	NA	88			% Recovery	100	0	88	50 - 150%	PASS
(d8-Naphthalene)	NA	122			% Recovery	100	0	122	25 - 125%	PASS
1-Methylnaphthalene	NA	841.6	1	5	ng/dry g	1000	0	84	50 - 150%	PASS
1-Methylphenanthrene	NA	962.2	1	5	ng/dry g	1000	0	96	50 - 150%	PASS
2,3,5-Trimethylnaphthalene	NA	1027.4	1	5	ng/dry g	1000	0	103	50 - 150%	PASS
2,6-Dimethylnaphthalene	NA	873	1	5	ng/dry g	1000	0	87	50 - 150%	PASS
2-Methylnaphthalene	NA	848.4	1	5	ng/dry g	1000	0	85	50 - 150%	PASS
Acenaphthene	NA	891.4	1	5	ng/dry g	1000	0	89	50 - 150%	PASS
Acenaphthylene	NA	914.3	1	5	ng/dry g	1000	1.3	91	50 - 150%	PASS
Anthracene	NA	971.2	1	5	ng/dry g	1000	2	97	50 - 150%	PASS
Benz[a]anthracene	NA	798.5	1	5	ng/dry g	1000	5.8	79	50 - 150%	PASS
Benzo[a]pyrene	NA	662.2	1	5	ng/dry g	1000	9.7	65	50 - 150%	PASS
Benzo[b]fluoranthene	NA	676.6	1	5	ng/dry g	1000	7.1	67	50 - 150%	PASS
Benzo[e]pyrene	NA	653.2	1	5	ng/dry g	1000	7.7	65	50 - 150%	PASS
Benzo[g,h,i]perylene	NA	1034.3	1	5	ng/dry g	1000	15.5	102	50 - 150%	PASS
Benzo[k]fluoranthene	NA	677.7	1	5	ng/dry g	1000	5.2	67	50 - 150%	PASS
Biphenyl	NA	849.4	1	5	ng/dry g	1000	0	85	50 - 150%	PASS
Chrysene	NA	812	1	5	ng/dry g	1000	9.3	80	50 - 150%	PASS
Dibenz[a,h]anthracene	NA	987.3	1	5	ng/dry g	1000	1.7	99	50 - 150%	PASS
Dibenzothiophene	NA	949.2	1	5	ng/dry g	1000	0.5	95	50 - 150%	PASS
Fluoranthene	NA	944.4	1	5	ng/dry g	1000	9.1	94	50 - 150%	PASS
Fluorene	NA	1016	1	5	ng/dry g	1000	0	102	50 - 150%	PASS
Indeno[1,2,3-c,d]pyrene	NA	992.7	1	5	ng/dry g	1000	11.4	98	50 - 150%	PASS
Naphthalene	NA	831.9	1	5	ng/dry g	1000	2.2	83	25 - 125%	PASS
Perylene	NA	630	1	5	ng/dry g	1000	2.1	63	50 - 150%	PASS
Phenanthrene	NA	977.5	1	5	ng/dry g	1000	5.7	97	50 - 150%	PASS
Pyrene	NA	966.1	1	5	ng/dry g	1000	12.4	95	50 - 150%	PASS



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22571-R2		B13-8058 Grab		Matrix: Sediment		Sampled: 30-Aug-13 7:12		Received: 30-Aug-13		
		Method: EPA 8270C		Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 02-Jun-14 1:33		
(d10-Acenaphthene)	NA	98			% Recovery	100	98	50 - 150% PASS	28 25 FAIL	R
(d10-Phenanthrene)	NA	93			% Recovery	100	93	50 - 150% PASS	35 25 FAIL	R
(d12-Chrysene)	NA	84			% Recovery	100	84	50 - 150% PASS	17 25 PASS	
(d8-Naphthalene)	NA	94			% Recovery	100	94	25 - 125% PASS	7 25 PASS	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g				0 25 PASS	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g				0 25 PASS	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g				0 25 PASS	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g				0 25 PASS	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g				0 25 PASS	
Acenaphthene	NA	ND	1	5	ng/dry g				0 25 PASS	
Acenaphthylene	NA	1.3	1	5	ng/dry g				0 25 PASS	J
Anthracene	NA	2.3	1	5	ng/dry g				24 25 PASS	J
Benz[a]anthracene	NA	6.9	1	5	ng/dry g				38 25 FAIL	SL
Benzo[a]pyrene	NA	11.1	1	5	ng/dry g				29 25 FAIL	NH
Benzo[b]fluoranthene	NA	8.4	1	5	ng/dry g				37 25 FAIL	SL
Benzo[e]pyrene	NA	8.9	1	5	ng/dry g				31 25 FAIL	SL
Benzo[g,h,i]perylene	NA	17.5	1	5	ng/dry g				27 25 FAIL	NH
Benzo[k]fluoranthene	NA	5.7	1	5	ng/dry g				19 25 PASS	
Biphenyl	NA	ND	1	5	ng/dry g				0 25 PASS	
Chrysene	NA	10.6	1	5	ng/dry g				29 25 FAIL	NH
Dibenz[a,h]anthracene	NA	2	1	5	ng/dry g				29 25 FAIL	J
Dibenzothiophene	NA	ND	1	5	ng/dry g				0 25 PASS	
Fluoranthene	NA	9.7	1	5	ng/dry g				14 25 PASS	
Fluorene	NA	ND	1	5	ng/dry g				0 25 PASS	
Indeno[1,2,3-c,d]pyrene	NA	13.3	1	5	ng/dry g				33 25 FAIL	NH
Naphthalene	NA	2.4	1	5	ng/dry g				18 25 PASS	J
Perylene	NA	2.4	1	5	ng/dry g				29 25 FAIL	J
Phenanthrene	NA	5.9	1	5	ng/dry g				5 25 PASS	
Pyrene	NA	12.8	1	5	ng/dry g				6 25 PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22576-CRM1		QAQC CRM - SRM 1944			Matrix: Sediment		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 01-Jun-14 6:37	
(d10-Acenaphthene)	NA	127			% Recovery	100	127	60 - 140%	PASS	
(d10-Phenanthrene)	NA	116			% Recovery	100	116	60 - 140%	PASS	
(d12-Chrysene)	NA	82			% Recovery	100	82	60 - 140%	PASS	
(d8-Naphthalene)	NA	127			% Recovery	100	127	60 - 140%	PASS	
1-Methylnaphthalene	NA	450.3	1	5	ng/dry g	470	96	60 - 140%	PASS	
1-Methylphenanthrene	NA	1473.3	1	5	ng/dry g	1700	87	60 - 140%	PASS	
2,6-Dimethylnaphthalene	NA	666.7	1	5	ng/dry g	790	84	60 - 140%	PASS	
2-Methylnaphthalene	NA	616	1	5	ng/dry g	740	83	60 - 140%	PASS	
Acenaphthene	NA	329.8	1	5	ng/dry g	390	85	60 - 140%	PASS	
Anthracene	NA	1174	1	5	ng/dry g	1130	104	60 - 140%	PASS	
Benz[a]anthracene	NA	3557	1	5	ng/dry g	4720	75	60 - 140%	PASS	
Benzo[a]pyrene	NA	3320	1	5	ng/dry g	4300	77	60 - 140%	PASS	
Benzo[b]fluoranthene	NA	2485.6	1	5	ng/dry g	3870	64	60 - 140%	PASS	
Benzo[e]pyrene	NA	2138.1	1	5	ng/dry g	3280	65	60 - 140%	PASS	
Benzo[g,h,i]perylene	NA	2884.9	1	5	ng/dry g	2840	102	60 - 140%	PASS	
Benzo[k]fluoranthene	NA	1494.6	1	5	ng/dry g	2300	65	60 - 140%	PASS	
Biphenyl	NA	199.5	1	5	ng/dry g	250	80	60 - 140%	PASS	
Chrysene	NA	4767.1	1	5	ng/dry g	4860	98	60 - 140%	PASS	
Dibenz[a,h]anthracene	NA	402	1	5	ng/dry g	424	95	60 - 140%	PASS	
Dibenzothiophene	NA	658.5	1	5	ng/dry g	500	132	60 - 140%	PASS	
Fluoranthene	NA	8522.7	1	5	ng/dry g	8920	96	60 - 140%	PASS	
Fluorene	NA	369.5	1	5	ng/dry g	480	77	60 - 140%	PASS	
Indeno[1,2,3-c,d]pyrene	NA	2868.1	1	5	ng/dry g	2780	103	60 - 140%	PASS	
Naphthalene	NA	1156.6	1	5	ng/dry g	1280	90	60 - 140%	PASS	
Perylene	NA	1072	1	5	ng/dry g	1170	92	60 - 140%	PASS	
Phenanthrene	NA	5460.9	1	5	ng/dry g	5270	104	60 - 140%	PASS	
Pyrene	NA	8761	1	5	ng/dry g	9700	90	60 - 140%	PASS	



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Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22570-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 1:56

Allethrin	NA	ND	0.25	0.5	ng/dry g					
Bifenthrin	NA	ND	0.25	0.5	ng/dry g					
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g					
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g					
Cypermethrin	NA	ND	0.25	0.5	ng/dry g					
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g					
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g					
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g					
Fenvalerate	NA	ND	0.25	0.5	ng/dry g					
Fluvalinate	NA	ND	0.25	0.5	ng/dry g					
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g					
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g					
Prallethrin	NA	ND	0.25	0.5	ng/dry g					
Resmethrin	NA	ND	0.25	0.5	ng/dry g					

Sample ID: 22570-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 3:35

Allethrin	NA	975	0.25	0.5	ng/dry g	1000	0	98	70 - 130%	PASS	
Bifenthrin	NA	912	0.25	0.5	ng/dry g	1000	0	91	70 - 130%	PASS	
Cyfluthrin	NA	823	0.25	0.5	ng/dry g	1000	0	82	70 - 130%	PASS	
Cyhalothrin, Total Lambda	NA	710	0.25	0.5	ng/dry g	1000	0	71	70 - 130%	PASS	
Cypermethrin	NA	716	0.25	0.5	ng/dry g	1000	0	72	70 - 130%	PASS	
Danitol (Fenpropathrin)	NA	629	0.25	0.5	ng/dry g	1000	0	63	70 - 130%	FAIL	R
Deltamethrin/Tralomethrin	NA	798	0.25	0.5	ng/dry g	1000	0	80	70 - 130%	PASS	
Esfenvalerate	NA	988	0.25	0.5	ng/dry g	1000	0	99	70 - 130%	PASS	
Fenvalerate	NA	822	0.25	0.5	ng/dry g	1000	0	82	70 - 130%	PASS	
Fluvalinate	NA	892	0.25	0.5	ng/dry g	1000	0	89	70 - 130%	PASS	
Permethrin, cis-	NA	210	0.25	0.5	ng/dry g	267	0	79	70 - 130%	PASS	
Permethrin, trans-	NA	611	0.25	0.5	ng/dry g	716	0	85	70 - 130%	PASS	



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Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Prallethrin	NA	802	0.25	0.5	ng/dry g	1000	0	80 70 - 130%	PASS	
Resmethrin	NA	263	0.25	0.5	ng/dry g	1000	0	26 70 - 130%	FAIL	*

Sample ID: 22570-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 5:14

Allethrin	NA	1016	0.25	0.5	ng/dry g	1000	0	102 70 - 130%	PASS	4 25 PASS
Bifenthrin	NA	970	0.25	0.5	ng/dry g	1000	0	97 70 - 130%	PASS	6 25 PASS
Cyfluthrin	NA	855	0.25	0.5	ng/dry g	1000	0	86 70 - 130%	PASS	5 25 PASS
Cyhalothrin, Total Lambda	NA	773	0.25	0.5	ng/dry g	1000	0	77 70 - 130%	PASS	8 25 PASS
Cypermethrin	NA	748	0.25	0.5	ng/dry g	1000	0	75 70 - 130%	PASS	4 25 PASS
Danitol (Fenpropathrin)	NA	715	0.25	0.5	ng/dry g	1000	0	71 70 - 130%	PASS	13 25 PASS
Deltamethrin/Tralomethrin	NA	702	0.25	0.5	ng/dry g	1000	0	70 70 - 130%	PASS	13 25 PASS
Esfenvalerate	NA	964	0.25	0.5	ng/dry g	1000	0	96 70 - 130%	PASS	3 25 PASS
Fenvalerate	NA	901	0.25	0.5	ng/dry g	1000	0	90 70 - 130%	PASS	9 25 PASS
Fluvalinate	NA	903	0.25	0.5	ng/dry g	1000	0	90 70 - 130%	PASS	1 25 PASS
Permethrin, cis-	NA	222	0.25	0.5	ng/dry g	267	0	83 70 - 130%	PASS	5 25 PASS
Permethrin, trans-	NA	650	0.25	0.5	ng/dry g	716	0	91 70 - 130%	PASS	7 25 PASS
Prallethrin	NA	872	0.25	0.5	ng/dry g	1000	0	87 70 - 130%	PASS	8 25 PASS
Resmethrin	NA	311	0.25	0.5	ng/dry g	1000	0	31 70 - 130%	FAIL	18 25 PASS *

Sample ID: 22571-MS1

B13-8058 Grab

Matrix: Sediment

Sampled: 30-Aug-13 7:12

Received: 30-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 6:53

Allethrin	NA	186.03	0.25	0.5	ng/dry g	234.3	0	79 70 - 130%	PASS	
Bifenthrin	NA	230.79	0.25	0.5	ng/dry g	234.3	0	99 70 - 130%	PASS	
Cyfluthrin	NA	221	0.25	0.5	ng/dry g	234.3	0	94 70 - 130%	PASS	
Cyhalothrin, Total Lambda	NA	186	0.25	0.5	ng/dry g	234.3	0	79 70 - 130%	PASS	
Cypermethrin	NA	148.78	0.25	0.5	ng/dry g	234.3	0	63 70 - 130%	FAIL	R
Danitol (Fenpropathrin)	NA	204.78	0.25	0.5	ng/dry g	234.3	0	87 70 - 130%	PASS	
Deltamethrin/Tralomethrin	NA	177	0.25	0.5	ng/dry g	234.3	0	76 70 - 130%	PASS	
Esfenvalerate	NA	231	0.25	0.5	ng/dry g	234.3	0	99 70 - 130%	PASS	
Fenvalerate	NA	235	0.25	0.5	ng/dry g	234.3	0	100 70 - 130%	PASS	
Fluvalinate	NA	218	0.25	0.5	ng/dry g	234.3	0	93 70 - 130%	PASS	



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Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Permethrin, cis-	NA	165	0.25	0.5	ng/dry g	234.3	0	70	70 - 130%	PASS
Permethrin, trans-	NA	203	0.25	0.5	ng/dry g	234.3	0	87	70 - 130%	PASS
Prallethrin	NA	178.3	0.25	0.5	ng/dry g	234.3	0	76	70 - 130%	PASS
Resmethrin	NA	86.69	0.25	0.5	ng/dry g	234.3	0	37	70 - 130%	FAIL *

Sample ID: 22571-MS2

B13-8058 Grab

Matrix: Sediment

Sampled: 30-Aug-13 7:12

Received: 30-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 8:32

Allethrin	NA	189.62	0.25	0.5	ng/dry g	217.7	0	87	70 - 130%	PASS	10	25	PASS
Bifenthrin	NA	229.24	0.25	0.5	ng/dry g	217.7	0	105	70 - 130%	PASS	6	25	PASS
Cyfluthrin	NA	193	0.25	0.5	ng/dry g	217.7	0	89	70 - 130%	PASS	5	25	PASS
Cyhalothrin, Total Lambda	NA	167	0.25	0.5	ng/dry g	217.7	0	77	70 - 130%	PASS	3	25	PASS
Cypermethrin	NA	163	0.25	0.5	ng/dry g	217.7	0	75	70 - 130%	PASS	17	25	PASS
Danitol (Fenpropathrin)	NA	180.47	0.25	0.5	ng/dry g	217.7	0	83	70 - 130%	PASS	5	25	PASS
Deltamethrin/Tralomethrin	NA	189	0.25	0.5	ng/dry g	217.7	0	87	70 - 130%	PASS	13	25	PASS
Esfenvalerate	NA	206	0.25	0.5	ng/dry g	217.7	0	95	70 - 130%	PASS	4	25	PASS
Fenvalerate	NA	231	0.25	0.5	ng/dry g	217.7	0	106	70 - 130%	PASS	6	25	PASS
Fluvalinate	NA	222	0.25	0.5	ng/dry g	217.7	0	102	70 - 130%	PASS	9	25	PASS
Permethrin, cis-	NA	187	0.25	0.5	ng/dry g	217.7	0	86	70 - 130%	PASS	21	25	PASS
Permethrin, trans-	NA	154.35	0.25	0.5	ng/dry g	217.7	0	71	70 - 130%	PASS	20	25	PASS
Prallethrin	NA	153.48	0.25	0.5	ng/dry g	217.7	0	71	70 - 130%	PASS	7	25	PASS
Resmethrin	NA	75.98	0.25	0.5	ng/dry g	217.7	0	35	70 - 130%	FAIL	6	25	PASS *

Sample ID: 22571-R2

B13-8058 Grab

Matrix: Sediment

Sampled: 30-Aug-13 7:12

Received: 30-Aug-13

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 13:45

Allethrin	NA	ND	0.25	0.5	ng/dry g						0	25	PASS
Bifenthrin	NA	ND	0.25	0.5	ng/dry g						0	25	PASS
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g						0	25	PASS
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g						0	25	PASS
Cypermethrin	NA	ND	0.25	0.5	ng/dry g						0	25	PASS
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g						0	25	PASS
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g						0	25	PASS
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g						0	25	PASS



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Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Fenvalerate	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Prallethrin	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	
Resmethrin	NA	ND	0.25	0.5	ng/dry g				0 25 PASS	

PHYSICS

CHAIN OF CUSTODY

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Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
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To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8058	8/30/13	0712	General Chemistry	Grab	8 oz Glass	None	1
B13-8058			Metals	Grab	8 oz Glass	None	1
B13-8058			PBDE	Grab	8 oz Glass	None	1
B13-8058			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8058			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TH

Relinquished By: (J. Blum)

Date/Time: 8/30/13 1400

Received By: (Misty Mercier)

Date/Time: 8/30/13 1400

Relinquished By: _____

Date/Time: _____

Received By: Richard Hanken

Date/Time: 8/30/13 1715

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8068	8/30/13	0823	General Chemistry	Grab	8 oz Glass	None	1
B13-8068			Metals	Grab	8 oz Glass	None	1
B13-8068			PBDE	Grab	8 oz Glass	None	1
B13-8068			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8068			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TSRelinquished By: L. StranskyDate/Time: 8/30/13 1400Received By: [Signature]

(Misty Mercier)

Date/Time: 8/30/13 1400

Relinquished By: _____

Date/Time: _____

Received By: Richard HankenDate/Time: 8/30/13 17:15

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8090	8/30/13	0936	General Chemistry	Grab	8 oz Glass	None	1
B13-8090			Metals	Grab	8 oz Glass	None	1
B13-8090			PBDE	Grab	8 oz Glass	None	1
B13-8090			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8090			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: THRelinquished By: W. Butts Date/Time: 8/30/13 1400Received By: [Signature] CRIPOL Benton Date/Time: 8/30/13 1400

Relinquished By: _____ Date/Time: _____

Received By: Richard Hanken Date/Time: 8/30/13 17:15

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8045	8/30/13	1110	General Chemistry	Grab	8 oz Glass	None	1
B13-8045			Metals	Grab	8 oz Glass	None	1
B13-8045			PBDE	Grab	8 oz Glass	None	1
B13-8045			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8045			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TH

Relinquished By: J. Burns

Date/Time: 8/30/13 1400

Received By: Nigel Barker

Date/Time: 8/30/13 1400

Relinquished By: _____

Date/Time: _____

Received By: Richard Hanken

Date/Time: 8/30/13 1715

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8031	8/30/13	1228	General Chemistry	Grab	8 oz Glass	None	1
B13-8031			Metals	Grab	8 oz Glass	None	1
B13-8031			PBDE	Grab	8 oz Glass	None	1
B13-8031			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8031			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: TH

Relinquished By: (J. Burns) Date/Time: 8/30/13 1400

Received By: (Nigel Barker) Date/Time: 8/30/13 1400

Relinquished By: _____ Date/Time: _____

Received By: Richard Hanken Date/Time: 8/30/13 1715

Table 4-2.
Chemical Analyses of Sediment Samples

Analyte	Analysis Method	Sediment Target Reporting Limits ^{a,b}	Units
Total Solids	SM 2540 B ^c	0.1	%
Total Organic Carbon	9060	0.01	%
Grain Size	SM2560	0.1	%
Aluminum	6020/6010B ^d	5.0	mg/kg
Antimony	6020/6010B ^d	0.05	mg/kg
Arsenic	6020/6010B ^d	0.05	mg/kg
Barium	6020/6010B ^d	0.05	mg/kg
Beryllium	6020/6010B ^d	0.05	mg/kg
Cadmium	6020/6010B ^d	0.01	mg/kg
Chromium	6020/6010B ^d	0.05	mg/kg
Copper	6020/6010B ^d	0.01	mg/kg
Iron	6020/6010B ^d	5.0	mg/kg
Lead	6020/6010B ^d	0.01	mg/kg
Mercury	6020/6010B ^d	0.02	mg/kg
Nickel	6020/6010B ^d	0.02	mg/kg
Selenium	6020/6010B ^d	0.05	mg/kg
Silver	6020/6010B ^d	0.02	mg/kg
Zinc	6020/6010B ^d	0.05	mg/kg
Total Nitrogen	TKN / SM 4500-NO ³ E(M) / SM 4500-NO ² B(M)	4.0	mg/kg
Total Phosphorus	SM 4500-P B/E(M)	4.0	mg/kg
Ammonia	SM 4500-NH ³	0.2	mg/kg
Acid Volatile Sulfides	Plumb 1981 and TERL	0.1	mg/kg
Simultaneous Extracted Metals	EPA 200.8	0.0004-0.0124	μmol/g
PAHs ^e	EPA 8270C ^d	5.0	μg/kg
Chlorinated Pesticides ^f	EPA 8270C ^d	0.5-50	μg/kg
Pyrethroid Pesticides	EPA 8270 C NCI	0.5-10	μg/kg
PCB Congeners ^g	EPA 8270C ^d	0.2	μg/kg
PBDEs ^h	EPA 8270 C NCI	0.1	μg/kg

Notes:

^a Sediment minimum detection limits are on a dry-weight basis.^b Reporting limits provided by Physis Environmental Laboratories.^c Standard Methods for the Examination of Water and Wastewater, 19th Ed. American Public Health Association, 1995.^d USEPA 1986-1996. SW-846. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 3rd Ed.^e Includes Acenaphthene, Acenaphthylene, Anthracene, Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[e]pyrene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Biphenyl, Chrysene, Dibenz[a,h]anthracene, Di benzothiophene, Fluoranthene, Fluorene, Indeno(1,2,3-c,d)pyrene, Naphthalene, Perylene, Phenanthrene, Pyrene, 2,6-Dimethylnaphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene, 1-Methylphenanthrene, 2,3,5-Trimethylnaphthalene, and 1,6,7-Trimethylnaphthalene.^f Includes cis-chlordane, trans-chlordane, o,p'-DDT, p,p'-DDT, o,p'-DDD, p,p'-DDD, o,p'-DDE, p,p'-DDE, p,p'-DDMU, aldrin, BHC-alpha, BHC-beta, BHC-gamma, cis-nonachlor, trans-nonachlor, oxychlordane, DCPA (Dacthal), dicofol, dieldrin, toxaphene, endosulfan sulfate, endosulfan-I, endosulfan-II, endrin, endrin aldehyde, endrin ketone, heptachlor, heptachlor epoxide, methoxychlor, mirex, and perthane.^g Includes congeners: PCB-3, 5, 8, 15, 18, 27-29, 31, 33, 37, 44, 49, 52, 56, 60, 66, 70, 74, 77, 81, 87, 95, 97, 99, 101, 105, 110, 114, 118-119, 123, 126, 128, 137-138, 141, 149, 151, 153, 156-158, 167-170, 174, 177, 180, 183, 187, 189, 194-195, 200-201, 203, 206, and 209.^h Includes BDE-17, 28, 47, 49, 66, 85, 99, 100, 138, 153, 154, 183, and 209.

μg/kg - micrograms per kilogram (parts per billion)

SM - Standard Methods

mg/kg - milligrams per kilogram (parts per million)

SOP - standard operating procedure

N/A - not applicable

SAMPLE RECEIPT SUMMARY

CLIENT: AMEC Date Received: 8/30/13 Received By: NB Inspected By: RGH

COURIER

☒ PHYSIS ☐ CLIENT ☐ FEDEX ☐ UPS
start 12:15 end 17:15 ☐ OTHER: _____

COOLER

☒ COOLER ☐ BOX total #
☐ OTHER: _____ 1

TEMPERATURE

5 °C ☒ WET ICE ☐ BLUE ICE
☐ DRY ICE ☐ NONE

SAMPLE INTEGRITY UPON RECEIPT

1. COC(s) included and completely filled out..... **YES**
2. All sample containers arrived intact..... **YES**
3. All samples listed on COC(s) are present..... **YES**
4. Information on containers consistent with information on COC(s)..... **YES**
5. Correct containers and volume for all analyses indicated..... **YES**
6. All samples received within method holding time..... **YES**
7. Correct preservation used for all analyses indicated..... **YES**

NOTES

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LEVEL 3

DELIVERABLES

ENERGY ENVIRONMENTAL CONSULTING INC.

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PHYSIS

Conventionals

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

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Summary of Initial Calibration Data and

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ENVIRONMENTAL LABORATORIES, INC.

ICV/CCV

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1307002-014 AMEC RHMP General Chemistry Calibration Data							
Analysis	Method	Batch ID	Co-efficient	Equation	Slope	ICV/True Value	CCV/True Value
Acid Volatile Sulfides	Plumb, 1981	C-14065	0.9998	0.196x-0.001702	NA	NA	NA
Percent Solids	SM2540 B	E-7004	NA	NA	NA	NA	NA
Ammonia	SM 4500-NH3 D	C-14071	NA	NA	-59.26	.258/.25	.25/.25

Elements - ICP-MS

TERRA FLUOR FLUORUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature
(EPA 6020 - High Metals)

PHYSIS

Instrument Blank

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ENVIRONMENTAL LABORATORIES, INC.

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PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name 0MIX_2131021.D
File Path D:\data\2131022.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/21/2013 11:04
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.000	ug/g	---	10.00	2.171E-05	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	---	12.22	2.630E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	460,663.99	1.60	100.0	Analog	0.30	3

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Initial Calibration Data

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Batch Folder: D:\DATA\2131022.B\

 Analysis File: 2131022.batch.xml

 DA Date-Time: 10/22/2013 9:51:01 PM

 Calibration Title:

 Calibration Method: External Calibration

 VIS Interpolation Fit:

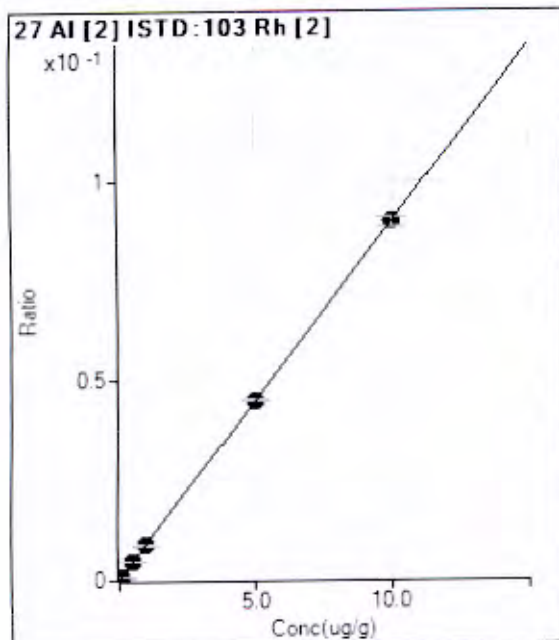
 Tune Step: #1 h2.u

 #2 he.u

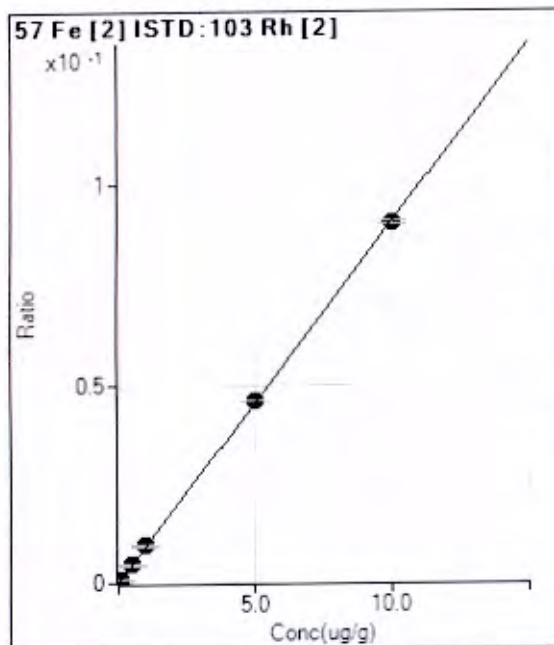
 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX_2131021.D	0 ppb mix	10/21/2013 11:04:00 AM
2	1MIX_2131021.D	1 ppb mix	10/21/2013 11:08:45 AM
3	5MIX_2131021.D	5 ppb mix	10/21/2013 11:13:28 AM
4	10MIX_2131021.D	10 ppb mix	10/21/2013 11:18:12 AM
5	50MIX_2131021.D	50 ppb mix	10/21/2013 11:22:57 AM
6	100MIX_2131021.D	100 ppb mix	10/21/2013 11:27:42 AM
7	500MIX_2131021.D	500 ppb mix	10/21/2013 11:32:25 AM
8	1000MIX_2131021.D	1000 ppb mix	10/21/2013 11:36:58 AM
9	1P_2131021.D	1 ppm P	10/21/2013 11:51:09 AM
10	2P_2131021.D	2 ppm P	10/21/2013 11:55:56 AM
11	5P_2131021.D	5 ppm P	10/21/2013 12:00:43 PM
12	10P_2131021.D	10 ppm P	10/21/2013 12:05:32 PM
13			
14			
15			
16			
17			
18			

Calibration for RINSE23.D

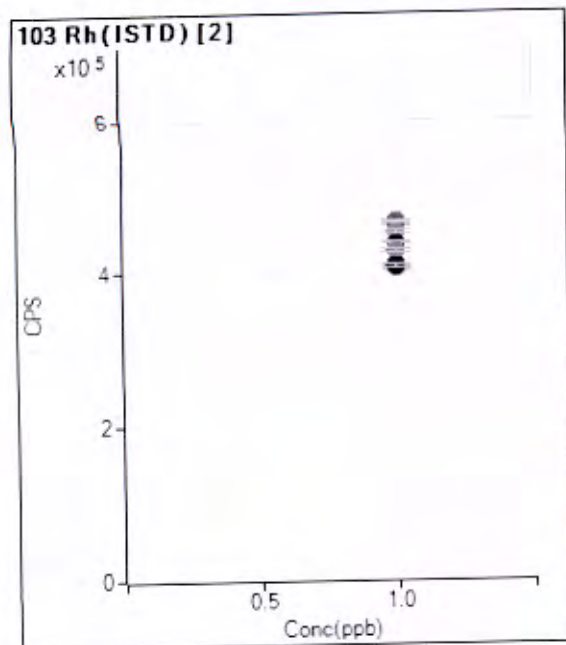


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	10.00	0.0000	P	57.8
2	<input type="checkbox"/>	0.010	0.015	72.23	0.0002	P	5.6
3	<input type="checkbox"/>	0.050	0.063	273.35	0.0006	P	13.3
4	<input type="checkbox"/>	0.100	0.104	443.36	0.0010	P	5.4
5	<input type="checkbox"/>	0.500	0.507	2067.99	0.0046	P	1.8
6	<input type="checkbox"/>	1.000	0.987	3885.03	0.0089	P	5.0
7	<input type="checkbox"/>	5.000	4.997	18347.62	0.0449	P	1.1
8	<input type="checkbox"/>	10.00	10.002	38353.25	0.0899	P	2.7
9	<input type="checkbox"/>			23.33	0.0001	P	100.
10	<input type="checkbox"/>			26.67	0.0001	P	69.1
11	<input type="checkbox"/>			18.89	0.0000	P	36.8
12	<input type="checkbox"/>			22.22	0.0001	P	48.1
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	12.22	0.0000	P	82.3
2	<input type="checkbox"/>	0.010	0.005	35.56	0.0001	P	77.3
3	<input type="checkbox"/>	0.050	0.053	236.68	0.0005	P	12.9
4	<input type="checkbox"/>	0.100	0.098	425.58	0.0009	P	2.5
5	<input type="checkbox"/>	0.500	0.500	2062.43	0.0046	P	7.4
6	<input type="checkbox"/>	1.000	1.042	4141.77	0.0095	P	3.9
7	<input type="checkbox"/>	5.000	5.074	18815.00	0.0461	P	0.3
8	<input type="checkbox"/>	10.00	9.959	38566.95	0.0904	P	1.2
9	<input type="checkbox"/>			8.89	0.0000	P	57.2
10	<input type="checkbox"/>			6.67	0.0000	P	50.5
11	<input type="checkbox"/>			16.67	0.0000	P	35.0
12	<input type="checkbox"/>			10.00	0.0000	P	58.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for RINSE23.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	1.000		460663.99		A	1.6
2	☐	1.000		464124.60		A	1.6
3	☐	1.000		464686.11		A	0.4
4	☐	1.000		464132.26		A	0.7
5	☐	1.000		451285.23		M	1.2
6	☐	1.000		436689.54		P	0.5
7	☐	1.000		408265.57		P	0.4
8	☐	1.000		426483.79		M	1.0
9	☐	1.000		403562.38		P	0.5
10	☐	1.000		404920.21		P	0.6
11	☐	1.000		404872.53		P	0.5
12	☐	1.000		406024.27		P	0.9
13	☐	1.000					
14	☐	1.000					
15	☐	1.000					
16	☐	1.000					
17	☐	1.000					
18	☐	1.000					

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Continuing Calibration Data

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ICPMS 7700x DATA REPORT

File Name ICV1.D
File Path D:\data\2131022.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/22/2013 15:02
Sample Name 1.0 PPM
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.992	ug/g	0.28	40,454.42	8.578E-02	Pulse	0.30	3
Fe	57	103	2	1.004	ug/g	0.05	41,346.49	8.767E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	471,603.31	1.22	102.4	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV.D
File Path D:\data\2131022.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/22/2013 21:53
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.965	ug/g	0.51	32,314.99	8.345E-02	Pulse	0.30	3
Fe	57	103	2	0.997	ug/g	1.06	33,706.03	8.704E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	387,244.01	0.74	84.1	Pulse	0.30	3

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Instrument Run Log

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HIGH

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse200			1.000							
2	C:\CPMH1\METHOD S\Physis.m	Sample	1108	10V1	1.0 PPM		1.000E-01							
3	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse4			1.000							
4	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse9			1.000							
5	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse10			1.000							
6	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse11			1.000							
7	C:\CPMH1\METHOD S\Physis.m	Sample	2101	22481	QAQC Procedural Blank B1	22481.NA.B1.10/12/2013.E-6005	10.00							
8	C:\CPMH1\METHOD S\Physis.m	Sample	2102	22482	B13-8013	22482.NA.R1.10/12/2013.E-6005	655.0							
9	C:\CPMH1\METHOD S\Physis.m	Sample	2103	22482/2	B13-8013 Dup	22482.NA.R2.10/12/2013.E-6005	675.0							
10	C:\CPMH1\METHOD S\Physis.m	Sample	2104	22483	B13-8014	22483.NA.R1.10/12/2013.E-6005	441.0							
11	C:\CPMH1\METHOD S\Physis.m	Sample	2105	22484	B13-8028	22484.NA.R1.10/12/2013.E-6005	615.0							
12	C:\CPMH1\METHOD S\Physis.m	Sample	2106	22485	B13-8030	22485.NA.R1.10/12/2013.E-6005	361.0							
13	C:\CPMH1\METHOD S\Physis.m	Sample	2107	22486	B13-8038	22486.NA.R1.10/12/2013.E-6005	563.0							
14	C:\CPMH1\METHOD S\Physis.m	Sample	2108	22487	B13-8038	22487.NA.R1.10/12/2013.E-6005	588.0							
15	C:\CPMH1\METHOD S\Physis.m	Sample	2109	22488	B13-8040	22488.NA.R1.10/12/2013.E-6005	758.0							
16	C:\CPMH1\METHOD S\Physis.m	Sample	2110	22489	B13-8052	22489.NA.R1.10/12/2013.E-6005	577.0							
17	C:\CPMH1\METHOD S\Physis.m	Sample	2111	22490	B13-8060	22490.NA.R1.10/12/2013.E-6005	549.0							
18	C:\CPMH1\METHOD S\Physis.m	Sample	2112	22491	B13-8078	22491.NA.R1.10/12/2013.E-6005	549.0							
19	C:\CPMH1\METHOD S\Physis.m	Sample	2201	22493cm	QAQC CRM - RTC 016-0501	22493.NA.CRM1.10/12/2013.E-6005	1.059E+03							
20	C:\CPMH1\METHOD S\Physis.m	Sample	2202	22494cm	QAQC CRM - ERA 5401	22494.NA.CRM1.10/12/2013.E-6005	1.042E+03							
21	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse103			1.000							
22	C:\CPMH1\METHOD S\Physis.m	Sample	2203	22481bs1	QAQC Procedural Blank BS1	22481.NA.BS1.10/12/2013.E-6005	1.000							
23	C:\CPMH1\METHOD S\Physis.m	Sample	2204	22481bs2	QAQC Procedural Blank BS2	22481.NA.BS2.10/12/2013.E-6005	1.000							
24	C:\CPMH1\METHOD S\Physis.m	Sample	2205	22482ms	B13-8013 MS	22482.NA.MS1.10/12/2013.E-6005	1.000							
25	C:\CPMH1\METHOD S\Physis.m	Sample	2206	22482msd	B13-8013 MSD	22482.NA.MS2.10/12/2013.E-6005	1.000							
26	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse12			1.000							
27	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse13			1.000							
28	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse14			1.000							
29	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse15			1.000							
30	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse16			1.000							
31	C:\CPMH1\METHOD S\Physis.m	Sample	2209	22544	QAQC Procedural Blank B1	22544.NA.B1.10/12/2013.E-6005	10.00							
32	C:\CPMH1\METHOD S\Physis.m	Sample	2210	22546	B13-8109 Grab	22546.NA.R1.10/12/2013.E-6005	517.0							
33	C:\CPMH1\METHOD S\Physis.m	Sample	2211	22548/2	B13-8109 Grab Dup	22548.NA.R2.10/12/2013.E-6005	475.0							
34	C:\CPMH1\METHOD S\Physis.m	Sample	2212	22547	B13-8118 Grab	22547.NA.R1.10/12/2013.E-6005	610.0							
35	C:\CPMH1\METHOD S\Physis.m	Sample	2301	22548	B13-8122 Grab	22548.NA.R1.10/12/2013.E-6005	288.0							
36	C:\CPMH1\METHOD S\Physis.m	Sample	2302	22549	B13-8033 Grab	22549.NA.R1.10/12/2013.E-6005	673.0							
37	C:\CPMH1\METHOD S\Physis.m	Sample	2303	22550	B13-8093 Grab	22550.NA.R1.10/12/2013.E-6005	430.0							
38	C:\CPMH1\METHOD S\Physis.m	Sample	2304	22551	B13-8190 Grab	22551.NA.R1.10/12/2013.E-6005	498.0							
39	C:\CPMH1\METHOD S\Physis.m	Sample	2305	22552	B13-8099 Grab	22552.NA.R1.10/12/2013.E-6005	667.0							

	Method	Type	Vial	Data File	Sample	Comment	DivLvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
40	C:\CPM\H1\METHOD S\Physis.m	Sample	2309	22553	B13-8028 Grab	22553.NA.R1.10/12/2013.E-6006	477.0							
41	C:\CPM\H1\METHOD S\Physis.m	Sample	2307	22554	B13-8090 Grab	22554.NA.R1.10/12/2013.E-6005	460.0							
42	C:\CPM\H1\METHOD S\Physis.m	Sample	2308	22555	B13-8095 Grab	22555.NA.R1.10/12/2013.E-6006	503.0							
43	C:\CPM\H1\METHOD S\Physis.m	Sample	2309	22549cm	QAQC CRM - RTC 016-0501	22559.NA.CRM1.10/12/2013.E-6006	1.064E+03							
44	C:\CPM\H1\METHOD S\Physis.m	Sample	2310	22551cm	QAQC CRM - ERA 5401	22501.NA.CRM1.10/12/2013.E-6006	1.104E+03							
45	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse100			1.000							
46	C:\CPM\H1\METHOD S\Physis.m	Sample	2203	22544bs1	QAQC Procedural Blank BS1	22544.NA.BS1.10/12/2013.E-6006	1.000							
47	C:\CPM\H1\METHOD S\Physis.m	Sample	2204	22544bs2	QAQC Procedural Blank BS2	22544.NA.BS2.10/12/2013.E-6006	1.000							
48	C:\CPM\H1\METHOD S\Physis.m	Sample	2311	22548ms	B13-8104 Grab MS	22548.NA.MS1.10/12/2013.E-6006	1.000							
49	C:\CPM\H1\METHOD S\Physis.m	Sample	2312	22548msd	B13-8109 Grab MSD	22548.NA.MS2.10/12/2013.E-6006	1.000							
50	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse17			1.000							
51	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse18			1.000							
52	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse19			1.000							
53	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse20			1.000							
54	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse21			1.000							
55	C:\CPM\H1\METHOD S\Physis.m	Sample	2403	22545	QAQC Procedural Blank B1	22545.NA.B1.10/12/2013.E-6007	16.00							
56	C:\CPM\H1\METHOD S\Physis.m	Sample	2403	22570	QAQC Procedural Blank B1	22570.NA.B1.10/12/2013.E-6007	10.00							
57	C:\CPM\H1\METHOD S\Physis.m	Sample	2404	22536	B13-8087 Grab	22556.NA.R1.10/12/2013.E-6007	375.0							
58	C:\CPM\H1\METHOD S\Physis.m	Sample	2405	22556r2	B13-8087 Grab Dup	22556.NA.R2.10/12/2013.E-6007	348.0							
59	C:\CPM\H1\METHOD S\Physis.m	Sample	2406	22557	B13-8073 Grab	22557.NA.R1.10/12/2013.E-6007	453.0							
60	C:\CPM\H1\METHOD S\Physis.m	Sample	2407	22571	B13-8058 Grab	22571.NA.R1.10/12/2013.E-6007	357.0							
61	C:\CPM\H1\METHOD S\Physis.m	Sample	2408	22571r2	B13-8058 Grab Dup	22571.NA.R2.10/12/2013.E-6007	399.0							
62	C:\CPM\H1\METHOD S\Physis.m	Sample	2409	22572	B13-8058 Grab	22572.NA.R1.10/12/2013.E-6007	481.0							
63	C:\CPM\H1\METHOD S\Physis.m	Sample	2410	22573	B13-8090 Grab	22573.NA.R1.10/12/2013.E-6007	761.0							
64	C:\CPM\H1\METHOD S\Physis.m	Sample	2411	22574	B13-8045 Grab	22574.NA.R1.10/12/2013.E-6007	457.0							
65	C:\CPM\H1\METHOD S\Physis.m	Sample	2412	22575	B13-8031 Grab	22575.NA.R1.10/12/2013.E-6007	460.0							
66	C:\CPM\H1\METHOD S\Physis.m	Sample	2501	22560cm	QAQC CRM - RTC 016-0501	22560.NA.CRM1.10/12/2013.E-6007	821.0							
67	C:\CPM\H1\METHOD S\Physis.m	Sample	2502	22562cm	QAQC CRM - FRA 5401	22562.NA.CRM1.10/12/2013.E-6007	926.0							
68	C:\CPM\H1\METHOD S\Physis.m	Sample	2501	22577cm	QAQC CRM - RTC 016-0501	22577.NA.CRM1.10/12/2013.E-6007	621.0							
69	C:\CPM\H1\METHOD S\Physis.m	Sample	2502	22579cm	QAQC CRM - ERA 5401	22573.NA.CRM1.10/12/2013.E-6007	998.0							
70	C:\CPM\H1\METHOD S\Physis.m	Sample	1	Rinse101			1.000							
71	C:\CPM\H1\METHOD S\Physis.m	Sample	2203	22545bs1	QAQC Procedural Blank BS1	22545.NA.BS1.10/12/2013.E-6007	1.000							
72	C:\CPM\H1\METHOD S\Physis.m	Sample	2204	22545bs2	QAQC Procedural Blank BS2	22545.NA.BS2.10/12/2013.E-6007	1.000							
73	C:\CPM\H1\METHOD S\Physis.m	Sample	2203	22570bs1	QAQC Procedural Blank BS1	22570.NA.BS1.10/12/2013.E-6007	1.000							
74	C:\CPM\H1\METHOD S\Physis.m	Sample	2204	22570bs2	QAQC Procedural Blank BS2	22570.NA.BS2.10/12/2013.E-6007	1.000							
75	C:\CPM\H1\METHOD S\Physis.m	Sample	2303	22556ms	B13-8087 Grab MS	22556.NA.MS1.10/12/2013.E-6007	1.000							
76	C:\CPM\H1\METHOD S\Physis.m	Sample	2304	22556msd	B13-8087 Grab MSD	22556.NA.MS2.10/12/2013.E-6007	1.000							
77	C:\CPM\H1\METHOD S\Physis.m	Sample	2505	22571ms	B13-8058 Grab MS	22571.NA.MS1.10/12/2013.E-6007	1.000							
78	C:\CPM\H1\METHOD S\Physis.m	Sample	2506	22571msd	B13-8058 Grab MSD	22571.NA.MS2.10/12/2013.E-6007	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
79	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse22			1.000							
80	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse23			1.000							
81	C:\CPMH1\METHOD S\Physis.m	Sample	1108	CCV	1.0 PPM		1.000E-01							
82	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse24			1.000							
83	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse25			1.000							
84	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse26			1.000							
85	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse27			1.000							
86		Keyword		StandBy										

Elements –

PHYSIS
ICP-MS

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AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

**(EPA 6020 – Low Metals &
Phosphorous)**

PHYSIS

Instrument Blank

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ENVIRONMENTAL LABORATORIES, INC.

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PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name 0MIX.D
File Path D:\DATA\2131021.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/21/2013 11:04
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.000	ug/g	---	10.00	2.171E-05	Pulse	0.30	3
P	31	103	2		ug/g	---	63.34	1.374E-04	Pulse	0.30	3
Cr	52	103	2	0.000	ug/g	---	121.12	2.637E-04	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	---	12.22	2.630E-05	Pulse	0.30	3
Ni	60	103	2	0.000	ug/g	---	10.00	2.145E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	---	4,191.78	9.103E-03	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	---	24.44	5.287E-05	Pulse	0.30	3
As	75	103	2	0.000	ug/g	---	0.00		Pulse	0.30	3
Se	78	103	1	0.000	ug/g	---	4.45	6.472E-05	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	---	46.67	1.012E-04	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	---	8.89	1.926E-05	Pulse	0.30	3
Sb	121	169	2	0.000	ug/g	---	15.56	2.780E-05	Pulse	0.30	3
Ba	137	169	2	0.000	ug/g	---	0.00		Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	---	116.67	2.086E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	68,597.14	0.28	100.0	Pulse	0.30	3
2	Rh	103	460,663.99	1.60	100.0	Analog	0.30	3
3	Rh	103	1,054,252.75	1.43	100.0	Analog	0.30	3
2	Tm	169	559,172.77	1.72	100.0	Analog	0.30	3

PHYSIS

Initial Calibration Data

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Calibration for 10P.D

Batch Folder: D:\DATA\2131021.B\

 Analysis File: 2131021.batch.xml

 DA Date-Time: 4/8/2014 3:53:25 PM

 Calibration Title:

 Calibration Method: External Calibration

 VIS Interpolation Fit:

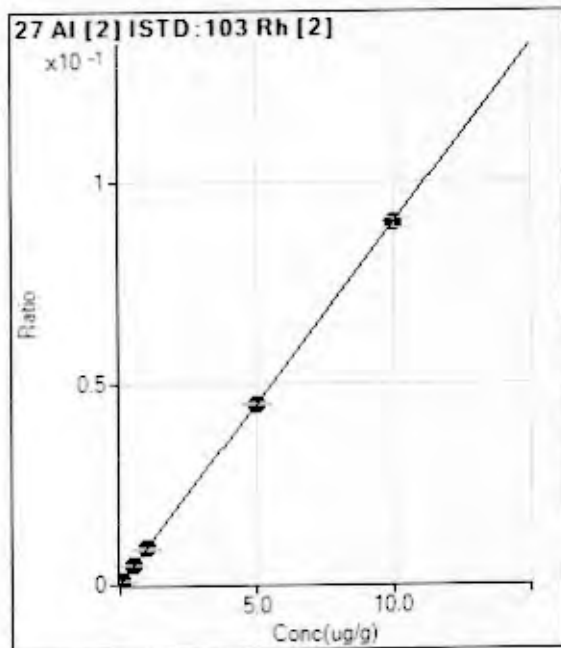
 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX.D	0 ppb mix	10/21/2013 11:04:00 AM
2	1MIX.D	1 ppb mix	10/21/2013 11:08:45 AM
3	5MIX.D	5 ppb mix	10/21/2013 11:13:28 AM
4	10MIX.D	10 ppb mix	10/21/2013 11:18:12 AM
5	50MIX.D	50 ppb mix	10/21/2013 11:22:57 AM
6	100MIX.D	100 ppb mix	10/21/2013 11:27:42 AM
7	500MIX.D	500 ppb mix	10/21/2013 11:32:25 AM
8	1000MIX.D	1000 ppb mix	10/21/2013 11:36:58 AM
9	1P.D	1 ppm P	10/21/2013 11:51:09 AM
10	2P.D	2 ppm P	10/21/2013 11:55:56 AM
11	5P.D	5 ppm P	10/21/2013 12:00:43 PM
12	10P.D	10 ppm P	10/21/2013 12:05:32 PM
13			
14			
15			
16			
17			
18			

Calibration for 10P.D



$$y = 0.0090 * x + 2.1715E-005$$

$$R = 1.0000$$

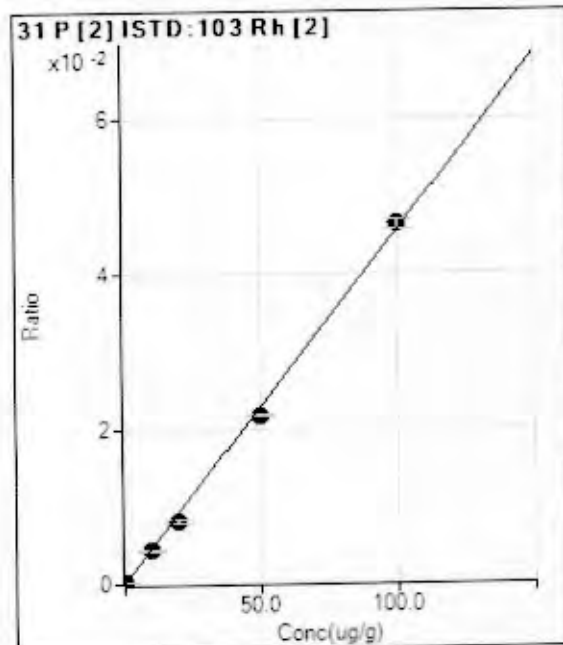
$$DL = 0.004192$$

$$BEC = 0.002416$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	10.00	0.0000	P	57.8
2	<input type="checkbox"/>	0.010	0.015	72.23	0.0002	P	5.6
3	<input type="checkbox"/>	0.050	0.063	273.35	0.0006	P	13.3
4	<input type="checkbox"/>	0.100	0.104	443.36	0.0010	P	5.4
5	<input type="checkbox"/>	0.500	0.507	2067.99	0.0046	P	1.8
6	<input type="checkbox"/>	1.000	0.987	3885.03	0.0089	P	5.0
7	<input type="checkbox"/>	5.000	4.997	18347.62	0.0449	P	1.1
8	<input type="checkbox"/>	10.00	10.002	38353.25	0.0899	P	2.7
9	<input type="checkbox"/>			23.33	0.0001	P	100.
10	<input type="checkbox"/>			26.67	0.0001	P	69.1
11	<input type="checkbox"/>			18.89	0.0000	P	36.8
12	<input type="checkbox"/>			22.22	0.0001	P	48.1
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 4.5484E-004 * x + 1.3745E-004$$

$$R = 0.9993$$

$$DL = 0.08944$$

$$BEC = 0.3022$$

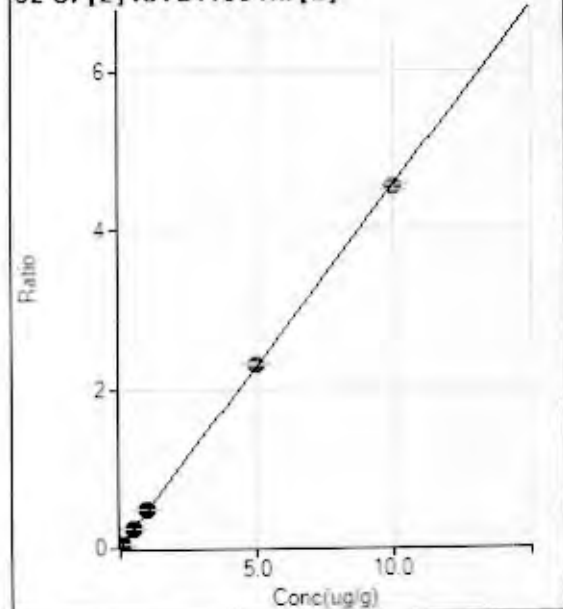
Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	63.34	0.0001	P	9.9
2	<input type="checkbox"/>			61.11	0.0001	P	28.7
3	<input type="checkbox"/>			42.22	0.0001	P	46.1
4	<input type="checkbox"/>			58.89	0.0001	P	28.7
5	<input type="checkbox"/>			56.67	0.0001	P	11.0
6	<input type="checkbox"/>			48.89	0.0001	P	21.5
7	<input type="checkbox"/>			65.56	0.0002	P	24.9
8	<input type="checkbox"/>			46.67	0.0001	P	26.2
9	<input type="checkbox"/>	10.00	9.402	1781.	0.0044	P	5.4
10	<input type="checkbox"/>	20.00	17.585	3293.	0.0081	P	4.1
11	<input type="checkbox"/>	50.00	47.491	8801.	0.0217	P	0.8
12	<input type="checkbox"/>	100.0	101.797	1885	0.0464	P	2.7
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D

52 Cr [2] ISTD: 103 Rh [2]



$$y = 0.4547 * x + 2.6366E-004$$

$$R = 0.9999$$

$$DL = 0.0004623$$

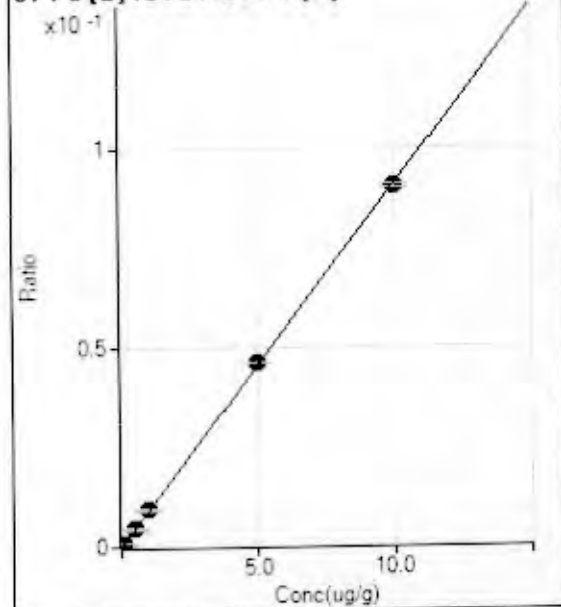
$$BEC = 0.0005798$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	121.12	0.0003	P	26.6
2	<input type="checkbox"/>	0.010	0.010	2302.47	0.0050	P	1.9
3	<input type="checkbox"/>	0.050	0.054	11476.31	0.0247	P	1.4
4	<input type="checkbox"/>	0.100	0.106	22518.13	0.0485	P	0.9
5	<input type="checkbox"/>	0.500	0.525	107887.95	0.2391	P	1.1
6	<input type="checkbox"/>	1.000	1.034	205537.53	0.4707	P	0.5
7	<input type="checkbox"/>	5.000	5.086	944317.35	2.3130	A	0.5
8	<input type="checkbox"/>	10.00	9.952	1930100.3	4.5260	A	1.6
9	<input type="checkbox"/>			184.45	0.0005	P	22.2
10	<input type="checkbox"/>			175.56	0.0004	P	7.9
11	<input type="checkbox"/>			210.01	0.0005	P	15.1
12	<input type="checkbox"/>			193.34	0.0005	P	52.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

57 Fe [2] ISTD: 103 Rh [2]



$$y = 0.0091 * x + 2.6304E-005$$

$$R = 1.0000$$

$$DL = 0.007151$$

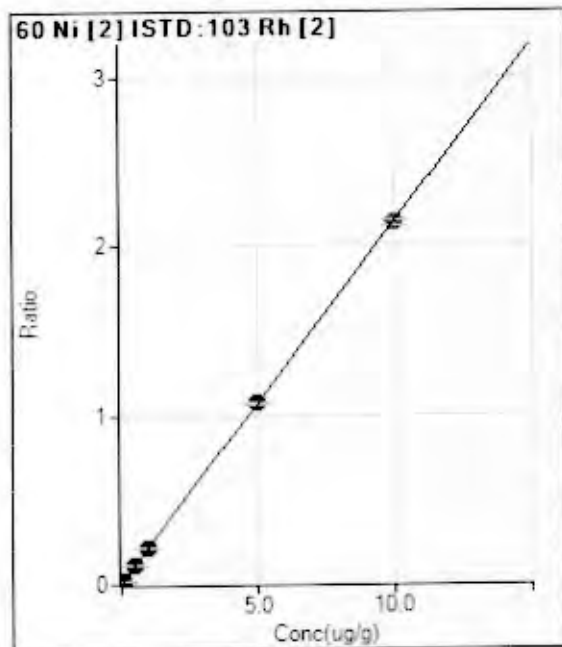
$$BEC = 0.002897$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	12.22	0.0000	P	82.3
2	<input type="checkbox"/>	0.010	0.005	35.56	0.0001	P	77.3
3	<input type="checkbox"/>	0.050	0.053	236.68	0.0005	P	12.9
4	<input type="checkbox"/>	0.100	0.098	425.58	0.0009	P	2.5
5	<input type="checkbox"/>	0.500	0.500	2062.43	0.0046	P	7.4
6	<input type="checkbox"/>	1.000	1.042	4141.77	0.0095	P	3.9
7	<input type="checkbox"/>	5.000	5.074	18815.00	0.0461	P	0.3
8	<input type="checkbox"/>	10.00	9.959	38566.95	0.0904	P	1.2
9	<input type="checkbox"/>			8.89	0.0000	P	57.2
10	<input type="checkbox"/>			6.67	0.0000	P	50.5
11	<input type="checkbox"/>			16.67	0.0000	P	35.0
12	<input type="checkbox"/>			10.00	0.0000	P	58.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.2137 * x + 2.1447E-005$$

$$R = 1.0000$$

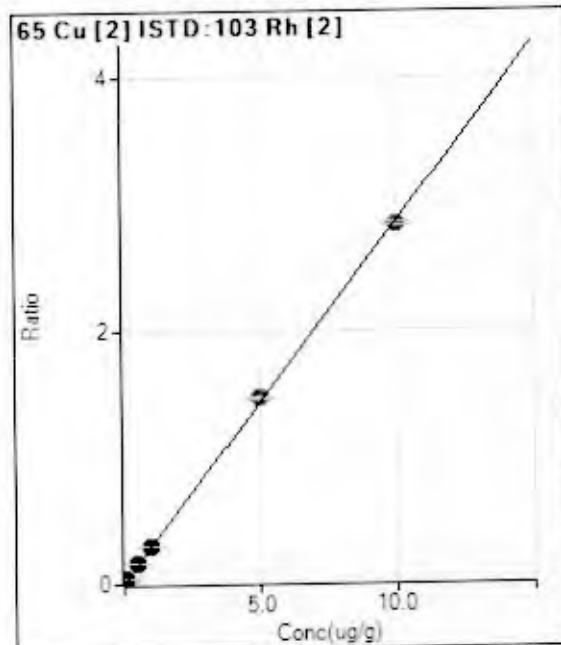
$$DL = 0.0003603$$

$$BEC = 0.0001004$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	10.00	0.0000	P	119.7
2	<input type="checkbox"/>	0.010	0.011	1061.19	0.0023	P	6.2
3	<input type="checkbox"/>	0.050	0.051	5107.62	0.0110	P	0.7
4	<input type="checkbox"/>	0.100	0.105	10406.74	0.0224	P	3.2
5	<input type="checkbox"/>	0.500	0.525	50638.22	0.1122	P	0.5
6	<input type="checkbox"/>	1.000	1.009	94177.98	0.2157	P	0.2
7	<input type="checkbox"/>	5.000	5.016	437630.06	1.0719	P	1.2
8	<input type="checkbox"/>	10.00	9.990	910439.58	2.1350	A	1.9
9	<input type="checkbox"/>			6.67	0.0000	P	86.6
10	<input type="checkbox"/>			13.33	0.0000	P	43.9
11	<input type="checkbox"/>			5.56	0.0000	P	91.9
12	<input type="checkbox"/>			15.56	0.0000	P	53.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2849 * x + 0.0091$$

$$R = 0.9999$$

$$DL = 0.003932$$

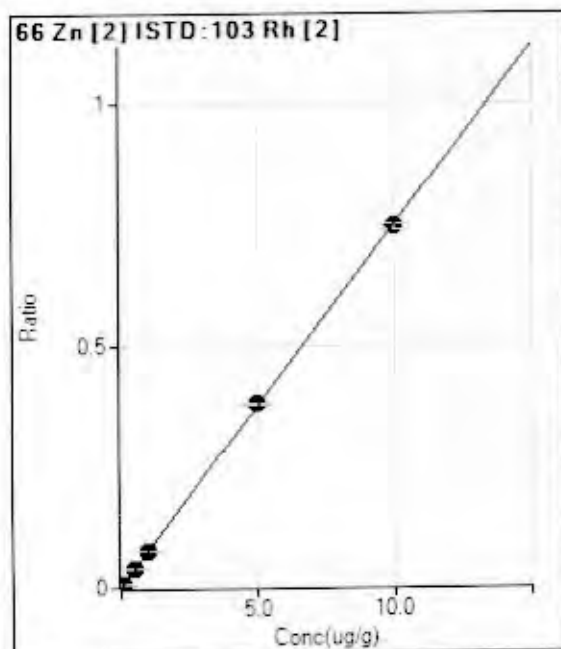
$$BEC = 0.03196$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	4191.78	0.0091	P	4.1
2	<input type="checkbox"/>	0.010	0.010	5486.62	0.0118	P	7.9
3	<input type="checkbox"/>	0.050	0.052	11128.35	0.0240	P	4.7
4	<input type="checkbox"/>	0.100	0.104	17978.63	0.0387	P	2.1
5	<input type="checkbox"/>	0.500	0.526	71703.88	0.1589	P	0.4
6	<input type="checkbox"/>	1.000	1.022	131144.15	0.3003	P	0.6
7	<input type="checkbox"/>	5.000	5.134	600761.62	1.4715	A	0.7
8	<input type="checkbox"/>	10.00	9.930	1210197.9	2.8378	A	0.9
9	<input type="checkbox"/>			2721.43	0.0067	P	12.
10	<input type="checkbox"/>			2304.68	0.0057	P	7.6
11	<input type="checkbox"/>			1435.67	0.0035	P	11.
12	<input type="checkbox"/>			307.79	0.0008	P	4.6
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.0748 * x + 5.2869E-005$$

$$R = 1.0000$$

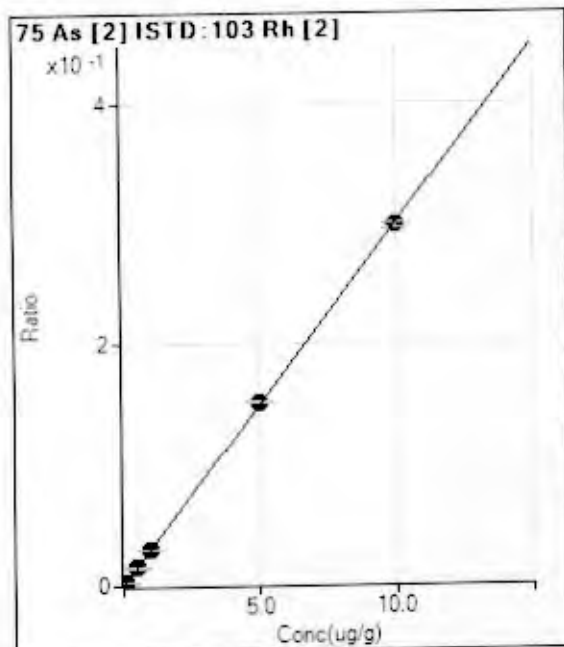
$$DL = 0.000814$$

$$BEC = 0.0007064$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	24.44	0.0001	P	38.4
2	<input type="checkbox"/>	0.010	0.011	412.24	0.0009	P	3.8
3	<input type="checkbox"/>	0.050	0.054	1902.40	0.0041	P	5.0
4	<input type="checkbox"/>	0.100	0.106	3701.65	0.0080	P	5.1
5	<input type="checkbox"/>	0.500	0.518	17509.16	0.0388	P	1.4
6	<input type="checkbox"/>	1.000	1.009	32999.27	0.0756	P	1.1
7	<input type="checkbox"/>	5.000	5.050	154336.32	0.3780	P	0.7
8	<input type="checkbox"/>	10.00	9.973	318315.29	0.7464	P	1.5
9	<input type="checkbox"/>			20.00	0.0000	P	0.5
10	<input type="checkbox"/>			25.55	0.0001	P	27.1
11	<input type="checkbox"/>			125.56	0.0003	P	23.5
12	<input type="checkbox"/>			111.12	0.0003	P	17.3
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0299 * x + 0.0000E+000$$

$$R = 1.0000$$

$$DL = 0$$

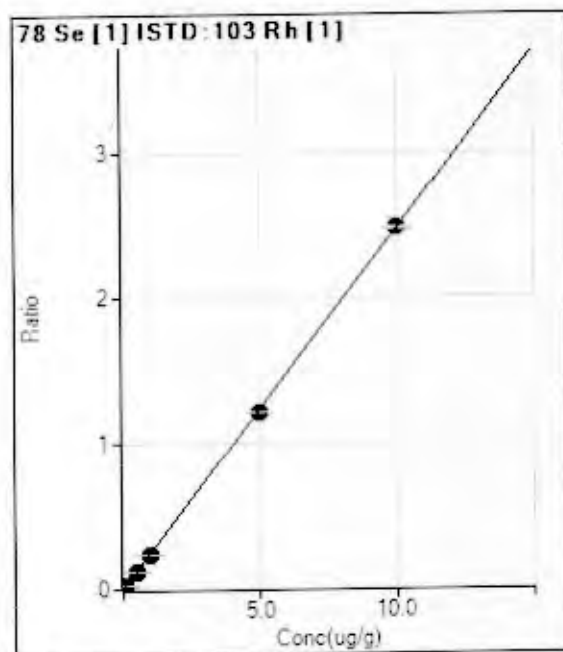
$$BEC = 0$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	0.00	0.0000	P	
2	<input type="checkbox"/>	0.010	0.010	136.67	0.0003	P	16.1
3	<input type="checkbox"/>	0.050	0.049	683.38	0.0015	P	8.1
4	<input type="checkbox"/>	0.100	0.097	1352.33	0.0029	P	3.9
5	<input type="checkbox"/>	0.500	0.508	6856.06	0.0152	P	3.4
6	<input type="checkbox"/>	1.000	0.996	13010.83	0.0298	P	1.5
7	<input type="checkbox"/>	5.000	5.081	62054.59	0.1520	P	0.5
8	<input type="checkbox"/>	10.00	9.960	127063.6	0.2980	P	1.7
9	<input type="checkbox"/>			10.00	0.0000	P	66.5
10	<input type="checkbox"/>			5.56	0.0000	P	173.
11	<input type="checkbox"/>			14.44	0.0000	P	66.5
12	<input type="checkbox"/>			5.55	0.0000	P	124.
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.2473 * x + 6.4720E-005$$

$$R = 0.9999$$

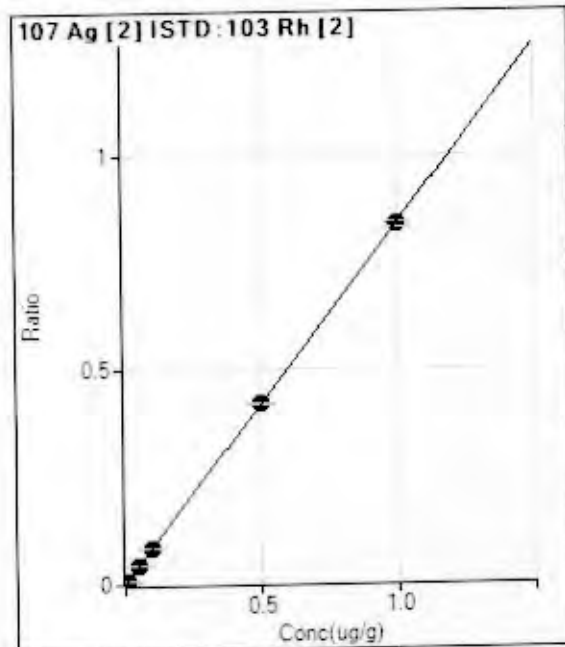
$$DL = 0.00068$$

$$BEC = 0.0002617$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	4.45	0.0001	P	86.6
2	<input type="checkbox"/>	0.010	0.009	147.79	0.0022	P	15.1
3	<input type="checkbox"/>	0.050	0.046	783.38	0.0114	P	9.2
4	<input type="checkbox"/>	0.100	0.097	1627.92	0.0242	P	8.4
5	<input type="checkbox"/>	0.500	0.483	8129.96	0.1195	P	3.1
6	<input type="checkbox"/>	1.000	0.963	15468.53	0.2382	P	2.4
7	<input type="checkbox"/>	5.000	4.897	75697.68	1.2110	P	0.8
8	<input type="checkbox"/>	10.00	10.056	157641.5	2.4866	P	0.2
9	<input type="checkbox"/>			12.22	0.0002	P	78.5
10	<input type="checkbox"/>			12.22	0.0002	P	63.0
11	<input type="checkbox"/>			4.45	0.0001	P	86.6
12	<input type="checkbox"/>			0.00	0.0000	P	
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.8384 * x + 1.0118E-004$$

$$R = 1.0000$$

$$DL = 6.395E-05$$

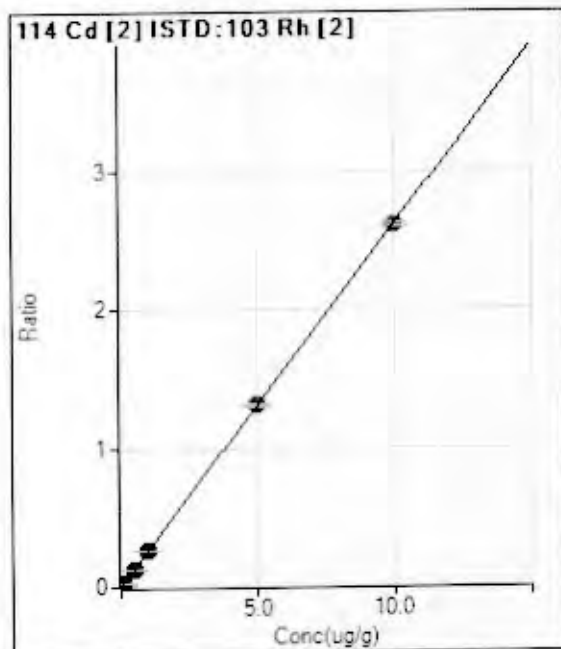
$$BEC = 0.0001207$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	46.67	0.0001	P	17.7
2	<input type="checkbox"/>	0.001	0.001	386.69	0.0008	P	13.9
3	<input type="checkbox"/>	0.005	0.005	1980.20	0.0043	P	4.6
4	<input type="checkbox"/>	0.010	0.010	4039.52	0.0087	P	1.4
5	<input type="checkbox"/>	0.050	0.051	19190.31	0.0425	P	1.3
6	<input type="checkbox"/>	0.100	0.100	36614.36	0.0838	P	0.4
7	<input type="checkbox"/>	0.500	0.501	171512.81	0.4201	P	0.1
8	<input type="checkbox"/>	1.000	1.000	357418.54	0.8381	P	1.5
9	<input type="checkbox"/>			36.67	0.0001	P	65.8
10	<input type="checkbox"/>			24.44	0.0001	P	8.5
11	<input type="checkbox"/>			27.78	0.0001	P	100.
12	<input type="checkbox"/>			6.67	0.0000	P	100.
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.2610 * x + 1.9261E-005$$

$$R = 1.0000$$

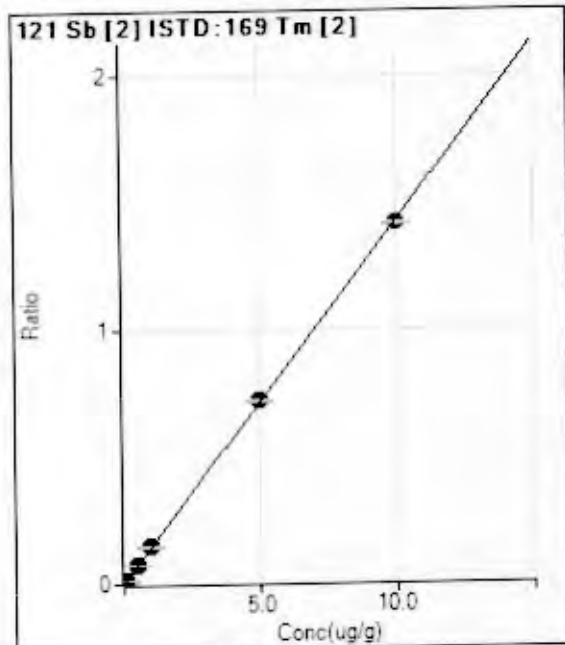
$$DL = 4.52E-05$$

$$BEC = 7.38E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	8.89	0.0000	P	20.4
2	<input type="checkbox"/>	0.010	0.010	1196.76	0.0026	P	7.1
3	<input type="checkbox"/>	0.050	0.050	6116.90	0.0132	P	2.1
4	<input type="checkbox"/>	0.100	0.099	11952.38	0.0258	P	4.3
5	<input type="checkbox"/>	0.500	0.499	58775.34	0.1303	P	1.6
6	<input type="checkbox"/>	1.000	0.991	112940.15	0.2586	P	0.5
7	<input type="checkbox"/>	5.000	5.008	533625.13	1.3070	A	1.0
8	<input type="checkbox"/>	10.00	9.997	1112776.5	2.6093	A	1.0
9	<input type="checkbox"/>			13.34	0.0000	P	43.4
10	<input type="checkbox"/>			28.89	0.0001	P	29.4
11	<input type="checkbox"/>			18.89	0.0000	P	26.5
12	<input type="checkbox"/>			16.67	0.0000	P	19.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.1424 * x + 2.7801E-005$$

$$R = 1.0000$$

$$DL = 6.723E-05$$

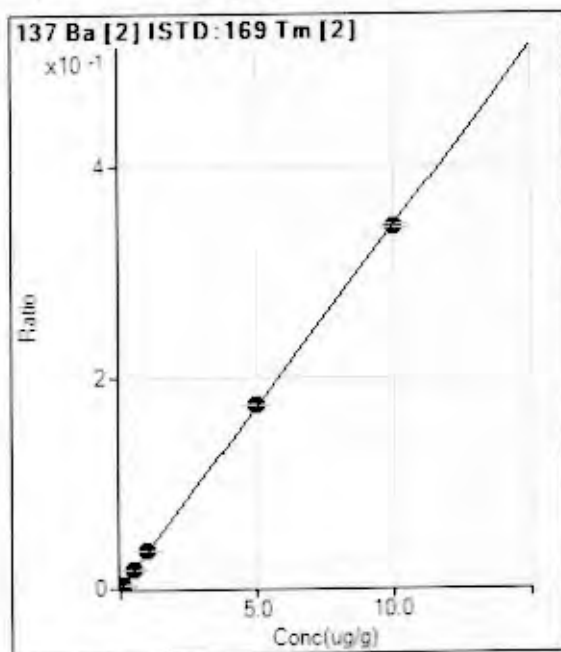
$$BEC = 0.0001952$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	15.56	0.0000	P	11.5
2	<input type="checkbox"/>	0.010	0.011	881.17	0.0016	P	3.7
3	<input type="checkbox"/>	0.050	0.054	4287.37	0.0077	P	3.0
4	<input type="checkbox"/>	0.100	0.106	8444.65	0.0152	P	0.5
5	<input type="checkbox"/>	0.500	0.536	42568.59	0.0764	P	0.4
6	<input type="checkbox"/>	1.000	1.035	80290.92	0.1474	P	2.3
7	<input type="checkbox"/>	5.000	5.051	376909.56	0.7194	P	0.8
8	<input type="checkbox"/>	10.00	9.969	789546.77	1.4198	A	0.8
9	<input type="checkbox"/>			96.67	0.0002	P	21.4
10	<input type="checkbox"/>			95.56	0.0002	P	16.3
11	<input type="checkbox"/>			83.34	0.0002	P	15.0
12	<input type="checkbox"/>			83.34	0.0002	P	17.7
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.0343 * x + 0.0000E+000$$

$$R = 1.0000$$

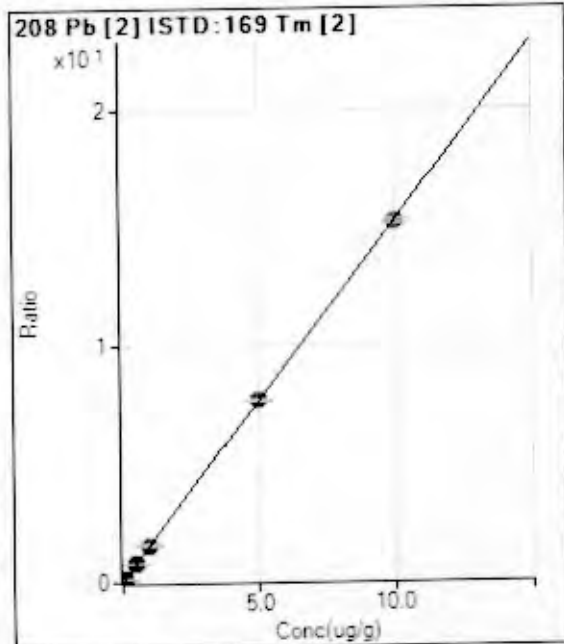
$$DL = 0$$

$$BEC = 0$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	0.00	0.0000	P	
2	<input type="checkbox"/>	0.010	0.009	174.45	0.0003	P	24.1
3	<input type="checkbox"/>	0.050	0.056	1080.08	0.0019	P	3.9
4	<input type="checkbox"/>	0.100	0.112	2140.23	0.0038	P	0.7
5	<input type="checkbox"/>	0.500	0.536	10239.09	0.0184	P	3.8
6	<input type="checkbox"/>	1.000	1.038	19401.87	0.0356	P	1.3
7	<input type="checkbox"/>	5.000	5.064	91030.92	0.1737	P	0.2
8	<input type="checkbox"/>	10.00	9.962	190079.1	0.3418	P	1.0
9	<input type="checkbox"/>			7.78	0.0000	P	65.0
10	<input type="checkbox"/>			0.00	0.0000	P	
11	<input type="checkbox"/>			4.44	0.0000	P	43.0
12	<input type="checkbox"/>			0.00	0.0000	P	
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 1.5268 * x + 2.0862E-004$$

$$R = 1.0000$$

$$DL = 5.698E-06$$

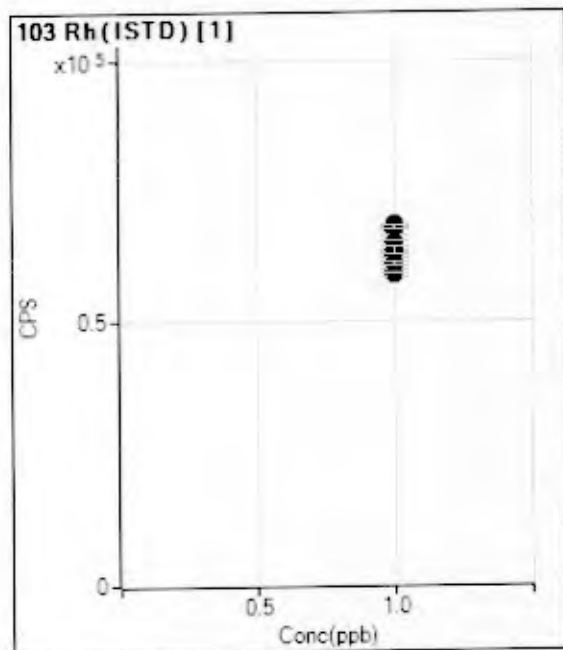
$$BEC = 0.0001366$$

Weight: None

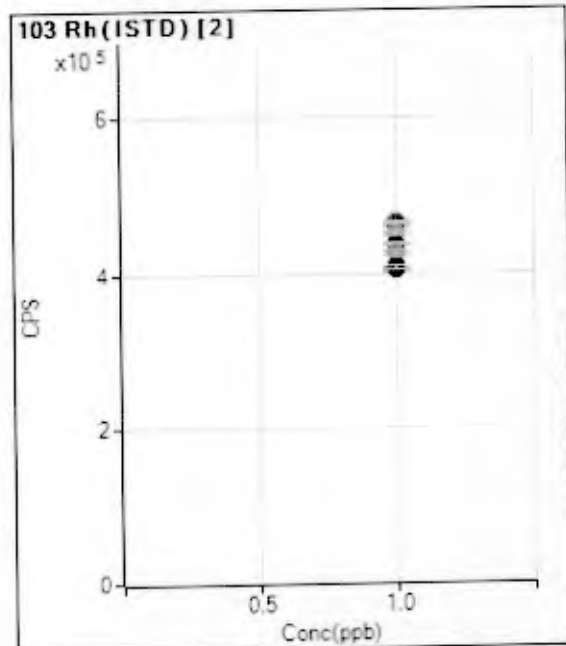
Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	116.67	0.0002	P	1.4
2	<input type="checkbox"/>	0.010	0.010	9065.85	0.0162	P	2.8
3	<input type="checkbox"/>	0.050	0.054	46507.38	0.0830	P	0.9
4	<input type="checkbox"/>	0.100	0.108	92001.20	0.1651	P	1.3
5	<input type="checkbox"/>	0.500	0.532	452305.17	0.8121	P	0.2
6	<input type="checkbox"/>	1.000	1.028	855280.66	1.5701	A	0.8
7	<input type="checkbox"/>	5.000	5.019	4014696.44	7.6630	A	0.8
8	<input type="checkbox"/>	10.00	9.986	8477970.62	15.246	A	0.9
9	<input type="checkbox"/>			232.23	0.0005	P	10.
10	<input type="checkbox"/>			177.79	0.0003	P	6.0
11	<input type="checkbox"/>			193.34	0.0004	P	8.2
12	<input type="checkbox"/>			346.68	0.0010	P	23.
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D

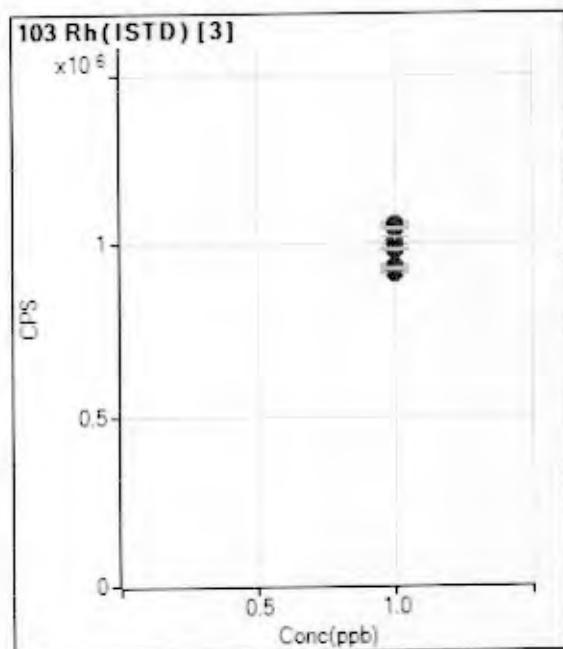


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		68597.14		P	0.3
2	<input type="checkbox"/>	1.000		68240.23		P	1.9
3	<input type="checkbox"/>	1.000		68487.91		P	1.0
4	<input type="checkbox"/>	1.000		67327.97		P	1.8
5	<input type="checkbox"/>	1.000		68067.38		P	1.2
6	<input type="checkbox"/>	1.000		64959.88		P	1.4
7	<input type="checkbox"/>	1.000		62514.20		P	1.3
8	<input type="checkbox"/>	1.000		63397.55		P	0.7
9	<input type="checkbox"/>	1.000		58911.63		P	0.9
10	<input type="checkbox"/>	1.000		59722.20		P	1.2
11	<input type="checkbox"/>	1.000		61017.91		P	1.4
12	<input type="checkbox"/>	1.000		63613.50		P	1.8
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

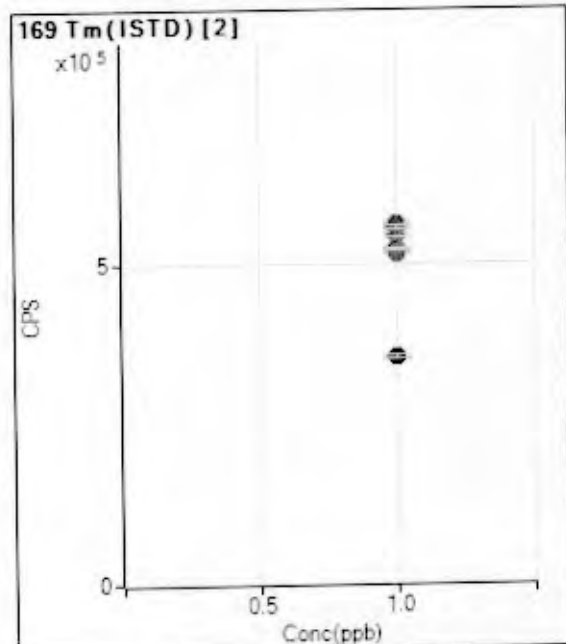


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		460663.99		A	1.6
2	<input type="checkbox"/>	1.000		464124.60		A	1.6
3	<input type="checkbox"/>	1.000		464686.11		A	0.4
4	<input type="checkbox"/>	1.000		464132.26		A	0.7
5	<input type="checkbox"/>	1.000		451285.23		M	1.2
6	<input type="checkbox"/>	1.000		436689.54		P	0.5
7	<input type="checkbox"/>	1.000		408265.57		P	0.4
8	<input type="checkbox"/>	1.000		426483.79		M	1.0
9	<input type="checkbox"/>	1.000		403562.38		P	0.5
10	<input type="checkbox"/>	1.000		404920.21		P	0.6
11	<input type="checkbox"/>	1.000		404872.53		P	0.5
12	<input type="checkbox"/>	1.000		406024.27		P	0.9
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for 10P.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	1.000		1054252.75		A	1.4
2	<input type="checkbox"/>	1.000		1050001.08		A	0.6
3	<input type="checkbox"/>	1.000		1044215.41		A	1.0
4	<input type="checkbox"/>	1.000		1041623.52		A	0.9
5	<input type="checkbox"/>	1.000		1007572.75		A	2.1
6	<input type="checkbox"/>	1.000		980063.25		A	0.9
7	<input type="checkbox"/>	1.000		934288.26		A	0.4
8	<input type="checkbox"/>	1.000		981717.54		A	0.4
9	<input type="checkbox"/>	1.000		912892.37		A	0.9
10	<input type="checkbox"/>	1.000		915892.68		A	0.2
11	<input type="checkbox"/>	1.000		915349.13		A	0.6
12	<input type="checkbox"/>	1.000		926535.60		A	0.6
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	1.000		559172.77		A	1.7
2	<input type="checkbox"/>	1.000		561310.76		A	0.8
3	<input type="checkbox"/>	1.000		560366.27		A	0.7
4	<input type="checkbox"/>	1.000		557131.52		A	0.9
5	<input type="checkbox"/>	1.000		556945.90		A	0.5
6	<input type="checkbox"/>	1.000		544753.78		A	1.0
7	<input type="checkbox"/>	1.000		523923.25		A	0.5
8	<input type="checkbox"/>	1.000		556093.35		A	0.8
9	<input type="checkbox"/>	1.000		515785.89		A	0.8
10	<input type="checkbox"/>	1.000		519724.54		A	0.3
11	<input type="checkbox"/>	1.000		520923.40		A	0.5
12	<input type="checkbox"/>	1.000		351271.23		P	1.1
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

PHYSIS

Continuing Calibration Data

TERRA

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FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name ICV.D
File Path D:\DATA\2131021.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/21/2013 12:17
Sample Name 100 ppb (10 ppb Ag)
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.103	ug/g	0.56	3,973.93	9.281E-03	Pulse	0.30	3
P	31	103	2		ug/g	---	71.11	1.661E-04	Pulse	0.30	3
Cr	52	103	2	0.103	ug/g	0.49	201,293.91	4.701E-01	Pulse	0.30	3
Fe	57	103	2	0.102	ug/g	4.26	3,981.72	9.299E-03	Pulse	0.30	3
Ni	60	103	2	0.102	ug/g	0.83	93,093.29	2.174E-01	Pulse	0.30	3
Cu	65	103	2	0.102	ug/g	0.56	128,586.88	3.003E-01	Pulse	0.30	3
Zn	66	103	2	0.103	ug/g	0.63	32,968.20	7.699E-02	Pulse	0.30	3
As	75	103	2	0.102	ug/g	1.70	13,004.15	3.037E-02	Pulse	0.30	3
Se	78	103	1	0.099	ug/g	0.66	15,615.30	2.444E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.54	36,008.62	8.409E-02	Pulse	0.30	3
Cd	114	103	2	0.101	ug/g	0.73	112,574.37	2.629E-01	Pulse	0.30	3
Sb	121	169	2	0.102	ug/g	1.27	78,575.93	1.451E-01	Pulse	0.30	3
Ba	137	169	2	0.105	ug/g	1.47	19,474.19	3.595E-02	Pulse	0.30	3
Pb	208	169	2	0.103	ug/g	0.66	855,706.64	1.580E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	63,886.87	0.70	93.1	Pulse	0.30	3
2	Rh	103	428,196.45	0.25	93.0	Pulse	0.30	3
3	Rh	103	970,647.03	0.23	92.1	Analog	0.30	3
2	Tm	169	541,740.08	0.60	96.9	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCVP.D
File Path D:\DATA\2131021.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/21/2013 12:22
Sample Name 5 PPM Phosphorus
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.000	ug/g	31.58	21.11	5.021E-05	Pulse	0.30	3
P	31	103	2	4.913	ug/g	0.83	9,449.49	2.248E-02	Pulse	0.30	3
Cr	52	103	2	0.000	ug/g	44.54	156.67	3.729E-04	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	291.98	13.33	3.173E-05	Pulse	0.30	3
Ni	60	103	2	0.000	ug/g	174.44	16.67	3.960E-05	Pulse	0.30	3
Cu	65	103	2	-0.002	ug/g	-5.09	1,244.54	2.962E-03	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	12.26	143.34	3.410E-04	Pulse	0.30	3
As	75	103	2	0.000	ug/g	20.34	16.67	3.967E-05	Pulse	0.30	3
Se	78	103	1	0.000	ug/g	138.78	11.11	1.721E-04	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	-111.82	26.67	6.353E-05	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	37.71	23.33	5.551E-05	Pulse	0.30	3
Sb	121	169	2	0.000	ug/g	35.00	158.89	2.958E-04	Pulse	0.30	3
Ba	137	169	2	0.000	ug/g	125.59	5.55	1.042E-05	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	16.30	215.56	4.001E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	64,268.22	0.91	93.7	Pulse	0.30	3
2	Rh	103	420,280.04	0.34	91.2	Pulse	0.30	3
3	Rh	103	959,271.40	0.46	91.0	Analog	0.30	3
2	Tm	169	538,410.67	1.19	96.3	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV.D
File Path D:\DATA\2131021.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/21/2013 19:17
Sample Name 0.10 PPM
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.095	ug/g	3.64	4,325.12	8.549E-03	Pulse	0.30	3
P	31	103	2		ug/g	---	30.00	5.926E-05	Pulse	0.30	3
Cr	52	103	2	0.097	ug/g	1.25	223,800.40	4.423E-01	Pulse	0.30	3
Fe	57	103	2	0.098	ug/g	0.50	4,491.86	8.878E-03	Pulse	0.30	3
Ni	60	103	2	0.095	ug/g	0.27	102,262.53	2.021E-01	Pulse	0.30	3
Cu	65	103	2	0.093	ug/g	0.67	138,846.04	2.744E-01	Pulse	0.30	3
Zn	66	103	2	0.095	ug/g	1.04	36,106.45	7.136E-02	Pulse	0.30	3
As	75	103	2	0.101	ug/g	3.28	15,217.16	3.008E-02	Pulse	0.30	3
Se	78	103	1	0.092	ug/g	1.45	19,405.82	2.272E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.86	41,909.83	8.283E-02	Pulse	0.30	3
Cd	114	103	2	0.099	ug/g	0.30	130,866.25	2.586E-01	Pulse	0.30	3
Sb	121	169	2	0.104	ug/g	1.02	95,098.63	1.482E-01	Pulse	0.30	3
Ba	137	169	2	0.114	ug/g	0.85	25,091.73	3.909E-02	Pulse	0.30	3
Pb	208	169	2	0.105	ug/g	0.83	1,032,964.64	1.609E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	85,430.85	0.21	124.5	Pulse	0.30	3
2	Rh	103	505,970.52	0.42	109.8	Analog	0.30	3
3	Rh	103	1,202,500.29	0.42	114.1	Analog	0.30	3
2	Tm	169	641,894.25	0.74	114.8	Analog	0.30	3

PHYSIS

Instrument Run Log

TERRA

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Low

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1		Keyword		CALBEG	Start of CALIB									
2	C:\ICPMH1\METHODS\Physis.m	Sample	1	Rinse1			1.000							
3	C:\ICPMH1\METHODS\Physis.m	Sample	1	Rinse2			1.000							
4	C:\ICPMH1\METHODS\Physis.m	Sample	1101	Rinse			1.000							
5	C:\ICPMH1\METHODS\Physis.m	CalStd	1101	0MIX	0 ppb mix	0 ng 0 ng Ag	Level 1							
6	C:\ICPMH1\METHODS\Physis.m	CalStd	1102	1MIX	1 ppb mix	10 ng 1 ng Ag	Level 2							
7	C:\ICPMH1\METHODS\Physis.m	CalStd	1103	5MIX	5 ppb mix	50 ng 5 ng Ag	Level 3							
8	C:\ICPMH1\METHODS\Physis.m	CalStd	1104	10MIX	10 ppb mix	100 ng 10 ng Ag	Level 4							
9	C:\ICPMH1\METHODS\Physis.m	CalStd	1105	50MIX	50 ppb mix	500 ng 50 ng Ag	Level 5							
10	C:\ICPMH1\METHODS\Physis.m	CalStd	1106	100MIX	100 ppb mix	1000 ng 100 ng Ag	Level 6							
11	C:\ICPMH1\METHODS\Physis.m	CalStd	1107	500MIX	500 ppb mix	5000 ng 500 ng Ag	Level 7							
12	C:\ICPMH1\METHODS\Physis.m	CalStd	1108	1000MIX	1000 ppb mix	10000 ng 1000 ng Ag	Level 8							
13	C:\ICPMH1\METHODS\Physis.m	Sample	1	Rinse3			1.000							
14	C:\ICPMH1\METHODS\Physis.m	Sample	1	Rinse4			1.000							
15	C:\ICPMH1\METHODS\Physis.m	CalStd	1109	1P	1 ppm P	10 ug P	Level 9							
16	C:\ICPMH1\METHODS\Physis.m	CalStd	1110	2P	2 ppm P	20 ug P	Level 10							
17	C:\ICPMH1\METHODS\Physis.m	CalStd	1111	5P	5 ppm P	50 ug P	Level 11							
18	C:\ICPMH1\METHODS\Physis.m	CalStd	1112	10P	10 ppm P	100 ug P	Level 12							
19	C:\ICPMH1\METHODS\Physis.m	Sample	1	Rinse5			1.000							
20	C:\ICPMH1\METHODS\Physis.m	Sample	1201	ICV	100 ppb (10 ppb Ag)		1.000E-01							
21	C:\ICPMH1\METHODS\Physis.m	Sample	1111	CCVP	5 PPM Phosphorus		1.000E-01							
22	C:\ICPMH1\METHODS\Physis.m	Sample	1202	2ndP	CRA Phosphorus @74 PPM 9.32		1.000E-01							
23	C:\ICPMH1\METHODS\Physis.m	Sample	1	Rinse6			1.000							
24	C:\ICPMH1\METHODS\Physis.m	Sample	1	Rinse7			1.000							
25		Keyword		CALEND	End of CALIB									
26		Keyword		SAMPLE	Start of SMPLE									
27	C:\ICPMH1\METHODS\Physis.m	Sample	1	Rinse8			1.000							
28	C:\ICPMH1\METHODS\Physis.m	Sample	1	Rinse9			1.000							
29	C:\ICPMH1\METHODS\Physis.m	Sample	1	Rinse10			1.000							
30	C:\ICPMH1\METHODS\Physis.m	Sample	1	Rinse11			1.000							
31	C:\ICPMH1\METHODS\Physis.m	Sample	2101	22481	QAQC Procedural Blank B1	22481.NA.R1.10/12/2013.E-6005	10.00							
32	C:\ICPMH1\METHODS\Physis.m	Sample	2102	22482	B13-8013	22482.NA.R1.10/12/2013.E-6005	32.77							
33	C:\ICPMH1\METHODS\Physis.m	Sample	2103	22482+2	B13-8013 Dup	22482.NA.R2.10/12/2013.E-6005	33.75							
34	C:\ICPMH1\METHODS\Physis.m	Sample	2104	22483	B13-8014	22483.NA.R1.10/12/2013.E-6005	22.05							
35	C:\ICPMH1\METHODS\Physis.m	Sample	2105	22484	B13-8028	22484.NA.R1.10/12/2013.E-6005	30.78							
36	C:\ICPMH1\METHODS\Physis.m	Sample	2106	22485	B13-8030	22485.NA.R1.10/12/2013.E-6005	19.53							
37	C:\ICPMH1\METHODS\Physis.m	Sample	2107	22486	B13-8038	22486.NA.R1.10/12/2013.E-6005	26.17							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
38	C:\CPMH\1\METHODS\IPhysis.m	Sample	2108	22487	B13-8038	22487,NA,R1,10/12/2013,E-6005,	20.38							
39	C:\CPMH\1\METHODS\IPhysis.m	Sample	2109	22489	B13-8040	22489,NA,R1,10/12/2013,E-6005,	39.89							
40	C:\CPMH\1\METHODS\IPhysis.m	Sample	2110	22499	B13-8052	22499,NA,R1,10/12/2013,E-6005,	28.63							
41	C:\CPMH\1\METHODS\IPhysis.m	Sample	2111	22480	B13-8060	22490,NA,R1,10/12/2013,E-6005,	27.47							
42	C:\CPMH\1\METHODS\IPhysis.m	Sample	2112	22491	B13-8078	22491,NA,R1,10/12/2013,E-6005,	27.45							
43	C:\CPMH\1\METHODS\IPhysis.m	Sample	2201	22493cm	QAQC CRM - RTC 018-0501	22493,NA,CRM1,10/12/2013,E-6005,	52.97							
44	C:\CPMH\1\METHODS\IPhysis.m	Sample	2202	22494cm	QAQC CRM - ERA 5401	22494,NA,CRM1,10/12/2013,E-6005,	52.08							
45	C:\CPMH\1\METHODS\IPhysis.m	Sample	2203	22481bs1	QAQC Procedural Blank BS1	22481,NA,BS1,10/12/2013,E-6005,	1.000							
46	C:\CPMH\1\METHODS\IPhysis.m	Sample	2204	22481bs2	QAQC Procedural Blank BS2	22481,NA,BS2,10/12/2013,E-6005,	1.000							
47	C:\CPMH\1\METHODS\IPhysis.m	Sample	2205	22482ms	B13-8013 MS	22482,NA,MS1,10/12/2013,E-6005,	1.000							
48	C:\CPMH\1\METHODS\IPhysis.m	Sample	2206	22482msd	B13-8013 MSD	22482,NA,MS2,10/12/2013,E-6005,	1.000							
49	C:\CPMH\1\METHODS\IPhysis.m	Sample	2207	22482s1P	B13-8013 MS P	22482,NA,MS1,10/12/2013,E-6005,	1.000							
50	C:\CPMH\1\METHODS\IPhysis.m	Sample	2208	22482s2P	B13-8013 MSD P	22482,NA,MS2,10/12/2013,E-6005,	1.000							
51	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse12			1.000							
52	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse13			1.000							
53	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse14			1.000							
54	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse15			1.000							
55	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse16			1.000							
56	C:\CPMH\1\METHODS\IPhysis.m	Sample	2209	22544	QAQC Procedural Blank B1	22544,NA,B1,10/12/2013,E-6006,	10.00							
57	C:\CPMH\1\METHODS\IPhysis.m	Sample	2210	22546	B13-8109 Grab	22546,NA,R1,10/12/2013,E-6006,	25.86							
58	C:\CPMH\1\METHODS\IPhysis.m	Sample	2211	22546r2	B13-8109 Grab Dup	22546,NA,R2,10/12/2013,E-6006,	23.74							
59	C:\CPMH\1\METHODS\IPhysis.m	Sample	2212	22547	B13-8118 Grab	22547,NA,R1,10/12/2013,E-6006,	30.52							
60	C:\CPMH\1\METHODS\IPhysis.m	Sample	2301	22548	B13-8122 Grab	22548,NA,R1,10/12/2013,E-6006,	14.42							
61	C:\CPMH\1\METHODS\IPhysis.m	Sample	2302	22549	B13-8033 Grab	22549,NA,R1,10/12/2013,E-6006,	33.67							
62	C:\CPMH\1\METHODS\IPhysis.m	Sample	2303	22550	B13-8093 Grab	22550,NA,R1,10/12/2013,E-6006,	21.52							
63	C:\CPMH\1\METHODS\IPhysis.m	Sample	2304	22551	B13-8100 Grab	22551,NA,R1,10/12/2013,E-6006,	24.81							
64	C:\CPMH\1\METHODS\IPhysis.m	Sample	2305	22552	B13-8096 Grab	22552,NA,R1,10/12/2013,E-6006,	33.33							
65	C:\CPMH\1\METHODS\IPhysis.m	Sample	2306	22553	B13-8098 Grab	22553,NA,R1,10/12/2013,E-6006,	23.88							
66	C:\CPMH\1\METHODS\IPhysis.m	Sample	2307	22554	B13-8098 Grab	22554,NA,R1,10/12/2013,E-6006,	23.01							
67	C:\CPMH\1\METHODS\IPhysis.m	Sample	2308	22555	B13-8095 Grab	22555,NA,R1,10/12/2013,E-6006,	40.13							
68	C:\CPMH\1\METHODS\IPhysis.m	Sample	2308	22559cm	QAQC CRM - RTC 018-0501	22559,NA,CRM1,10/12/2013,E-6006,	54.71							
69	C:\CPMH\1\METHODS\IPhysis.m	Sample	2310	22561cm	QAQC CRM - ERA 5401	22561,NA,CRM1,10/12/2013,E-6006,	65.19							
70	C:\CPMH\1\METHODS\IPhysis.m	Sample	2203	22544bs1	QAQC Procedural Blank BS1	22544,NA,BS1,10/12/2013,E-6006,	1.000							
71	C:\CPMH\1\METHODS\IPhysis.m	Sample	2204	22544bs2	QAQC Procedural Blank BS2	22544,NA,BS2,10/12/2013,E-6006,	1.000							
72	C:\CPMH\1\METHODS\IPhysis.m	Sample	2311	22546ms	B13-8109 Grab MS	22546,NA,MS1,10/12/2013,E-6006,	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
73	C:\ICPMH\1\METHODS (Physis.m)	Sample	2312	22548msd	B13-8109 Grab MSD	22548.NA.MS2.10/12/2013.E-6006	1.000							
74	C:\ICPMH\1\METHODS (Physis.m)	Sample	2401	22548s1P	B13-8109 Grab MS_P	22548.NA.MS1.10/12/2013.E-6006	1.000							
75	C:\ICPMH\1\METHODS (Physis.m)	Sample	2402	22548s2P	B13-8109 Grab MSD_P	22548.NA.MS2.10/12/2013.E-6006	1.000							
76	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse17			1.000							
77	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse18			1.000							
78	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse19			1.000							
79	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse20			1.000							
80	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse21			1.000							
81	C:\ICPMH\1\METHODS (Physis.m)	Sample	2403	22570	QAQC Procedural Blank B1	22570.NA.B1.10/12/2013.E-6007	10.00							
82	C:\ICPMH\1\METHODS (Physis.m)	Sample	2403	22570	QAQC Procedural Blank B1	22570.NA.B1.10/12/2013.E-6007	10.00							
83	C:\ICPMH\1\METHODS (Physis.m)	Sample	2404	22556	B13-8087 Grab	22556.NA.R1.10/12/2013.E-6007	18.89							
84	C:\ICPMH\1\METHODS (Physis.m)	Sample	2405	22558r2	B13-8087 Grab Dup	22556.NA.R2.10/12/2013.E-6007	17.44							
85	C:\ICPMH\1\METHODS (Physis.m)	Sample	2406	22557	B13-8073 Grab	22557.NA.R1.10/12/2013.E-6007	22.67							
86	C:\ICPMH\1\METHODS (Physis.m)	Sample	2407	22571	B13-8058 Grab	22571.NA.R1.10/12/2013.E-6007	19.36							
87	C:\ICPMH\1\METHODS (Physis.m)	Sample	2408	22571r2	B13-8058 Grab Dup	22571.NA.R2.10/12/2013.E-6007	19.83							
88	C:\ICPMH\1\METHODS (Physis.m)	Sample	2409	22572	B13-8068 Grab	22572.NA.R1.10/12/2013.E-6007	24.03							
89	C:\ICPMH\1\METHODS (Physis.m)	Sample	2410	22573	B13-8080 Grab	22573.NA.R1.10/12/2013.E-6007	26.05							
90	C:\ICPMH\1\METHODS (Physis.m)	Sample	2411	22574	B13-8045 Grab	22574.NA.R1.10/12/2013.E-6007	23.54							
91	C:\ICPMH\1\METHODS (Physis.m)	Sample	2412	22575	B13-8031 Grab	22575.NA.R1.10/12/2013.E-6007	23.02							
92	C:\ICPMH\1\METHODS (Physis.m)	Sample	2501	22560cm	QAQC CRM - RTC 016-0501	22560.NA.CRM1.10/12/2013.E-6007	41.05							
93	C:\ICPMH\1\METHODS (Physis.m)	Sample	2502	22562cm	QAQC CRM - ERA 5401	22562.NA.CRM1.10/12/2013.E-6007	49.80							
94	C:\ICPMH\1\METHODS (Physis.m)	Sample	2503	22577cm	QAQC CRM - RTC 016-0501	22577.NA.CRM1.10/12/2013.E-6007	41.05							
95	C:\ICPMH\1\METHODS (Physis.m)	Sample	2502	22578cm	QAQC CRM - ERA 5401	22576.NA.CRM1.10/12/2013.E-6007	49.80							
96	C:\ICPMH\1\METHODS (Physis.m)	Sample	2203	22545bs1	QAQC Procedural Blank BS1	22545.NA.BS1.10/12/2013.E-6007	1.000							
97	C:\ICPMH\1\METHODS (Physis.m)	Sample	2204	22545bs2	QAQC Procedural Blank BS2	22545.NA.BS2.10/12/2013.E-6007	1.000							
98	C:\ICPMH\1\METHODS (Physis.m)	Sample	2203	22570bs1	QAQC Procedural Blank BS1	22570.NA.BS1.10/12/2013.E-6007	1.000							
99	C:\ICPMH\1\METHODS (Physis.m)	Sample	2204	22570bs2	QAQC Procedural Blank BS2	22570.NA.BS2.10/12/2013.E-6007	1.000							
100	C:\ICPMH\1\METHODS (Physis.m)	Sample	2503	22558ms	B13-8087 Grab MS	22556.NA.MS1.10/12/2013.E-6007	1.000							
101	C:\ICPMH\1\METHODS (Physis.m)	Sample	2504	22558msd	B13-8087 Grab MSD	22556.NA.MS2.10/12/2013.E-6007	1.000							
102	C:\ICPMH\1\METHODS (Physis.m)	Sample	2505	22571ms	B13-8058 Grab MS	22571.NA.MS1.10/12/2013.E-6007	1.000							
103	C:\ICPMH\1\METHODS (Physis.m)	Sample	2506	22571msd	B13-8058 Grab MSD	22571.NA.MS2.10/12/2013.E-6007	1.000							
104	C:\ICPMH\1\METHODS (Physis.m)	Sample	2507	22558s1P	B13-8087 Grab MS_P	22556.NA.MS1.10/12/2013.E-6007	1.000							
105	C:\ICPMH\1\METHODS (Physis.m)	Sample	2508	22558s2P	B13-8087 Grab MSD_P	22556.NA.MS2.10/12/2013.E-6007	1.000							
106	C:\ICPMH\1\METHODS (Physis.m)	Sample	2509	22571s1P	B13-8058 Grab MS_P	22571.NA.MS1.10/12/2013.E-6007	1.000							
107	C:\ICPMH\1\METHODS (Physis.m)	Sample	2510	22571s2P	B13-8058 Grab MSD_P	22571.NA.MS2.10/12/2013.E-6007	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
108	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse22			1.000							
109	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse23			1.000							
110	C:\CPMH\1\METHODS (Physis.m)	Sample	1108	CCV	0.10 PPM		1.000E-01							
111	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse24			1.000							
112	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse25			1.000							
113	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse26			1.000							
114	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse27			1.000							
115		Keyword		SMPLEND	End of SMPL									
116		Keyword		End	End of Sequence									
117		Keyword		BLKBEG	Start of BLANK									
118		Keyword		BLKEND	End of BLANK									
119		Keyword		ERRBEG	Start of ERRTERM									
120		Keyword		ERREND	End of ERRTERM									

Elements -

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ICPMS 7700x DATA REPORT

File Name OMIX.D
File Path D:\data\2131018.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/18/2013 14:53
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.000	ug/g	---	15.55	3.124E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	---	1,350.11	2.704E-03	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	---	25.56	5.108E-05	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	---	3.33	6.734E-06	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	---	1.11	2.219E-06	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	---	88.90	1.469E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	71,290.21	2.19	100.0	Pulse	0.30	3
2	Rh	103	499,723.08	0.90	100.0	Analog	0.30	3
3	Rh	103	1,196,280.56	0.83	100.0	Analog	0.30	3
2	Tm	169	604,953.55	0.43	100.0	Analog	0.30	3

PHYSIS

Initial Calibration Data

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Calibration for 1000MIX.D

Batch Folder: D:\DATA\2131018.B\

 Analysis File: 2131018.batch.xml

 DA Date-Time: 4/8/2014 4:09:51 PM

 Calibration Title:

 Calibration Method: External Calibration

 VIS Interpolation Fit:

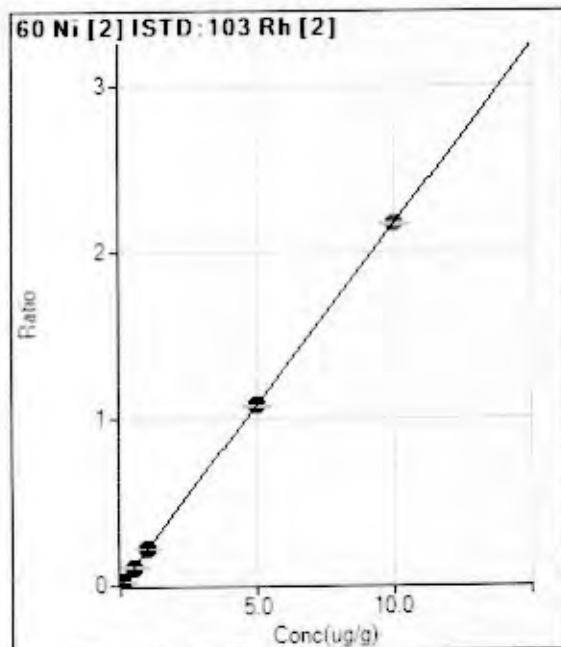
 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX.D	0 ppb mix	10/18/2013 2:53:55 PM
2	1MIX.D	1 ppb mix	10/18/2013 2:58:39 PM
3	5MIX.D	5 ppb mix	10/18/2013 3:03:21 PM
4	10MIX.D	10 ppb mix	10/18/2013 3:08:04 PM
5	50MIX.D	50 ppb mix	10/18/2013 3:12:50 PM
6	100MIX.D	100 ppb mix	10/18/2013 3:17:34 PM
7	500MIX.D	500 ppb mix	10/18/2013 3:22:17 PM
8	1000MIX.D	1000 ppb mix	10/18/2013 3:26:50 PM
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

Calibration for 1000MIX.D



$$y = 0.2165 * x + 3.1240E-005$$

$$R = 1.0000$$

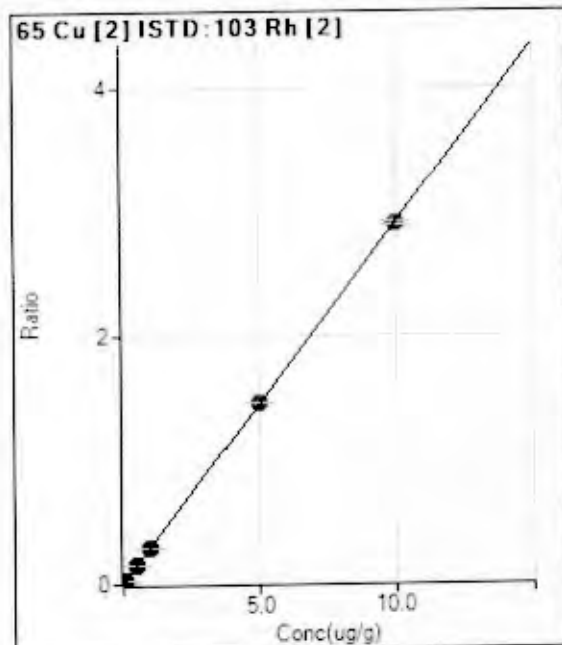
$$DL = 0.0002997$$

$$BEC = 0.0001443$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	15.55	0.0000	P	69.2
2	<input type="checkbox"/>	0.010	0.010	1137.86	0.0023	P	8.1
3	<input type="checkbox"/>	0.050	0.050	5471.07	0.0109	P	0.3
4	<input type="checkbox"/>	0.100	0.102	10813.71	0.0220	P	1.8
5	<input type="checkbox"/>	0.500	0.503	51924.34	0.1090	P	1.5
6	<input type="checkbox"/>	1.000	1.015	100631.98	0.2197	P	1.2
7	<input type="checkbox"/>	5.000	4.970	464698.70	1.0762	P	0.4
8	<input type="checkbox"/>	10.00	10.013	919218.78	2.1681	A	0.7
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2908 * x + 0.0027$$

$$R = 1.0000$$

$$DL = 0.003732$$

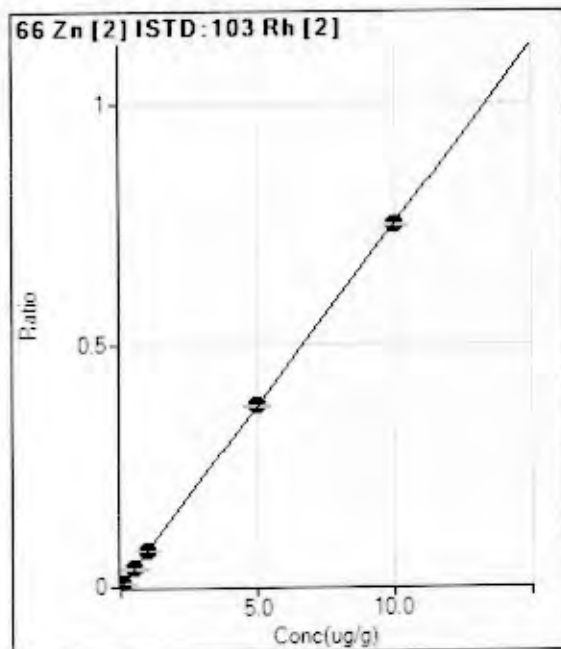
$$BEC = 0.009297$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	1350.11	0.0027	P	13.4
2	<input type="checkbox"/>	0.010	0.010	2882.58	0.0058	P	6.4
3	<input type="checkbox"/>	0.050	0.053	9023.72	0.0180	P	2.8
4	<input type="checkbox"/>	0.100	0.104	16213.50	0.0330	P	1.7
5	<input type="checkbox"/>	0.500	0.504	71020.23	0.1491	P	1.4
6	<input type="checkbox"/>	1.000	1.011	135888.25	0.2967	P	0.3
7	<input type="checkbox"/>	5.000	5.025	632149.98	1.4640	A	0.7
8	<input type="checkbox"/>	10.00	9.986	1232456.2	2.9070	A	1.1
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D



$$y = 0.0750 * x + 5.1084E-005$$

$$R = 1.0000$$

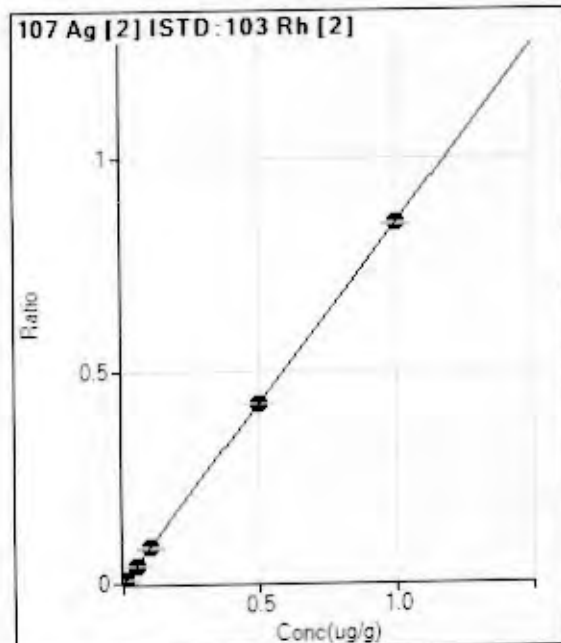
$$DL = 0.0003904$$

$$BEC = 0.0006814$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	25.56	0.0001	P	19.1
2	<input type="checkbox"/>	0.010	0.012	494.47	0.0010	P	15.0
3	<input type="checkbox"/>	0.050	0.051	1945.75	0.0039	P	4.1
4	<input type="checkbox"/>	0.100	0.098	3631.63	0.0074	P	1.9
5	<input type="checkbox"/>	0.500	0.504	18033.07	0.0379	P	1.0
6	<input type="checkbox"/>	1.000	1.023	35140.12	0.0767	P	1.3
7	<input type="checkbox"/>	5.000	5.015	162368.75	0.3760	P	1.0
8	<input type="checkbox"/>	10.00	9.990	317558.68	0.7490	P	0.7
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.8462 * x + 6.7340E-006$$

$$R = 1.0000$$

$$DL = 4.135E-05$$

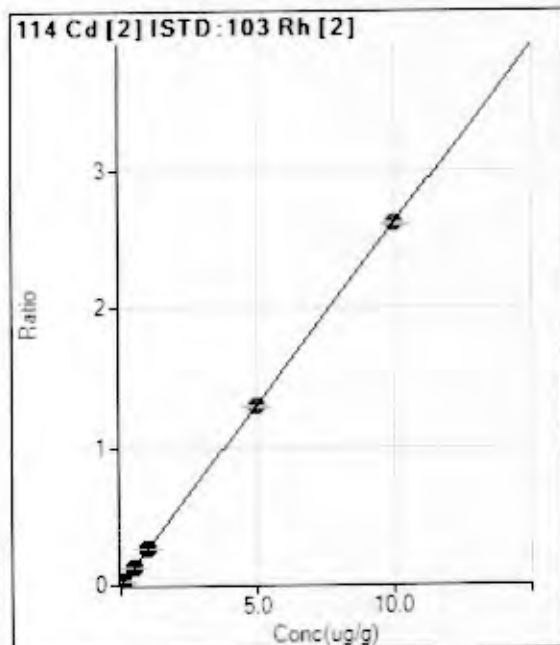
$$BEC = 7.958E-06$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	3.33	0.0000	P	173.2
2	<input type="checkbox"/>	0.001	0.001	426.69	0.0009	P	10.0
3	<input type="checkbox"/>	0.005	0.005	2110.22	0.0042	P	4.6
4	<input type="checkbox"/>	0.010	0.010	4165.13	0.0085	P	1.1
5	<input type="checkbox"/>	0.050	0.049	19838.79	0.0417	P	3.0
6	<input type="checkbox"/>	0.100	0.099	38276.08	0.0836	P	2.3
7	<input type="checkbox"/>	0.500	0.499	182284.08	0.4221	P	0.5
8	<input type="checkbox"/>	1.000	1.001	359024.89	0.8468	P	0.6
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D



$$y = 0.2603 * x + 2.2190E-006$$

$$R = 1.0000$$

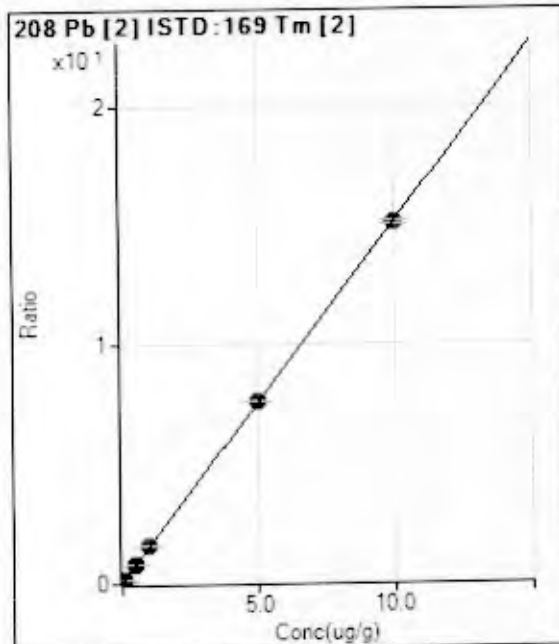
$$DL = 4.43E-05$$

$$BEC = 8.526E-06$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	1.11	0.0000	P	173.2
2	<input type="checkbox"/>	0.010	0.010	1286.77	0.0026	P	9.8
3	<input type="checkbox"/>	0.050	0.048	6284.75	0.0126	P	2.3
4	<input type="checkbox"/>	0.100	0.100	12728.52	0.0259	P	1.3
5	<input type="checkbox"/>	0.500	0.489	60569.44	0.1272	P	1.5
6	<input type="checkbox"/>	1.000	0.987	117665.22	0.2569	P	1.0
7	<input type="checkbox"/>	5.000	4.975	559056.26	1.2947	A	0.7
8	<input type="checkbox"/>	10.00	10.014	1105004.2	2.6063	A	0.5
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 1.5130 * x + 1.4688E-004$$

$$R = 1.0000$$

$$DL = 5.289E-05$$

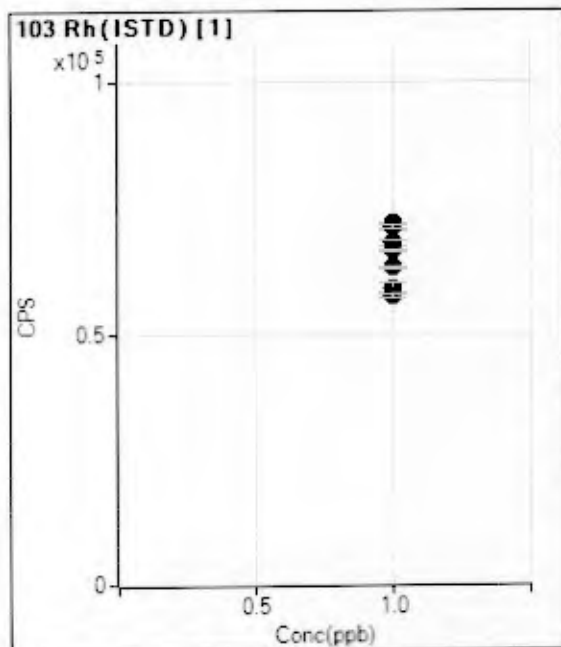
$$BEC = 9.708E-05$$

Weight: None

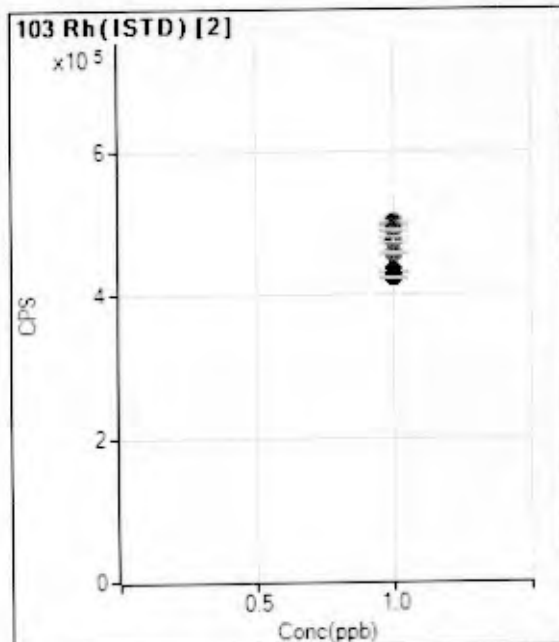
Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	88.90	0.0001	P	18.2
2	<input type="checkbox"/>	0.010	0.011	10045.02	0.0165	P	1.1
3	<input type="checkbox"/>	0.050	0.055	50305.42	0.0831	P	1.3
4	<input type="checkbox"/>	0.100	0.107	97374.72	0.1622	P	0.4
5	<input type="checkbox"/>	0.500	0.536	468928.14	0.8105	P	0.7
6	<input type="checkbox"/>	1.000	1.037	890097.53	1.5698	A	0.3
7	<input type="checkbox"/>	5.000	5.028	4223603.47	7.6074	A	0.4
8	<input type="checkbox"/>	10.00	9.980	8409949.19	15.100	A	1.1
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D

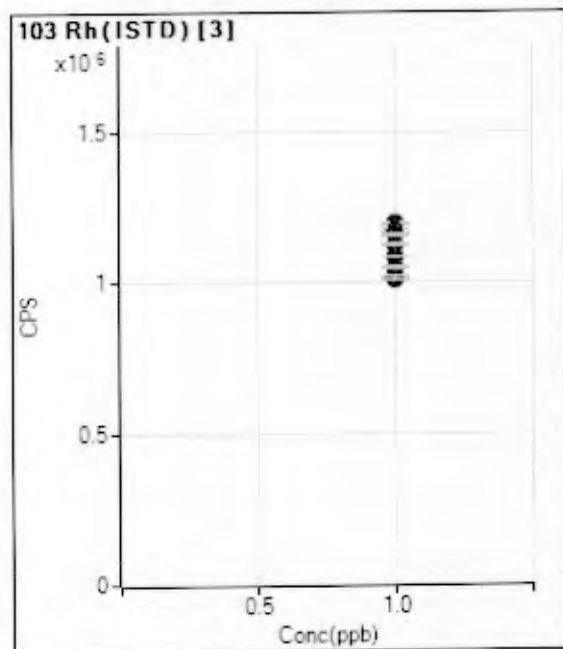


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		71290.21		P	2.2
2	<input type="checkbox"/>	1.000		71870.49		P	0.7
3	<input type="checkbox"/>	1.000		71183.10		P	0.9
4	<input type="checkbox"/>	1.000		68055.09		P	1.5
5	<input type="checkbox"/>	1.000		66484.69		P	0.9
6	<input type="checkbox"/>	1.000		63126.13		P	0.5
7	<input type="checkbox"/>	1.000		59181.44		P	2.8
8	<input type="checkbox"/>	1.000		57484.58		P	0.9
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

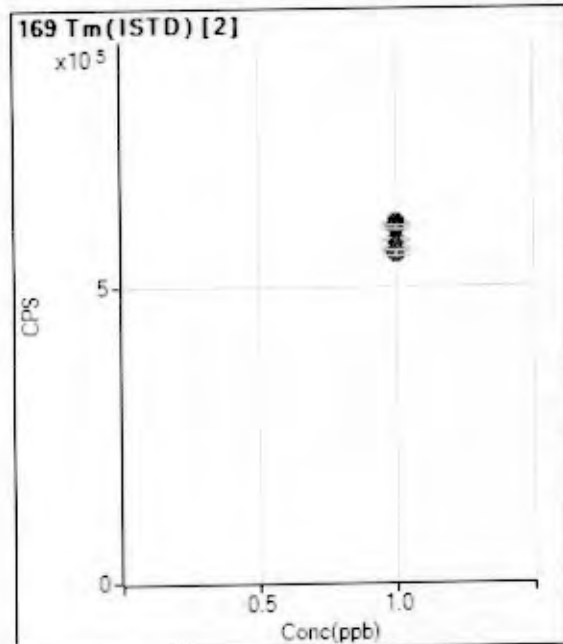


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		499723.08		A	0.9
2	<input type="checkbox"/>	1.000		501199.34		A	0.5
3	<input type="checkbox"/>	1.000		500619.82		A	0.8
4	<input type="checkbox"/>	1.000		491042.90		A	0.5
5	<input type="checkbox"/>	1.000		476251.22		A	1.5
6	<input type="checkbox"/>	1.000		457970.85		A	0.7
7	<input type="checkbox"/>	1.000		431811.10		P	0.7
8	<input type="checkbox"/>	1.000		423982.98		P	0.8
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for 1000MIX.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		1196280.56		A	0.8
2	<input type="checkbox"/>	1.000		1171207.12		A	1.0
3	<input type="checkbox"/>	1.000		1157454.03		A	0.8
4	<input type="checkbox"/>	1.000		1124168.73		A	0.7
5	<input type="checkbox"/>	1.000		1083541.83		A	0.1
6	<input type="checkbox"/>	1.000		1047535.32		A	0.8
7	<input type="checkbox"/>	1.000		1009586.48		A	0.9
8	<input type="checkbox"/>	1.000		1014556.43		A	1.0
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		604953.55		A	0.4
2	<input type="checkbox"/>	1.000		608917.33		A	0.5
3	<input type="checkbox"/>	1.000		605151.66		A	0.5
4	<input type="checkbox"/>	1.000		600172.10		A	0.8
5	<input type="checkbox"/>	1.000		578588.38		A	0.3
6	<input type="checkbox"/>	1.000		567010.03		A	0.5
7	<input type="checkbox"/>	1.000		555195.47		A	0.6
8	<input type="checkbox"/>	1.000		556979.76		A	1.4
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

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Continuing Calibration Data

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ICPMS 7700x DATA REPORT

File Name ICV.D
File Path D:\data\2131018.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/18/2013 15:45
Sample Name 100 ppb (10 ppb Ag)
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.100	ug/g	1.31	96,525.02	2.168E-01	Pulse	0.30	3
Cu	65	103	2	0.101	ug/g	0.59	131,393.73	2.951E-01	Pulse	0.30	3
Zn	66	103	2	0.100	ug/g	0.48	33,431.22	7.509E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.62	37,428.36	8.407E-02	Pulse	0.30	3
Cd	114	103	2	0.100	ug/g	0.09	115,602.07	2.597E-01	Pulse	0.30	3
Pb	208	169	2	0.104	ug/g	0.57	882,072.24	1.574E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	60,747.96	0.75	85.2	Pulse	0.30	3
2	Rh	103	445,200.11	0.44	89.1	Pulse	0.30	3
3	Rh	103	1,028,046.68	1.97	85.9	Analog	0.30	3
2	Tm	169	560,528.25	0.63	92.7	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV.D
File Path D:\data\2131018.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/18/2013 21:33
Sample Name 1000 PPB
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.100	ug/g	1.91	90,332.96	2.156E-01	Pulse	0.30	3
Cu	65	103	2	0.102	ug/g	1.06	125,119.35	2.987E-01	Pulse	0.30	3
Zn	66	103	2	0.100	ug/g	2.42	31,494.36	7.518E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.83	35,824.98	8.552E-02	Pulse	0.30	3
Cd	114	103	2	0.098	ug/g	0.79	107,172.22	2.558E-01	Pulse	0.30	3
Pb	208	169	2	0.104	ug/g	0.18	826,868.71	1.570E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	52,547.71	1.36	73.7	Pulse	0.30	3
2	Rh	103	418,935.13	0.26	83.8	Pulse	0.30	3
3	Rh	103	942,802.20	0.13	78.8	Analog	0.30	3
2	Tm	169	526,822.10	0.37	87.1	Analog	0.30	3

PHYSIS

Instrument Run Log

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	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1		Keyword		CALBEG	Start of CALIB									
2	C:\CPMH\1\METHODS\Physis.m	Sample	1101	Rinse			1.000							
3	C:\CPMH\1\METHODS\Physis.m	CalBk	1101	5MIX	0 ppb mix	0 ng	0 ng Ag							
4	C:\CPMH\1\METHODS\Physis.m	CalStd	1102	1MIX	1 ppb mix	10 ng	1 ng Ag							
5	C:\CPMH\1\METHODS\Physis.m	CalStd	1103	5MIX	5 ppb mix	50 ng	5 ng Ag							
6	C:\CPMH\1\METHODS\Physis.m	CalStd	1104	10MIX	10 ppb mix	100 ng	10 ng Ag							
7	C:\CPMH\1\METHODS\Physis.m	CalStd	1105	50MIX	50 ppb mix	500 ng	50 ng Ag							
8	C:\CPMH\1\METHODS\Physis.m	CalStd	1106	100MIX	100 ppb mix	1000 ng	100 ng Ag							
9	C:\CPMH\1\METHODS\Physis.m	CalStd	1107	500MIX	500 ppb mix	5000 ng	500 ng Ag							
10	C:\CPMH\1\METHODS\Physis.m	CalStd	1108	1000MIX	1000 ppb mix	10000 ng	1000 ng Ag							
11	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse1			1.000							
12	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse2			1.000							
13	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse3			1.000							
14	C:\CPMH\1\METHODS\Physis.m	Sample	1201	ICV	100 ppb (10 ppb Ag)		1.000E-01							
15	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse4			1.000							
16	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse5			1.000							
17	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse6			1.000							
18		Keyword		CALEND	End of CALIB									
19		Keyword		SAMPLBEG	Start of SMPL									
20	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse7			1.000							
21	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse8			1.000							
22	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse9			1.000							
23	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse10			1.000							
24	C:\CPMH\1\METHODS\Physis.m	Sample	2101	22481	QAQC Procedural Blank B1	22481.NA.B1.10/18/2013.E-6009	10.00							
25	C:\CPMH\1\METHODS\Physis.m	Sample	2102	22482	B13-8013	22482.NA.R1.10/18/2013.E-6009	26.75							
26	C:\CPMH\1\METHODS\Physis.m	Sample	2103	22482r2	B13-6013 Dup	22482.NA.R2.10/18/2013.E-6009	23.98							
27	C:\CPMH\1\METHODS\Physis.m	Sample	2104	22483	B13-8014	22483.NA.R1.10/18/2013.E-6009	22.38							
28	C:\CPMH\1\METHODS\Physis.m	Sample	2105	22484	B13-8028	22484.NA.R1.10/18/2013.E-6009	21.62							
29	C:\CPMH\1\METHODS\Physis.m	Sample	2106	22485	B13-8030	22485.NA.R1.10/18/2013.E-6009	15.70							
30	C:\CPMH\1\METHODS\Physis.m	Sample	2107	22486	B13-8036	22486.NA.R1.10/18/2013.E-6009	16.58							
31	C:\CPMH\1\METHODS\Physis.m	Sample	2108	22487	B13-8038	22487.NA.R1.10/18/2013.E-6009	19.39							
32	C:\CPMH\1\METHODS\Physis.m	Sample	2109	22488	B13-8040	22488.NA.R1.10/18/2013.E-6009	26.91							
33	C:\CPMH\1\METHODS\Physis.m	Sample	2110	22489	B13-8052	22489.NA.R1.10/18/2013.E-6009	21.47							
34	C:\CPMH\1\METHODS\Physis.m	Sample	2111	22490	B13-8050	22490.NA.R1.10/18/2013.E-6009	20.21							
35	C:\CPMH\1\METHODS\Physis.m	Sample	2112	22491	B13-8078	22491.NA.R1.10/18/2013.E-6009	13.32							
36	C:\CPMH\1\METHODS\Physis.m	Sample	2201	22481bx1	QAQC Procedural Blank BS1	22481.NA.BS1.10/18/2013.E-6009	1.000							
37	C:\CPMH\1\METHODS\Physis.m	Sample	2202	22481bx2	QAQC Procedural Blank BS2	22481.NA.BS2.10/18/2013.E-6009	1.000							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
38	C:\CPMH\1\METHODS\IPhysis.m	Sample	2203	22482.ms	B13-8013 MS	22482.NA.MS1,10/18/2013,E-8008	1.000							
39	C:\CPMH\1\METHODS\IPhysis.m	Sample	2204	22482.ms1	B13-8013 MSD	22482.NA.MS2,10/18/2013,E-8008	1.000							
40	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse11			1.000							
41	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse12			1.000							
42	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse13			1.000							
43	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse14			1.000							
44	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse15			1.000							
45	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse16			1.000							
46	C:\CPMH\1\METHODS\IPhysis.m	Sample	2101	22544	QAQC Procedural Blank B1	22544.NA.B1,10/18/2013,E-6010	10.00							
47	C:\CPMH\1\METHODS\IPhysis.m	Sample	2205	22546	B13-8109 Grab	22546.NA.R1,10/18/2013,E-6010	18.78							
48	C:\CPMH\1\METHODS\IPhysis.m	Sample	2208	22546r2	B13-8109 Grab Dup	22546.NA.R2,10/18/2013,E-6010	19.19							
49	C:\CPMH\1\METHODS\IPhysis.m	Sample	2207	22547	B13-6116 Grab	22547.NA.R1,10/18/2013,E-6010	24.19							
50	C:\CPMH\1\METHODS\IPhysis.m	Sample	2206	22548	B13-8122 Grab	22548.NA.R1,10/18/2013,E-6010	17.80							
51	C:\CPMH\1\METHODS\IPhysis.m	Sample	2209	22549	B13-8033 Grab	22549.NA.R1,10/18/2013,E-6010	25.85							
52	C:\CPMH\1\METHODS\IPhysis.m	Sample	2210	22550	B13-8093 Grab	22550.NA.R1,10/18/2013,E-6010	15.76							
53	C:\CPMH\1\METHODS\IPhysis.m	Sample	2211	22551	B13-6100 Grab	22551.NA.R1,10/18/2013,E-6010	49.55							
54	C:\CPMH\1\METHODS\IPhysis.m	Sample	2212	22552	B13-8099 Grab	22552.NA.R1,10/18/2013,E-6010	23.48							
55	C:\CPMH\1\METHODS\IPhysis.m	Sample	2301	22553	B13-8098 Grab	22553.NA.R1,10/18/2013,E-6010	18.03							
56	C:\CPMH\1\METHODS\IPhysis.m	Sample	2302	22554	B13-8096 Grab	22554.NA.R1,10/18/2013,E-6010	18.48							
57	C:\CPMH\1\METHODS\IPhysis.m	Sample	2303	22555	B13-8095 Grab	22555.NA.R1,10/18/2013,E-6010	34.33							
58	C:\CPMH\1\METHODS\IPhysis.m	Sample	2201	22544bs1	QAQC Procedural Blank BS1	22544.NA.BS1,10/18/2013,E-6010	1.000							
59	C:\CPMH\1\METHODS\IPhysis.m	Sample	2202	22544bs2	QAQC Procedural Blank BS2	22544.NA.BS2,10/18/2013,E-6010	1.000							
60	C:\CPMH\1\METHODS\IPhysis.m	Sample	2304	22546.ms	B13-8109 Grab MS	22546.NA.MS1,10/18/2013,E-6010	1.000							
61	C:\CPMH\1\METHODS\IPhysis.m	Sample	2305	22546.ms1	B13-8109 Grab MSD	22546.NA.MS2,10/18/2013,E-6010	1.000							
62	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse17			1.000							
63	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse18			1.000							
64	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse19			1.000							
65	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse20			1.000							
66	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse21			1.000							
67	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse22			1.000							
68	C:\CPMH\1\METHODS\IPhysis.m	Sample	1	Rinse23			1.000							
69	C:\CPMH\1\METHODS\IPhysis.m	Sample	2101	22545	QAQC Procedural Blank B1	22545.NA.B1,10/18/2013,E-6011	10.00							
70	C:\CPMH\1\METHODS\IPhysis.m	Sample	2101	22570	QAQC Procedural Blank B1	22570.NA.B1,10/18/2013,E-6011	10.00							
71	C:\CPMH\1\METHODS\IPhysis.m	Sample	2306	22556	B13-8067 Grab	22556.NA.R1,10/18/2013,E-6011	9.067							
72	C:\CPMH\1\METHODS\IPhysis.m	Sample	2307	22557	B13-8073 Grab	22557.NA.R1,10/18/2013,E-6011	18.14							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
73	C:\CPMH\1\METHODS (Physis.m)	Sample	2308	22571	B13-8058 Grab	22571,NA,R1,10/18/2013,E-6011,	17.33							
74	C:\CPMH\1\METHODS (Physis.m)	Sample	2309	22571/2	B13-8058 Grab Dup	22571,NA,R2,10/18/2013,E-6011,	21.69							
75	C:\CPMH\1\METHODS (Physis.m)	Sample	2310	22572	B13-8086 Grab	22572,NA,R1,10/18/2013,E-6011,	18.98							
76	C:\CPMH\1\METHODS (Physis.m)	Sample	2311	22573	B13-8060 Grab	22573,NA,R1,10/18/2013,E-6011,	29.35							
77	C:\CPMH\1\METHODS (Physis.m)	Sample	2312	22574	B13-8045 Grab	22574,NA,R1,10/18/2013,E-6011,	28.71							
78	C:\CPMH\1\METHODS (Physis.m)	Sample	2401	22575	B13-8031 Grab	22575,NA,R1,10/18/2013,E-6011,	19.34							
79	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	22545bs1	QAQC Procedural Blank BS1	22545,NA,BS1,10/18/2013,E-6011,	1.000							
80	C:\CPMH\1\METHODS (Physis.m)	Sample	2202	22545bs2	QAQC Procedural Blank BS2	22545,NA,BS2,10/18/2013,E-6011,	1.000							
81	C:\CPMH\1\METHODS (Physis.m)	Sample	2201	22570bs1	QAQC Procedural Blank BS1	22570,NA,BS1,10/18/2013,E-6011,	1.000							
82	C:\CPMH\1\METHODS (Physis.m)	Sample	2202	22570bs2	QAQC Procedural Blank BS2	22570,NA,BS2,10/18/2013,E-6011,	1.000							
83	C:\CPMH\1\METHODS (Physis.m)	Sample	2402	22571ms	B13-8058 Grab MS	22571,NA,MS1,10/18/2013,E-6011,	1.000							
84	C:\CPMH\1\METHODS (Physis.m)	Sample	2403	22571msd	B13-8058 Grab MSD	22571,NA,MS2,10/18/2013,E-6011,	1.000							
85	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse24			1.000							
86	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse25			1.000							
87	C:\CPMH\1\METHODS (Physis.m)	Sample	1106	CCV	1000 PPB		1.000E-21							
88	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse26			1.000							
89	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse27			1.000							
90	C:\CPMH\1\METHODS (Physis.m)	Sample	1	Rinse28			1.000							
91		Keyword		SMPLEND	End of SMPL									
92		Keyword		END	End of Sequence									
93		Keyword		BLKBEG	Start of BLANK									
94		Keyword		BLKEND	End of BLANK									
95		Keyword		ERRBEG	Start of ERRTERM									
96		Keyword		ERREND	End of ERRTERM									

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Initial Calibration Data

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Method: EPA 245.7 Mercury
Calibration data 100413

Calib Level Standard Raw Counts

Std01Rep1	0	-98
Std01Rep2	0	-98
Std01Rep3	0	-101
Std02Rep1	1	-72
Std02Rep2	1	-60
Std02Rep3	1	-56
Std03Rep1	10	127
Std03Rep2	10	142
Std03Rep3	10	128
Std04Rep1	100	2213
Std04Rep2	100	2230
Std04Rep3	100	2210
Std05Rep1	1000	23365
Std05Rep2	1000	23386
Std05Rep3	1000	23711
Std06Rep1	10000	239584
Std06Rep2	10000	240381
Std06Rep3	10000	239474

Note: Above calibration data used for the following project:

1307002-002
1307002-004
1307002-006
1307002-008
1307002-010
1307002-012
1307002-014
1307002-016
1307002-018

Continuing Calibration Data / Instrument Run Log

ENVIRONMENTAL LABORATORIES, INC.

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Sequence# 102213 for PID: 1307002-010, 012, 014

Sample ID	Date	Method
ICV	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22481BLK	22-Oct-13	2457TST
BS1	22-Oct-13	2457TST
BS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22482r1	22-Oct-13	2457TST
22482r2	22-Oct-13	2457TST
22482MS1	22-Oct-13	2457TST
22482MS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22483	22-Oct-13	2457TST
22484	22-Oct-13	2457TST
22485	22-Oct-13	2457TST
22486	22-Oct-13	2457TST
22487	22-Oct-13	2457TST
22488	22-Oct-13	2457TST
22489	22-Oct-13	2457TST
22490	22-Oct-13	2457TST
22491	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22493CRM1	22-Oct-13	2457TST
22494CRM2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22544BLK	22-Oct-13	2457TST
BS1	22-Oct-13	2457TST
BS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22546r1	22-Oct-13	2457TST
22546r2	22-Oct-13	2457TST
22546MS1	22-Oct-13	2457TST
22546MS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22547	22-Oct-13	2457TST
22548	22-Oct-13	2457TST
22549	22-Oct-13	2457TST
CCV2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22550	22-Oct-13	2457TST
22551	22-Oct-13	2457TST
22552	22-Oct-13	2457TST

22553	22-Oct-13	2457TST
22554	22-Oct-13	2457TST
22555	22-Oct-13	2457TST
22559CRM1	22-Oct-13	2457TST
22561CRM2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
Blank	22-Oct-13	2457TST
BS1	22-Oct-13	2457TST
BS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22556r1	22-Oct-13	2457TST
22556r1	22-Oct-13	2457TST
22556MS1	22-Oct-13	2457TST
CCV3	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22556MS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22557	22-Oct-13	2457TST
CRM1	22-Oct-13	2457TST
CRM2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22571r1	22-Oct-13	2457TST
22571r2	22-Oct-13	2457TST
22571MS1	22-Oct-13	2457TST
22571MS2	22-Oct-13	2457TST
Ck1Blank	22-Oct-13	2457TST
22572	22-Oct-13	2457TST
22573	22-Oct-13	2457TST
22574	22-Oct-13	2457TST
22575	22-Oct-13	2457TST
CCV4	22-Oct-13	2457TST

QAQC	Date	Method	True Value (ppt)	Result (ppt)
ICV	22-Oct-13	2457TST	1000	1020
CCV2	22-Oct-13	2457TST	1000	938
CCV3	22-Oct-13	2457TST	1000	873
CCV4	22-Oct-13	2457TST	1000	870



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Extraction/Preparation Log

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

NOVEMBER 12, 2013

EXTRACTION OF AMEC-RHMP SEDIMENTS FOR FIPRONIL, OCPs, PCBs, AROCLORS, PBDES, PAHs, PYRUTHAZOLES, TOXAPHENE. SAMPLES WERE RUN FOR PVE/PBDE/FIP AND THEN COLUMN CLEANED USING SILICA/ALUMINA ADSORBENTS.

METHOD: EPA 8270 C

PSID	SAMPLE DESCRIPTION	SAMPLE WT(g)	CONCENTRATION	Q/W	MULTIPLIER
BI (22570)	BLANK	—	—	—	1.0
BS1	BLANK SPIKE	—	—	—	1.0
BS2	BLANK SPIKE DUP	—	—	—	1.0
22571 MS1	8058	15.3316	—	.6283	0.1038
22571 MS2	↓	15.5824	—	.6283	0.1021
22576	CRM-SM -1944	0.9913	—	—	1.009
22551	8100	16.3669	—	.4206	0.1453
22552	8099	15.0395	—	.45176	0.1285
22553	8098	15.2679	—	.6756	0.0969
22554	8096	16.0473	—	.6747	0.0924
22555	8095	15.0132	—	.3418	0.1949
22571	8098	15.4139	—	.6283	0.1033
22571 R2	↓	15.7976	—	.6283	0.1061 0.100
22572	8068	15.0055	—	.7049	0.0945
22573	8090	15.7899	—	.3451	0.1835
22574	8045	15.4054	—	.4793	0.1354
22575	8031	15.4765	—	.6575	0.0983
22599	8018	15.1830	—	.7408	0.0889
22600	8053	15.6792	—	.76932	0.0920
22556	8087	15.6922	—	.7429	0.0858
22557	8073	15.9768	—	.6462	0.0912

A) 100ml CHC RS (4000ng/mL, p274)
 100ml PAH RS (1000ng/mL, p244)
 100ml PBDE RS (500ng/mL, p280)
 100ml CHC IS (1500ng/mL, p276)
 100ml PAH IS (200ng/mL, p268)

B) 1.0ml Fipronil Mix (1000ng/mL, p270)
 1.0ml OCP Mix (1000ng/mL, p276)
 100ml PDMU (10000ng/mL, p272)
 200ml PCB MIX (200ng/mL, p255)
 200ml PCB+6 MIX (200ng/mL, p259)
 100ml PBDE MIX (100ng/mL, p262)
 100ml PDMU MIX (1000ng/mL, p263)

Re extraction of AMEC-RHMP sediments for FIPRONILS, OCPs, PCBs, AROCLORS, PBDES, PAHs, PYRETHROIDS, & TOXAPHENE.

Method: EPA 8270 C

PSID:	SEDWT(g):	Na_2SO_4 (g):	Leftover(g):	Net Sample wt(g):	Comments:	RLU	Multi
B1				A	A	—	10
BS1					B	—	10
BS2					B	—	10
2257MS1	15.059	33.495	1.804	6.7927	B	0.6283	0.2343
2257MS2	15.315	36.727	.97	7.3106	B	0.6283	0.2177
CRM				1.083-0.5415			1.8467
22551	15.138	40.519	1.480	7.1276		0.4206	0.3335
22552	15.101	39.969	1.467	7.1050		0.5176	0.2719
22553	15.526	35.963	.592	7.5371		0.6756	0.1963
22554	15.621	24.537	1.005	6.9301		0.6747	0.2138
22555	47.14.705	37.058	1.865	6.7390		0.3418	0.4341
22571	15.484	36.407	3.116	6.5890		0.6283	0.2415
22571R2	15.163	43.764	1.768	7.1128		0.6283	0.2237
22572	15.446	29.430	.870	7.2425		0.7044	0.1958
22573	15.265	53.781	1.297	7.3754		0.3451	0.3558
22574	15.390	45.150	1.351	7.3456	C	0.4793	0.2840
22575	15.168	20.613	1.684	5.2384	D, E	0.6575	0.2903
22599	15.809	27.702	.495	7.5755		0.7581	0.1788
22400	15.593	30.461	1.409	7.0674		0.6432	0.2044
22556	14.798	19.581	.861	6.3764		0.7425	0.2111
22557	15.386	20.184	1.103	5.9244	W, E	0.6862	0.2459

200 800ng,
A) 100 mL CHC RS (400ng, p. 334)
200 mL PBDE RS (100ng,)
200 mL PAH RS (2000ng, p. 320)

B) 2.0 mL OCP (2000ng, p. 318)
2.0 mL TOX (20,000ng, p. 242)
2.0 mL Fipronil (2000ng, p. 294)
2.0 mL PAH (2000ng, p. 331)
2.0 mL Pyrethroids (2000ng, p. 337)
400 mL PCB mix (400ng, p. 332)

e) Dried blowing down

Organics - GC-MS

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Innovative Analytical Solutions
(EPA 8270C)

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Instrument Run Log

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

2014 May 30 1739 Sequence Log .LOG
 Starting sequence Fri May 30 17:39:40 2014

Instrument Name: GCMS3

Sequence File: D:\MassHunter\GCMS\1\sequence\Q3_140524 EI 0-6004.sequence.xml

Comment:

Operator:

Data Path: D:\MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\

Method Path: D:\MassHunter\GCMS\1\methods\checkout\

Line	Type	Vials	DataFile	Sample Name
Acquisition Method: EI Scan. M				
48)	Sample	111	TOX1000	TOX1000
49)	Sample	112	TOX2500	TOX2500
50)	Sample	113	TOX5000	TOX5000
51)	Sample	114	TOX7500	TOX7500
52)	Sample	115	TOX10000	TOX10000
53)	Sample	121	PYR25	PYR25
54)	Sample	122	PYR50	PYR50
55)	Sample	123	PYR100	PYR100
56)	Sample	124	PYR250	PYR250
57)	Sample	125	PYR500	PYR500
58)	Sample	131	FIP+RES25	FIP+RES25
59)	Sample	132	FIP+RES50	FIP+RES50
60)	Sample	133	FIP+RES100	FIP+RES100
Sequence Table edit performed Sat May 31 16:12:21 2014				
61)	Sample	134	FIP+RES250	FIP+RES250
62)	Sample	135	FIP+RES500	FIP+RES500
Acquisition Method: EI_HEX. M				
63)	Sample	141	HEX6	HEX6
Acquisition Method: EI Scan. M				
64)	Sample	91	OCP_PAH_PCB_SPE..._100	OCP_PAH_PCB_SPEX500_100
Acquisition Method: EI_HEX. M				
65)	Sample	141	HEX7	HEX7
Acquisition Method: EI Scan. M				
66)	Sample	1	B1_6004CC	B1_6004CC
Comment: 22544, NA, B1, 5/16/2014, 0-6004,				
67)	Sample	2	BS1_6004CC	BS1_6004CC
Comment: 22544, NA, BS1, 5/16/2014, 0-6004,				
68)	Sample	3	BS2_6004CC	BS2_6004CC
Comment: 22544, NA, BS2, 5/16/2014, 0-6004,				
69)	Sample	4	22571MS1CC	22571MS1CC
Comment: 22571, NA, MS1, 5/16/2014, 0-6004,				
70)	Sample	5	22571MS2CC	22571MS2CC
Comment: 22571, NA, MS2, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
71)	Sample	141	HEX3CC	HEX3CC
Acquisition Method: EI Scan. M				
72)	Sample	6	22576CC	22576CC
Comment: 22576, NA, CRM1, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
73)	Sample	141	HEX4CC	HEX4CC
Acquisition Method: EI Scan. M				
74)	Sample	7	22551CC	22551CC

2014 May 30 1739 Sequence Log . LOG

75)	Comment:	22551, NA, R1, 5/16/2014, 0-6004,	
	Sample	8	22552CC
	Comment:	22552, NA, R1, 5/16/2014, 0-6004,	22552CC
76)	Sample	9	22553CC
	Comment:	22553, NA, R1, 5/16/2014, 0-6004,	22553CC
77)	Sample	10	22554CC
	Comment:	22554, NA, R1, 5/16/2014, 0-6004,	22554CC
78)	Sample	103	PAH500CCV2
79)	Sample	105	OCP500_PCB100CCV2

Acqui si ti on Method: EI_HEX. M

80)	Sample	141	HEX52	HEX52
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Acqui si ti on Method: EI Scan. M

81)	Sample	11	22555CC	22555CC
	Comment:	22555, NA, R1, 5/16/2014, 0-6004,		
82)	Sample	12	22556CC	22556CC
	Comment:	22556, NA, R1, 5/16/2014, 0-6004,		
83)	Sample	21	22557CC	22557CC
	Comment:	22557, NA, R1, 5/16/2014, 0-6004,		
84)	Sample	13	22571CC	22571CC
	Comment:	22571, NA, R1, 5/16/2014, 0-6004,		
85)	Sample	14	22571R2CC	22571R2CC
	Comment:	22571, NA, R2, 5/16/2014, 0-6004,		
86)	Sample	15	22572CC	22572CC
	Comment:	22572, NA, R1, 5/16/2014, 0-6004,		
87)	Sample	16	22573CC	22573CC
	Comment:	22573, NA, R1, 5/16/2014, 0-6004,		
88)	Sample	17	22574CC	22574CC
	Comment:	22574, NA, R1, 5/16/2014, 0-6004,		
89)	Sample	22	22575CC	22575CC
	Comment:	22575, NA, R1, 5/16/2014, 0-6004,		
90)	Sample	18	22599CC	22599CC
	Comment:	22599, NA, R1, 5/16/2014, 0-6004,		
91)	Sample	19	22600CC	22600CC
	Comment:	22600, NA, R1, 5/16/2014, 0-6004,		
92)	Sample	103	PAH500FCV2	PAH500FCV2
93)	Sample	105	OCP500_PCB100FCV2	OCP500_PCB100FCV2
94)	Sample	61	PYR500CCV	PYR500CCV
95)	Sample	62	RES500CCV	RES500CCV

Acqui si ti on Method: EI_HEX. M

96)	Sample	141	HEX8	HEX8
-----	--------	-----	------	------

Acqui si ti on Method: EI Scan. M

97)	Sample	31	26212	26212
	Comment:	26212, NA, R1, 5/28/2014, 0-6016,		
98)	Sample	32	26213	26213
	Comment:	26213, NA, R1, 5/28/2014, 0-6016,		
99)	Sample	33	26214	26214
	Comment:	26214, NA, R1, 5/28/2014, 0-6016,		
100)	Sample	34	26215	26215
	Comment:	26215, NA, R1, 5/28/2014, 0-6016,		
101)	Sample	35	26781	26781
	Comment:	26781, NA, R1, 5/28/2014, 0-6016,		
102)	Sample	36	26782	26782
	Comment:	26782, NA, R1, 5/28/2014, 0-6016,		
103)	Sample	37	26783	26783
	Comment:	26783, NA, R1, 5/28/2014, 0-6016,		
104)	Sample	38	26784	26784
	Comment:	26784, NA, R1, 5/28/2014, 0-6016,		
105)	Sample	39	26785	26785
	Comment:	26785, NA, R1, 5/28/2014, 0-6016,		

2014 May 30 1739 Sequence Log .LOG
 Sequence Table edit performed Tue Jun 03 10:46:33 2014

106) Sample	40	26786	26786
Comment: 26786, NA, R1, 5/28/2014, 0-6016,			
107) Sample	41	26787	26787
Comment: 26787, NA, R1, 5/28/2014, 0-6016,			
108) Sample	61	PYR500FCV	PYR500FCV
109) Sample	62	RES500FCV	RES500FCV
110) Sample	121	PYR25_POST	PYR25_POST
111) Sample	122	PYR50_POST	PYR50_POST
112) Sample	123	PYR100_POST	PYR100_POST
113) Sample	124	PYR250_POST	PYR250_POST

Sequence completed Tue Jun 03 23:55:35 2014

D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 30 1739 Quality Log.
 D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 30 1739 Sequence Log

PHYSIS

Instrument Tune Report

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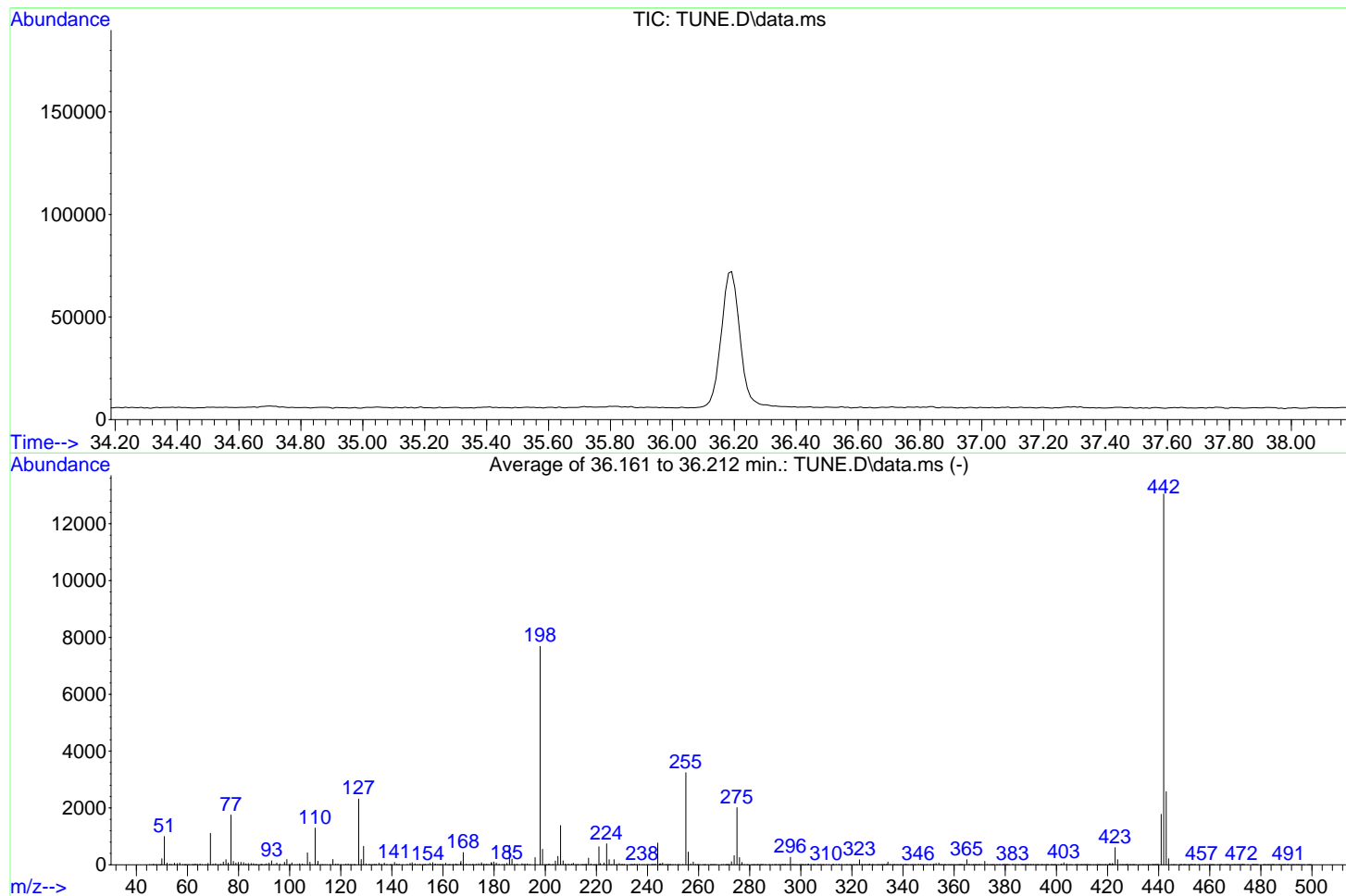
ENVIRONMENTAL LABORATORIES, INC.

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Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
Data File : TUNE.D
Acq On : 27 May 2014 11:53 pm
Operator :
Sample : TUNE
Misc :
ALS Vial : 142 Sample Multiplier: 1

Integration File: events.e

Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_DDMU_140502.M
Title : CHCs
Last Update : Fri May 09 07:23:47 2014



Spectrum Information: Average of 36.161 to 36.212 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	30.1	2271	PASS
68	69	0.00	2	1.9	21	PASS
69	198	0.00	100	14.4	1087	PASS
70	69	0.00	2	1.4	15	PASS
127	198	40	60	42.4	3204	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	7551	PASS
199	198	5	9	7.1	536	PASS
275	198	10	30	26.2	1978	PASS
365	198	1	100	2.4	182	PASS
441	443	0.01	100	68.9	1771	PASS
442	198	40	300	171.7	12966	PASS
443	442	17	23	19.8	2572	PASS

Chlorinated Pesticides

TERRA ENVIRONMENTAL SERVICES, INC.

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PHYSIS

Summary of Internal Standards

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	4,4'-Dibromobiphenyl		2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time	Response	Retention Time
Spex_500ICV	2139944	39.837	398788	50.837
B_4006	2566879	39.837	484540	50.854
BS1_6004	4210471	39.787	821390	50.829
BS2_6004	3374261	39.8	731522	50.831
22571MS1	3698138	39.787	752403	50.829
22571MS2	3355578	39.787	680281	50.83
22576	3417449	39.791	685000	50.859
22551	4757782	39.786	954041	50.83
22552	3231269	39.792	649342	50.829
22553	3960005	39.789	794491	50.829
22554	4131966	39.794	815763	50.829
22555	4414294	39.791	889837	50.827
22556	8129760	40.407	1682327	51.407
OCP500CCV	2427255	39.822	503919	50.855
22557	3355534	39.805	668147	50.827
22571	3700406	39.817	746576	50.832
22571R2	3018299	39.811	614076	50.831
22572	3029329	39.806	603112	50.831
22573	4417174	39.783	867354	50.826
22574	3042496	39.824	622937	50.831
22575	3534292	39.809	702445	50.829
22599	3090996	39.818	605961	50.828
22600	3374247	39.815	689019	50.83
OCP500FCV	2546636	39.831	465146	50.849

PHYSIS

Initial Calibration Data

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Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Method File : Q_OCP+3_140502.M
 Title : CHCs
 Last Update : Fri May 09 07:23:47 2014
 Response Via : Initial Calibration

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Calibration Files

1000=OCP1000.D 500 =OCP500.D 250 =OCP250.D 100 =OCP100.D 50 =OCP50.D 25 =OCP25.D

Compound		1000	500	250	100	50	25	Avg	%RSD

1) I	4,4'-Dibromobiphenyl	-----ISTD-----							
2) S	(TCMX)	0.391	0.417	0.444	0.425	0.439	0.389	0.417	5.60
3) S	(PCB030)	1.047	1.097	1.125	1.108	1.140	1.028	1.091	4.05
4)	BHC-alpha	0.307	0.296	0.298	0.268	0.272	0.246	0.281	8.17
5)	Hexachlorobenzene	0.861	0.888	0.915	0.892	0.875	0.845	0.879	2.79
6)	BHC-beta	0.075	0.069	0.075	0.082	0.108	0.136	0.091	28.49
7)	BHC-gamma	0.188	0.175	0.173	0.151	0.143	0.131	0.160	13.60
8)	BHC-delta	0.206	0.188	0.173	0.159	0.153	0.154	0.172	12.44
9)	Heptachlor	0.207	0.171	0.152	0.120	0.108	0.094	0.142	30.03
10)	Aldrin	0.215	0.205	0.201	0.198	0.191	0.169	0.196	7.86
11)	DCPA (Dacthal)	0.803	0.770	0.731	0.728	0.681	0.697	0.735	6.17
12)	Heptachlor epo...	0.314	0.292	0.273	0.267	0.255	0.245	0.274	9.27
13)	Oxychlordane	0.152	0.153	0.143	0.158	0.133	0.154	0.149	6.14
14) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
15) S	(PCB112)	4.607	4.679	4.627	4.539	4.519	4.478	4.575	1.65
16) S	(PCB198)	1.327	1.350	1.382	1.374	1.347	1.297	1.346	2.30
17)	Chlordane-gamma	2.205	2.054	1.946	1.784	1.660	1.655	1.884	11.83
18)	2,4'-DDE	5.495	5.396	5.226	4.964	4.646	4.711	5.073	7.00
19)	Endosulfan-I	0.349	0.327	0.323	0.302	0.314	0.396	0.335	9.99
20)	Chlordane-alpha	2.123	2.016	1.876	1.718	1.579	1.642	1.826	11.83
21)	trans-Nonachlor	2.396	2.229	2.068	1.844	1.624	1.643	1.967	16.08
22)	4,4'-DDE	3.951	3.815	3.677	3.497	3.225	3.230	3.566	8.47
23)	Dieldrin	0.511	0.489	0.476	0.448	0.448	0.389	0.460	9.22
24)	2,4'-DDD	6.376	5.884	5.359	5.025	4.669	5.360	5.445	11.18
25)	Perthane	1.068	0.909	0.768	0.638	0.539	0.629	0.758	E1 26.23
26)	Endrin	0.455	0.408	0.380	0.322	0.305	0.340	0.368	15.47
27)	Endosulfan-II	0.292	0.277	0.261	0.258	0.254	0.274	0.269	5.41
28)	4,4'-DDD	6.104	5.401	4.756	4.427	3.568	4.537	4.799	18.14
29)	2,4'-DDT	4.008	3.240	2.634	1.806	1.245	0.678	2.269	55.40
30)	cis-Nonachlor	2.340	2.191	2.025	1.777	1.521	1.626	1.914	16.96
31)	Endrin aldehyde	0.590	0.453	0.411	0.423	0.387	0.238	0.417	27.23
32)	Endosulfan sul...	0.950	0.841	0.768	0.684	0.585	0.700	0.755	17.06
33)	4,4'-DDT	3.280	2.276	1.614	0.863	0.466	0.124	1.437	83.09
34)	Endrin ketone	0.908	0.768	0.663	0.532	0.449	0.465	0.631	28.99
35)	Methoxychlor	5.539	3.649	2.536	1.381	0.752	0.247	2.351	84.66
36)	Dicofol	0.686	0.416	0.226	0.066			0.348	76.55
37)	Mirex	2.720	2.489	2.370	2.095	1.841	1.912	2.238	15.44

(#) = Out of Range

Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
Method File : Q_DDMU_140502.M
Title : CHCs
Last Update : Fri May 09 07:23:47 2014
Response Via : Initial Calibration

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Calibration Files

1000=OCP1000.D 500 =OCP500.D 250 =OCP250.D 100 =OCP100.D 50 =OCP50.D 25 =OCP25.D

	Compound	1000	500	250	100	50	25	Avg	%RSD
1) I	2,2',5,5'-Tetrabro...								
2)	4,4'-DDMU	6.781	6.515	6.177	5.575	5.137	5.179	5.894	11.85

(#) = Out of Range

PHYSIS

Continuing Calibration Data

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Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP_PAH_PCB_SPEX500_100.D
 Acq On : 31 May 2014 07:56 pm
 Operator :
 Sample : OCP_PAH_PCB_SPEX500_100
 Misc :
 ALS Vial : 91 Sample Multiplier: 1

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Quant Time: Jun 04 14:06:16 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_OCP+3_140502.M
 Quant Title : CHCs
 QLast Update : Fri May 09 07:23:47 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	39.837	312	2139944	1000.00		0.03
14) 2,2',5,5'-Tetrabromobi...	50.837	391	398788	1000.00		-0.02
System Monitoring Compounds						
2) (TCMX)	25.526	244	367901	412.05		-0.02
Spiked Amount	400.000		Recovery	=	103.01%	
3) (PCB030)	30.561	256	900731	385.79		-0.02
Spiked Amount	400.000		Recovery	=	96.45%	
15) (PCB112)	45.033	326	821063	450.06		-0.03
Spiked Amount	400.000		Recovery	=	112.52%	
16) (PCB198)	59.181	358	184223m	343.18		-0.01
Spiked Amount	400.000		Recovery	=	85.80%	
Target Compounds						
					Qvalue	
4) BHC-alpha	28.412	219	376506	578.29		97
5) Hexachlorobenzene	29.019	284	1139588	612.84		98
6) BHC-beta	30.584	219	184266	1160.81	#	90
7) BHC-gamma	30.812	219	242338m	614.20		
8) BHC-delta	32.751	219	209884m	489.14		
9) Heptachlor	36.081	272	246109	585.06		99
10) Aldrin	38.582	263	259808	572.59		97
11) DCPA (Dacthal)	39.718	301	975580	575.20		99
12) Heptachlor epoxide	41.562	353	374240	568.49		98
13) Oxychlordane	41.642	115	212252m	654.11		
17) Chlordane-gamma	43.321	373	523818	608.12		96
18) 2,4'-DDE	43.825	246	1312604	603.12		97
19) Endosulfan-I	44.153	241	79187	579.02		95
20) Chlordane-alpha	44.424	373	511438	614.60		97
21) trans-Nonachlor	44.816	409	573316	613.50		97
22) 4,4'-DDE	46.175	246	875991	562.16		97
23) Dieldrin	46.044	263	107616	535.00		97
24) 2,4'-DDD	46.735	235	1468256	591.81		99
25) Perthane	48.042	223	2093110	514.89		99
26) Endrin	47.565	263	90759	516.01	#	90
27) Endosulfan-II	48.268	241	54830	477.75		94
28) 4,4'-DDD	49.184	235	988451	420.84		98
29) 2,4'-DDT	49.316	235	883836m	650.81		
30) cis-Nonachlor	49.297	409	555867	608.37		97
31) Endrin aldehyde	49.635	345	131502	595.40		95
32) Endosulfan sulfate	51.342	272	186995	510.62		95
33) 4,4'-DDT	51.795	235	459534	515.16		96
34) Endrin ketone	54.513	317	170552	493.75		98
35) Methoxychlor	55.962	227	714830	501.80	#	96
36) Dicofol	55.872	139	27810m	265.69		
37) Mirex	58.344	272	572673	541.33		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP500_PCB100CCV.D
 Acq On : 29 May 2014 08:25 am
 Operator :
 Sample : OCP500_PCB100CCV
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Jun 04 14:10:03 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_OCP+3_140502.M
 Quant Title : CHCs
 QLast Update : Fri May 09 07:23:47 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	39.822	312	2427255	1000.00		0.02
14) 2,2',5,5'-Tetrabromobi...	50.855	391	503919	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)	25.542	244	433929	428.47		0.00
Spiked Amount	400.000		Recovery	=	107.12%	
3) (PCB030)	30.576	256	1167665	440.93		0.00
Spiked Amount	400.000		Recovery	=	110.23%	
15) (PCB112)	45.049	326	994864	431.56		-0.01
Spiked Amount	400.000		Recovery	=	107.89%	
16) (PCB198)	59.191	358	244215	360.02		0.00
Spiked Amount	400.000		Recovery	=	90.00%	
Target Compounds						
					Qvalue	
4) BHC-alpha	28.427	219	378199	512.13		98
5) Hexachlorobenzene	29.039	284	1127531	534.58		99
6) BHC-beta	30.599	219	37783m	209.85		
7) BHC-gamma	30.833	219	219865	491.28		95
8) BHC-delta	32.771	219	228708m	469.92		
9) Heptachlor	36.092	272	246204	516.01		98
10) Aldrin	38.604	263	281915	547.77		98
11) DCPA (Dacthal)	39.734	301	1007282	523.59		99
12) Heptachlor epoxide	41.582	353	403336	540.17		99
13) Oxychlordane	41.662	115	223729m	607.87		
17) Chlordane-gamma	43.344	373	555814	510.64		96
18) 2,4'-DDE	43.844	246	1297096	471.65		99
19) Endosulfan-I	44.166	241	84563	489.33		95
20) Chlordane-alpha	44.444	373	533197	507.07		99
21) trans-Nonachlor	44.836	409	604193	511.65		97
22) 4,4'-DDE	46.185	246	970252	492.75		97
23) Dieldrin	46.063	263	126854	499.07		96
24) 2,4'-DDD	46.752	235	1682546	536.70		99
25) Perthane	48.055	223	2713016	528.15		98
26) Endrin	47.585	263	120273	541.15	#	80
27) Endosulfan-II	48.300	241	69518	479.36		95
28) 4,4'-DDD	49.192	235	1410739	475.32		99
29) 2,4'-DDT	49.336	235	876524m	541.34		
30) cis-Nonachlor	49.316	409	565513	489.80		99
31) Endrin aldehyde	49.656	345	148057	530.50		98
32) Endosulfan sulfate	51.368	272	225603	487.52		98
33) 4,4'-DDT	51.812	235	581081	515.40		97
34) Endrin ketone	54.539	317	178378	408.67		94
35) Methoxychlor	55.971	227	1020685	542.50		98
36) Dicofol	55.913	139	46993	318.33	#	70
37) Mirex	58.364	272	639468	478.36		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP500_PCB100FCV.D
 Acq On : 30 May 2014 07:52 am
 Operator :
 Sample : OCP500_PCB100FCV
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Jun 04 14:13:22 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_OCP+3_140502.M
 Quant Title : CHCs
 QLast Update : Fri May 09 07:23:47 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	39.831	312	2546636	1000.00		0.03
14) 2,2',5,5'-Tetrabromobi...	50.849	391	465146	1000.00		-0.01
System Monitoring Compounds						
2) (TCMX)	25.530	244	487893	459.17		-0.02
Spiked Amount	400.000		Recovery	=	114.79%	
3) (PCB030)	30.573	256	1287667	463.45		-0.01
Spiked Amount	400.000		Recovery	=	115.86%	
15) (PCB112)	45.044	326	1033201	485.55		-0.02
Spiked Amount	400.000		Recovery	=	121.39%	
16) (PCB198)	59.181	358	234901m	375.16		-0.01
Spiked Amount	400.000		Recovery	=	93.79%	
Target Compounds						
					Qvalue	
4) BHC-alpha	28.418	219	404396	521.94		97
5) Hexachlorobenzene	29.031	284	1255042	567.14		99
6) BHC-beta	30.609	219	35148m	186.06		
7) BHC-gamma	30.824	219	227091	483.64		98
8) BHC-delta	32.761	219	215582m	422.18		
9) Heptachlor	36.084	272	218286	436.05		100
10) Aldrin	38.590	263	299946	555.48		96
11) DCPA (Dacthal)	39.727	301	1068200	529.23		99
12) Heptachlor epoxide	41.569	353	401170	512.08		97
13) Oxychlorane	41.655	115	219729	569.01		92
17) Chlordane-gamma	43.331	373	540343	537.81		96
18) 2,4'-DDE	43.837	246	1343011	529.06		99
19) Endosulfan-I	44.163	241	86683	543.41		92
20) Chlordane-alpha	44.433	373	526703	542.65		99
21) trans-Nonachlor	44.823	409	584733	536.45		97
22) 4,4'-DDE	46.182	246	979538	538.94		97
23) Dieldrin	46.050	263	121214	516.63		92
24) 2,4'-DDD	46.745	235	1660966	573.98		99
25) Perthane	48.049	223	2493110	525.80		98
26) Endrin	47.573	263	101870	496.55	#	81
27) Endosulfan-II	48.284	241	63652	475.50		95
28) 4,4'-DDD	49.192	235	1198802	437.58		99
29) 2,4'-DDT	49.336	235	747083m	508.88		
30) cis-Nonachlor	49.308	409	535005	502.00		96
31) Endrin aldehyde	49.647	345	133240	517.20		90
32) Endosulfan sulfate	51.357	272	194302	454.88		94
33) 4,4'-DDT	51.808	235	389303	414.58		97
34) Endrin ketone	54.530	317	144316	358.19	#	60
35) Methoxychlor	55.973	227	625820	416.20		98
36) Dicofol	55.903	139	17727m	179.35		
37) Mirex	58.350	272	517272	419.20		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	OCP500 ICV			OCP500 CCV			OCP500 FCV		
	5/31/14 7:56 PM			5/29/14 8:25 AM			5/30/14 7:52 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
TCMX	400	412	3	400	428	7	400	459	15
PCB030	400	386	4	400	441	10	400	463	16
PCB112	400	450	13	400	432	8	400	486	21
PCB198	400	343	14	400	360	10	400	375	6
BHC-alpha	500	578	16	500	512	2	500	522	4
Hexachlorobenzene	500	613	23	500	535	7	500	567	13
BHC-beta	500	1161	132	500	210	58	500	186	63
BHC-gamma	500	614	23	500	491	2	500	484	3
BHC-delta	500	489	2	500	470	6	500	422	16
Heptachlor	500	585	17	500	516	3	500	436	13
Aldrin	500	573	15	500	548	10	500	555	11
DCPA (Dacthal)	500	575	15	500	524	5	500	529	6
Heptachlor Epoxide	500	568	14	500	540	8	500	512	2
Oxychlordane	500	654	31	500	608	22	500	569	14
Chlordane-gamma	500	608	22	500	511	2	500	538	8
2,4'-DDE	500	603	21	500	472	6	500	529	6
Endosulfan-I	500	579	16	500	489	2	500	543	9
Chlordane-alpha	500	615	23	500	507	1	500	543	9
trans-Nonachlor	500	614	23	500	512	2	500	536	7
4,4'-DDE	500	562	12	500	493	1	500	539	8
Dieldrin	500	535	7	500	499	0	500	517	3
2,4'-DDD	500	592	18	500	537	7	500	574	15
Perthane	500	515	3	500	528	6	500	526	5
Endrin	500	516	3	500	541	8	500	497	1
Endosulfan-II	500	478	4	500	479	4	500	476	5
4,4'-DDD	500	421	16	500	475	5	500	438	12
2,4'-DDT	500	651	30	500	541	8	500	509	2
cis-Nonachlor	500	608	22	500	490	2	500	502	0
Endrin Aldehyde	500	595	19	500	531	6	500	517	3
Endosulfan Sulfate	500	511	2	500	488	2	500	455	9
4,4'-DDT	500	515	3	500	515	3	500	415	17
Endrin Ketone	500	494	1	500	409	18	500	358	28
Methoxychlor	500	502	0	500	543	9	500	416	17
Dicofol	500	266	47	500	318	36	500	179	64
Mirex	500	541	8	500	478	4	500	419	16
Average	-	-	18	-	-	8	-	-	13

PHYSIS

PCB Congeners

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Initial Calibration Data

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Innovative Solutions for Nature

Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Method File : Q_PCB+6_140502.M
 Title : PCBs (Richs Version)
 Last Update : Mon May 05 16:16:27 2014
 Response Via : Initial Calibration

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Calibration Files

10 =PCB10.D 25 =PCB25.D 50 =PCB50.D 75 =PCB75.D 100 =PCB100.D 200 =PCB200.D

Compound		10	25	50	75	100	200	Avg	%RSD

1) I	4,4'-Dibromobiphenyl	-----ISTD-----							
2)	PCB003	1.917	1.953	1.867	1.945	1.790	1.724	1.866	4.92
3)	PCB008	1.668	1.432	1.493	1.549	1.553	1.327	1.503	7.75
4)	PCB018	0.721	0.759	0.724	0.774	0.718	0.657	0.726	5.57
5) I	PCB031	1.145	1.125	1.128	1.153	1.121	1.069	1.124	2.61
6)	PCB028	1.073	1.144	1.131	1.172	1.139	1.093	1.125	3.22
7)	PCB033	1.003	1.075	1.089	1.128	1.084	1.045	1.071	3.96
8)	PCB052	0.703	0.777	0.734	0.773	0.751	0.735	0.745	3.68
9)	PCB049	0.787	0.807	0.774	0.819	0.782	0.756	0.788	2.88
10)	PCB044	0.661	0.678	0.657	0.671	0.692	0.637	0.666	2.88
11)	PCB037	1.036	1.043	1.061	1.092	1.110	1.085	1.071	2.73
12)	PCB074	0.982	1.022	1.006	1.039	1.096	1.043	1.031	3.77
13)	PCB070	0.993	1.040	1.023	1.089	1.114	1.060	1.053	4.19
14)	PCB066	1.020	1.070	1.063	1.111	1.104	1.096	1.077	3.15
15)	PCB095	0.689	0.708	0.689	0.733	0.691	0.678	0.698	2.83
16)	PCB056(060)	0.887	0.909	0.939	0.951	0.992	0.969	0.941	4.07
17)	PCB101	0.705	0.693	0.691	0.730	0.749	0.726	0.716	3.26
18)	PCB099	0.755	0.730	0.740	0.789	0.812	0.783	0.768	4.13
19)	PCB119	0.830	0.871	0.887	0.908	1.020	0.929	0.908	7.12
20)	PCB097	0.600	0.595	0.604	0.633	0.668	0.637	0.623	4.52
21)	PCB087	0.605	0.656	0.641	0.676	0.701	0.681	0.660	5.17
22)	PCB081	0.983	1.020	1.044	1.057	1.135	1.047	1.048	4.82
23)	PCB110	0.886	0.898	0.928	0.950	0.974	0.935	0.928	3.51
24)	PCB077	0.908	1.006	1.048	1.056	1.084	1.053	1.026	6.14
25)	PCB151	0.596	0.574	0.595	0.603	0.630	0.596	0.599	3.00
26)	PCB149	0.599	0.640	0.648	0.689	0.693	0.659	0.654	5.31
27)	PCB123	0.876	0.896	0.898	0.891	0.978	0.956	0.916	4.47
28)	PCB118	0.938	0.925	0.933	0.988	1.049	1.022	0.976	5.32
29)	PCB114	0.802	0.838	0.854	0.878	1.009	0.970	0.892	9.06
30) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
31)	PCB153	3.291	3.227	3.171	3.252	3.511	3.361	3.302	3.65
32)	PCB168+132	3.094	3.058	3.235	3.288	3.281	3.138	3.182	3.11
33)	PCB105	4.800	4.778	4.761	5.006	4.963	4.738	4.841	2.35
34)	PCB141	3.182	2.978	3.039	3.081	3.068	2.896	3.041	3.20
35)	PCB138	2.977	2.910	2.936	2.957	3.157	3.041	2.996	3.02
36)	PCB158	3.678	3.792	3.808	3.885	4.206	4.105	3.912	5.17
37)	PCB126	3.976	4.047	4.077	4.065	4.548	4.479	4.199	5.90
38)	PCB187	2.432	2.515	2.527	2.587	2.753	2.599	2.569	4.22
39)	PCB183	2.476	2.560	2.610	2.641	2.961	2.677	2.654	6.25
40)	PCB128	2.635	2.324	2.450	2.537	2.674	2.584	2.534	5.10
41)	PCB167	3.640	3.781	3.898	3.960	4.331	4.246	3.976	6.71
42)	PCB174	2.396	2.434	2.409	2.512	2.529	2.504	2.464	2.34
43)	PCB177	2.234	2.205	2.206	2.393	2.432	2.444	2.319	5.00
44)	PCB156	3.536	3.531	3.730	3.751	4.294	4.088	3.822	8.06
45)	PCB199(200)	2.725	2.934	2.757	2.980	2.911	2.845	2.859	3.55
46)	PCB157	4.909	4.750	4.736	4.921	5.047	5.185	4.925	3.51
47)	PCB180	2.429	2.302	2.415	2.448	2.740	2.562	2.483	6.07
48)	PCB169	3.383	3.589	3.512	3.546	4.135	4.183	3.725	9.23
49)	PCB170	2.378	2.159	2.248	2.357	2.475	2.282	2.316	4.78
50)	PCB201	1.991	1.936	1.942	2.039		1.834	1.948	3.93
51)	PCB189	2.868	3.084	3.004	3.107	3.396	3.543	3.167	7.98
52)	PCB195	1.863	1.910	1.924	1.917	1.869	2.033	1.919	3.18
53)	PCB194	1.906	2.101	1.974	2.078	1.981	2.175	2.036	4.86
54)	PCB206	1.599	1.697	1.669	1.792	1.881	1.808	1.741	5.96
55)	PCB209	1.830	1.981	1.831	2.005	1.789	2.044	1.913	5.69

(#) = Out of Range

Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Method File : Q_PCB6NEW_140502.M
 Title : PCBs (Richs Version)
 Last Update : Mon May 05 16:16:27 2014
 Response Via : Initial Calibration

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Calibration Files

10 =PCB10.D 25 =PCB25.D 50 =PCB50.D 75 =PCB75.D 100 =PCB100.D 200 =PCB200.D

Compound		10	25	50	75	100	200	Avg	%RSD

1) I	4,4'-Dibromobiphenyl	-----ISTD-----							
2)	PCB005	1.278	1.363	1.378	1.425	1.309	1.262	1.336	4.74
3)	PCB015	1.567	1.539	1.528	1.532	1.501	1.437	1.517	2.94
4)	PCB027	0.740	0.765	0.733	0.772	0.735	0.693	0.740	3.77
5)	PCB029	1.069	1.049	1.054	1.055	1.065	1.039	1.055	1.03
6) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
7)	PCB137	2.510	2.332	2.429	2.394	2.801	2.550	2.503	6.63
8)	PCB203	2.137	2.074	2.134	2.157	2.154	2.325	2.164	3.91

(#) = Out of Range

PHYSIS

Continuing Calibration Data

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Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP_PAH_PCB_SPEX500_100.D
 Acq On : 31 May 2014 07:56 pm
 Operator :
 Sample : OCP_PAH_PCB_SPEX500_100
 Misc :
 ALS Vial : 91 Sample Multiplier: 1

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Quant Time: Jun 04 18:23:50 2014

Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M

Quant Title : PCBs (Richs Version)

QLast Update : Mon May 05 16:16:27 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	39.837	312	2139944	1000.00		0.03
30) 2,2',5,5'-Tetrabromobi...	50.840	389	412735	1000.00		-0.02
Target Compounds						
2) PCB003	24.014	188	458069	121.24		Qvalue 97
3) PCB008	28.479	222	357325	119.66	#	96
4) PCB018	31.594	256	166318m	113.81		
5) PCB031	35.025	256	184100m	78.98		
6) PCB028	35.126	256	289817m	121.97		
7) PCB033	35.818	256	242213	106.61		95
8) PCB052	37.653	292	143538	90.43		89
9) PCB049	37.975	292	189870	115.54		93
10) PCB044	39.157	292	152840	109.73		96
11) PCB037	39.487	256	218090	93.63	#	93
12) PCB074	41.810	292	202756	90.27		98
13) PCB070	42.081	292	230761	100.78		96
14) PCB066	42.343	292	261254m	111.32		
15) PCB095	42.338	326	141025	95.98		93
16) PCB056(060)	43.545	292	201438	97.12		98
17) PCB101	44.042	326	166728	106.92		93
18) PCB099	44.433	326	179782	106.91		95
19) PCB119	44.904	326	147709	73.44		97
20) PCB097	45.573	326	126051	92.04		93
21) PCB087	45.959	326	134477	92.13	#	78
22) PCB081	46.055	292	241740	106.35		97
23) PCB110	46.671	326	209920	104.09		97
24) PCB077	46.779	292	238462	105.35		99
25) PCB151	47.543	360	131582	102.13		98
26) PCB149	48.387	360	152371	106.79		91
27) PCB123	48.412	326	192418	94.64		97
28) PCB118	48.585	326	232284	106.61		94
29) PCB114	49.360	326	223611	108.67		98
31) PCB153	50.165	360	124534	89.63		92
32) PCB168+132	50.334	360	318168	242.41		98
33) PCB105	50.448	326	222580	112.28		97
34) PCB141	51.035	360	132357	108.70		96
35) PCB138	52.108	360	121032	96.25	#	93
36) PCB158	52.286	360	189664	112.51		90
37) PCB126	52.804	326	180891	98.96		95
38) PCB187	53.263	394	111296	102.93		89
39) PCB183	53.617	394	118294	105.47		98
40) PCB128	53.982	360	99229	92.95		94
41) PCB167	54.121	360	178248	102.53		92
42) PCB174	54.865	394	103448	100.11		94
43) PCB177	55.242	394	118001	117.94		93
44) PCB156	55.680	360	167398	99.68		99
45) PCB199(200)	56.009	430	141297	119.44		98
46) PCB157	56.061	360	228041	108.08		99
47) PCB180	56.825	394	107449	101.22	#	93
48) PCB169	58.370	360	153023	90.91		98
49) PCB170	58.837	394	95298	99.55		96
50) PCB201	59.384	430	82739m	107.52		
51) PCB189	60.820	394	124403	87.44		99
52) PCB195	61.763	430	76520	93.29		96
53) PCB194	63.133	430	82912	94.63		93
54) PCB206	65.567	464	68159	91.17	#	86
55) PCB209	67.516	498	82680	100.82		94

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
Data File : OCP_PAH_PCB_SPEX500_100.D
Acq On : 31 May 2014 07:56 pm
Operator :
Sample : OCP_PAH_PCB_SPEX500_100
Misc :
ALS Vial : 91 Sample Multiplier: 1

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Quant Time: Jun 04 18:23:50 2014
Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M
Quant Title : PCBs (Richs Version)
QLast Update : Mon May 05 16:16:27 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP500_PCB100CCV.D
 Acq On : 29 May 2014 08:25 am
 Operator :
 Sample : OCP500_PCB100CCV
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Jun 04 18:25:07 2014

Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M

Quant Title : PCBs (Richs Version)

QLast Update : Mon May 05 16:16:27 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	39.822	312	2427255	1000.00		0.02
30) 2,2',5,5'-Tetrabromobi...	50.855	389	517155	1000.00		0.00
Target Compounds						
2) PCB003	24.033	188	479820	111.97		Qvalue 99
3) PCB008	28.496	222	405069	119.59	#	98
4) PCB018	31.614	256	197231	118.99		97
5) PCB031	35.030	256	237513	89.83		98
6) PCB028	35.116	256	330438m	122.61		
7) PCB033	35.816	256	281207	109.12		98
8) PCB052	37.661	292	186460	103.57		94
9) PCB049	37.989	292	209989	112.65		94
10) PCB044	39.161	292	173293	109.69		98
11) PCB037	39.473	256	260199	98.48		91
12) PCB074	41.816	292	258901	101.63		98
13) PCB070	42.084	292	258256	99.44		98
14) PCB066	42.352	292	255358	95.92		99
15) PCB095	42.353	326	182879	109.73		98
16) PCB056(060)	43.541	292	246900	104.94		96
17) PCB101	44.064	326	190627	107.78		93
18) PCB099	44.444	326	208300	109.21		95
19) PCB119	44.911	326	217685	95.42		96
20) PCB097	45.595	326	161513	103.97		89
21) PCB087	45.956	326	175627m	106.08		
22) PCB081	46.037	292	275232	106.75		96
23) PCB110	46.680	326	244606	106.93		96
24) PCB077	46.755	292	269608	105.01		98
25) PCB151	47.556	360	160538	109.85		98
26) PCB149	48.407	360	173721	107.34		95
27) PCB123	48.408	326	238799	103.55		97
28) PCB118	48.586	326	259319	104.93		95
29) PCB114	49.356	326	252386	108.13		96
31) PCB153	50.179	360	174863	100.44		99
32) PCB168+132	50.351	360	369913	224.93		97
33) PCB105	50.443	326	250681	100.92		94
34) PCB141	51.054	360	169503	111.10		97
35) PCB138	52.104	360	164423	104.35		92
36) PCB158	52.285	360	225614	106.82	#	90
37) PCB126	52.807	326	220765	96.39	#	90
38) PCB187	53.287	394	145703	107.54		87
39) PCB183	53.634	394	137218	97.64		94
40) PCB128	53.998	360	132362	98.95		94
41) PCB167	54.130	360	224349	102.99		92
42) PCB174	54.879	394	138338	106.84		95
43) PCB177	55.252	394	128641	102.62		95
44) PCB156	55.692	360	202291	96.14		98
45) PCB199(200)	56.028	430	171915	115.98		96
46) PCB157	56.073	360	277151	104.83		99
47) PCB180	56.842	394	137769	103.58		96
48) PCB169	58.359	360	197772	93.78		95
49) PCB170	58.825	394	124138	103.50		97
50) PCB201	59.404	430	117796m	122.17		
51) PCB189	60.817	394	172761	96.91		95
52) PCB195	61.765	430	109518	106.55		95
53) PCB194	63.145	430	114159	103.98		89
54) PCB206	65.584	464	96732	103.26	#	87
55) PCB209	67.536	498	112467	109.45	#	94

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
Data File : OCP500_PCB100CCV.D
Acq On : 29 May 2014 08:25 am
Operator :
Sample : OCP500_PCB100CCV
Misc :
ALS Vial : 105 Sample Multiplier: 1

Page 208 of 270

Quant Time: Jun 04 18:25:07 2014
Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M
Quant Title : PCBs (Richs Version)
QLast Update : Mon May 05 16:16:27 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
----------	------	------	----------	------	-------	----------

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP500_PCB100FCV.D
 Acq On : 30 May 2014 07:52 am
 Operator :
 Sample : OCP500_PCB100FCV
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

Page 209 of 270

Quant Time: Jun 04 18:29:43 2014

Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M

Quant Title : PCBs (Richs Version)

QLast Update : Mon May 05 16:16:27 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	39.831	312	2546636	1000.00		0.03
30) 2,2',5,5'-Tetrabromobi...	50.853	389	472938	1000.00		0.00
Target Compounds						
					Qvalue	
2) PCB003	24.048	188	570916	126.98		99
3) PCB008	28.506	222	456032	128.33	#	96
4) PCB018	31.610	256	217117	124.85		97
5) PCB031	35.033	256	297682	107.31		98
6) PCB028	35.122	256	341228	120.67		99
7) PCB033	35.818	256	306079	113.20		98
8) PCB052	37.664	292	184049	97.44		96
9) PCB049	37.981	292	218045	111.49		98
10) PCB044	39.161	292	180843	109.10		98
11) PCB037	39.482	256	258619	93.30	#	89
12) PCB074	41.823	292	234706	87.81		96
13) PCB070	42.087	292	274138	100.60		95
14) PCB066	42.356	292	221076	79.15		95
15) PCB095	42.347	326	186958	106.92		95
16) PCB056(060)	43.546	292	255478	103.50		95
17) PCB101	44.054	326	189921	102.35		94
18) PCB099	44.442	326	199093	99.49		99
19) PCB119	44.913	326	196670	82.17		99
20) PCB097	45.584	326	157815	96.83		94
21) PCB087	45.956	326	181520m	104.50		
22) PCB081	46.048	292	276281	102.13		97
23) PCB110	46.680	326	249991	104.16		99
24) PCB077	46.779	292	267704	99.38		98
25) PCB151	47.555	360	151087	98.54		95
26) PCB149	48.404	360	177518	104.55		89
27) PCB123	48.416	326	237097	98.00		99
28) PCB118	48.590	326	260833	100.60		91
29) PCB114	49.360	326	253297	103.44		98
31) PCB153	50.180	360	158256	99.40		96
32) PCB168+132	50.344	360	358660	238.47		96
33) PCB105	50.448	326	246432	108.49		97
34) PCB141	51.053	360	155256	111.28		92
35) PCB138	52.115	360	149363	103.66		92
36) PCB158	52.287	360	210783	109.12		90
37) PCB126	52.836	326	195072	93.13	#	91
38) PCB187	53.274	394	134035m	108.18		
39) PCB183	53.642	394	135319	105.29		100
40) PCB128	54.004	360	113665	92.92		96
41) PCB167	54.142	360	207982	104.41		91
42) PCB174	54.876	394	123083	103.95		98
43) PCB177	55.250	394	117004	102.06		93
44) PCB156	55.704	360	172553	89.67		98
45) PCB199(200)	56.026	430	159157	117.42		97
46) PCB157	56.078	360	242078	100.13		97
47) PCB180	56.842	394	124589	102.42		95
48) PCB169	58.383	360	164212	85.14		95
49) PCB170	58.837	394	110330	100.58	#	91
50) PCB201	59.415	430	111477m	126.43		
51) PCB189	60.831	394	136868	83.95		99
52) PCB195	61.772	430	88110	93.74		95
53) PCB194	63.146	430	92085	91.72	#	88
54) PCB206	65.588	464	76954	89.83	#	87
55) PCB209	67.528	498	86022	91.54		99

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
Data File : OCP500_PCB100FCV.D
Acq On : 30 May 2014 07:52 am
Operator :
Sample : OCP500_PCB100FCV
Misc :
ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Jun 04 18:29:43 2014
Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M
Quant Title : PCBs (Richs Version)
QLast Update : Mon May 05 16:16:27 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
----------	------	------	----------	------	-------	----------

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PCB100 ICV			PCB100 CCV			PCB100 FCV		
	5/31/14 7:56 PM			5/29/14 8:25 AM			5/30/14 7:52 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PCB003	100	121	21	100	112	12	100	127	27
PCB008	100	120	20	100	120	20	100	128	28
PCB018	100	114	14	100	119	19	100	125	25
PCB031	100	79	21	100	90	10	100	107	7
PCB028	100	122	22	100	123	23	100	121	21
PCB033	100	107	7	100	109	9	100	113	13
PCB052	100	90	10	100	104	4	100	97	3
PCB049	100	116	16	100	113	13	100	111	11
PCB044	100	110	10	100	110	10	100	109	9
PCB037	100	94	6	100	98	2	100	93	7
PCB074	100	90	10	100	102	2	100	88	12
PCB070	100	101	1	100	99	1	100	101	1
PCB066	100	111	11	100	96	4	100	79	21
PCB095	100	96	4	100	110	10	100	107	7
PCB056 (060)	100	97	3	100	105	5	100	104	4
PCB101	100	107	7	100	108	8	100	102	2
PCB099	100	107	7	100	109	9	100	99	1
PCB119	100	73	27	100	95	5	100	82	18
PCB097	100	92	8	100	104	4	100	97	3
PCB087	100	92	8	100	106	6	100	105	5
PCB081	100	106	6	100	107	7	100	102	2
PCB110	100	104	4	100	107	7	100	104	4
PCB077	100	105	5	100	105	5	100	99	1
PCB151	100	102	2	100	110	10	100	99	1
PCB149	100	107	7	100	107	7	100	105	5
PCB123	100	95	5	100	104	4	100	98	2
PCB118	100	107	7	100	105	5	100	101	1
PCB114	100	109	9	100	108	8	100	103	3
PCB153	100	90	10	100	100	0	100	99	1
PCB168+132	200	242	21	200	225	12	200	238	19
PCB105	100	112	12	100	101	1	100	108	8
PCB141	100	109	9	100	111	11	100	111	11
PCB138	100	96	4	100	104	4	100	104	4
PCB158	100	113	13	100	107	7	100	109	9
PCB126	100	99	1	100	96	4	100	93	7
PCB187	100	103	3	100	108	8	100	108	8
PCB183	100	105	5	100	98	2	100	105	5
PCB128	100	93	7	100	99	1	100	93	7
PCB167	100	103	3	100	103	3	100	104	4
PCB174	100	100	0	100	107	7	100	104	4
PCB177	100	118	18	100	103	3	100	102	2
PCB156	100	100	0	100	96	4	100	90	10
PCB199 (200)	100	119	19	100	116	16	100	117	17
PCB157	100	108	8	100	105	5	100	100	0
PCB180	100	101	1	100	104	4	100	102	2
PCB169	100	91	9	100	94	6	100	85	15
PCB170	100	100	0	100	104	4	100	101	1
PCB201	100	108	8	100	122	22	100	126	26
PCB189	100	87	13	100	97	3	100	84	16
PCB195	100	93	7	100	107	7	100	94	6
PCB194	100	95	5	100	104	4	100	92	8
PCB206	100	91	9	100	103	3	100	90	10
PCB209	100	101	1	100	109	9	100	92	8
Average	-	-	9	-	-	7	-	-	9

Polynuclear

Aromatic

Hydrocarbons

(PAHs)

PHYSIS

Summary of Internal Standards

TERRA FACTORY AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

	D10-Anthracene		D-12 Perylene	
	Response	Retention Time	Response	Retention Time
Spex_500ICV	8518860	31.776	6676846	76.304
B_4006	18797637	31.763	4879235	76.339
BS1_6004	31034611	31.746	11881540	76.279
BS2_6004	22460040	31.754	12298059	76.287
22571MS1	22559348	31.745	8852006	76.272
22571MS2	24322752	31.744	11158657	76.266
22576	22582235	31.746	7689117	76.283
22551	33341759	31.747	13965349	76.263
22552	22210350	31.749	10257717	76.261
22553	25818801	31.749	12463985	76.266
22554	28158917	31.747	11730646	76.274
22555	29573722	31.745	13259406	76.268
22556	23414489	31.75	9935255	76.287
PAH500CCV	15646537	31.785	13145490	76.301
22557	25592442	31.749	7234553	76.305
22571	24936917	31.754	10580983	76.282
22571R2	19644983	31.752	9093758	76.283
22572	21823474	31.749	8802667	76.296
22573	29033002	31.743	10270644	76.258
22574	21236974	31.756	9740521	76.28
22575	26494227	31.749	8608615	76.305
22599	21764890	31.75	8032114	76.275
22600	23906778	31.753	10682688	76.271
PAH500FCV	17294450	31.783	12336687	76.306

PHYSIS

Initial Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\

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Method File : Q_PAH140411.M

Title : PAH

Last Update : Tue Jun 03 11:29:59 2014

Response Via : Initial Calibration

Calibration Files

500 =SPEXMIX500_100ICV.D 250 =PAH250.D 1000=PAH1000.D 100 =PAH100.D 50 =PAH50.D 25 =PAH25.D

Compound		500	250	1000	100	50	25	Avg	%RSD

1) I	d10-Anthracene	-----ISTD-----							
2) S	(d8-Naphthalene)	1.213	1.007	0.376	0.923	0.870	0.885	0.879	31.49
3) S	(d10-Acenaphth...	0.671	0.606	0.519	0.573	0.548	0.553	0.578	9.29
4) S	(d10-Phenanthr...	1.058	1.054	1.045	1.054	1.034	1.037	1.047	0.93
5) S	(d12-Chrysene)	1.109	1.189	1.230	1.170	1.241	1.224	1.194	4.16
6) S	(d12-Perylene)	1.082	1.162	1.202	1.129	1.244	1.208	1.171	5.04
7)	Naphthalene	1.169	0.977		0.883	0.839	0.851	0.944	14.52
8)	2-Methylnaphth...	0.823	0.707		0.655	0.622	0.625	0.686	12.20
9)	1-Methylnaphth...	0.729	0.631		0.582	0.553	0.558	0.611	11.95
10)	Biphenyl	1.013	0.888		0.831	0.781	0.787	0.860	11.12
11)	2,6-Dimethylna...	0.737	0.656		0.608	0.572	0.577	0.630	10.88
12)	Acenaphthylene	1.089	0.960		0.919	0.872	0.886	0.945	9.21
13)	Acenaphthene	0.704	0.630		0.602	0.570	0.570	0.615	9.09
14)	2,3,5-Trimethy...	0.673	0.625	0.577	0.596	0.564	0.587	0.604	6.60
15)	Fluorene	0.787	0.732	0.694	0.709	0.706	0.726	0.726	4.59
16)	Dibenzothiophene	1.022	1.009	0.985	1.001	0.981	0.990	0.998	1.59
17)	Phenanthrene	1.081	1.065	1.060	1.053	1.026	1.012	1.050	2.46
18)	Anthracene	1.047	1.043	1.059	1.031	1.010	1.018	1.035	1.79
19)	1-Methylphenan...	0.750	0.775	0.822	0.774	0.753	0.795	0.778	3.51
20)	Fluoranthene	1.105	1.146	1.215	1.137	1.143	1.151	1.149	3.13
21)	Pyrene	1.127	1.179	1.220	1.178	1.174	1.176	1.176	2.52
22)	Benz[a]anthracene	1.067	1.125	1.177	1.117	1.192	1.205	1.147	4.62
23)	Chrysene	1.045	1.107	1.157	1.096	1.155	1.141	1.117	3.87
24)	Benzo[b]fluora...	1.144	1.217	1.232	1.158	1.216	1.209	1.196	3.01
25)	Benzo[k]fluora...	1.250	1.322	1.339	1.259	1.421	1.312	1.317	4.71
26)	Benzo[e]pyrene	1.142	1.221	1.198	1.176	1.244	1.279	1.210	4.04
27)	Benzo[a]pyrene	1.122	1.198	1.196	1.123	1.235	1.198	1.179	3.90
28)	Perylene	1.136	1.220	1.212	1.164	1.271	1.283	1.214	4.75

29) I	d12-Benzo[g,h,i]pe...	-----ISTD-----							
30)	Indeno[1,2,3-c...	1.359	1.351	1.394	1.332	1.320	1.250	1.334	3.64
31)	Dibenz[a,h]ant...	1.340	1.322	1.355	1.310	1.308	1.376	1.335	2.04
32)	Benzo[g,h,i]pe...	1.417	1.451	1.416	1.450	1.419	1.448	1.434	1.25

(#)= Out of Range

PHYSIS

Continuing Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : SPEXMIX500_100ICV.D
 Acq On : 27 May 2014 06:56 pm
 Operator :
 Sample : SPEXMIX500_100ICV
 Misc :
 ALS Vial : 106 Sample Multiplier: 1

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Quant Time: Jun 03 11:29:21 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Mon Apr 21 14:15:24 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	31.776	188	8518860m	2000.00		-0.48
29) d12-Benzo[g,h,i]perylene	76.304	288	6676846m	2000.00		-0.51
System Monitoring Compounds						
2) (d8-Naphthalene)	12.764	136	4957453	1324.16		-0.44
3) (d10-Acenaphthene)	20.622	164	2588207m	1050.57		-0.73
4) (d10-Phenanthrene)	31.370	188	4056019m	909.48		-0.50
5) (d12-Chrysene)	55.037	240	4012162	788.93		0.27
6) (d12-Perylene)	67.179	264	3927635m	787.24		0.73
Target Compounds						
					Qvalue	
7) Naphthalene	12.817	128	2781091m	582.81		
8) 2-Methylnaphthalene	15.212	142	1754255m	518.84		
9) 1-Methylnaphthalene	15.648	142	1829316m	609.92		
10) Biphenyl	17.435	154	2098982m	502.06		
11) 2,6-Dimethylnaphthalene	18.226	156	1476545m	484.14		
12) Acenaphthylene	19.678	152	2180190m	484.29		
13) Acenaphthene	20.815	153	1537162m	526.33		
14) 2,3,5-Trimethylnaphtha...	23.504	170	1209169m	475.04		
15) Fluorene	24.225	166	1697983m	558.93		
16) Dibenzothiophene	30.528	184	2201167m	520.47		
17) Phenanthrene	31.543	178	2420888m	534.07		
18) Anthracene	31.919	178	1815946m	403.85		
19) 1-Methylphenanthrene	36.984	192	1593101	464.03		98
20) Fluoranthene	41.906	202	2356823	465.05		100
21) Pyrene	43.758	202	2495067	488.08		100
22) Benz[a]anthracene	54.925	228	2007156	408.45		100
23) Chrysene	55.253	228	2240664m	464.10		
24) Benzo[b]fluoranthene	64.266	252	2335100m	451.58		
25) Benzo[k]fluoranthene	64.459	252	2355938m	418.62		
26) Benzo[e]pyrene	66.337	252	2186566m	431.96		
27) Benzo[a]pyrene	66.702	252	2160880m	429.20		
28) Perylene	67.362	252	2060656m	403.93		
30) Indeno[1,2,3-c,d]pyrene	74.873	276	2197250m	475.43		
31) Dibenz[a,h]anthracene	75.167	278	2213477m	490.96		
32) Benzo[g,h,i]perylene	76.456	276	2517025m	531.61		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : PAH500CCV.D
 Acq On : 29 May 2014 05:07 am
 Operator :
 Sample : PAH500CCV
 Misc :
 ALS Vial : 103 Sample Multiplier: 1

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Quant Time: Jun 03 11:31:30 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Tue Jun 03 11:29:59 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	31.785	188	15646537	2000.00		0.00
29) d12-Benzo[g,h,i]perylene	76.301	288	13145490	2000.00		0.00
System Monitoring Compounds						
2) (d8-Naphthalene)	12.757	136	7810003	1135.78		0.00
3) (d10-Acenaphthene)	20.615	164	4607840	1018.33		0.00
4) (d10-Phenanthrene)	31.376	188	7494227	914.92		0.00
5) (d12-Chrysene)	55.053	240	8040594	860.82		0.02
6) (d12-Perylene)	67.185	264	8087048	882.53		0.00
Target Compounds						Qvalue
7) Naphthalene	12.814	128	3705517	422.79		100
8) 2-Methylnaphthalene	15.204	142	2567847	413.50		99
9) 1-Methylnaphthalene	15.637	142	2334673	423.81		98
10) Biphenyl	17.438	154	3222929	419.72		100
11) 2,6-Dimethylnaphthalene	18.229	156	2424066	432.75		99
12) Acenaphthylene	19.669	152	3643391	440.64		100
13) Acenaphthene	20.804	153	2388287	445.23		97
14) 2,3,5-Trimethylnaphtha...	23.506	170	2335638	499.58		98
15) Fluorene	24.237	166	2669326	478.40		99
16) Dibenzothiophene	30.533	184	3518093	452.91		100
17) Phenanthrene	31.552	178	3814244	458.14		100
18) Anthracene	31.929	178	3794476	459.44		100
19) 1-Methylphenanthrene	37.005	192	2784998	441.66		98
20) Fluoranthene	41.932	202	3976449	427.20		100
21) Pyrene	43.779	202	4114157	438.18		100
22) Benz[a]anthracene	54.939	228	3645588	403.91		100
23) Chrysene	55.274	228	3770149	425.16		100
24) Benzo[b]fluoranthene	64.273	252	3807436	400.89		100
25) Benzo[k]fluoranthene	64.473	252	4191122	405.46		100
26) Benzo[e]pyrene	66.338	252	3834161	412.40		100
27) Benzo[a]pyrene	66.714	252	3819835	413.08		100
28) Perylene	67.376	252	3977279	424.47		100
30) Indeno[1,2,3-c,d]pyrene	74.876	276	3886134	427.09		100
31) Dibenz[a,h]anthracene	75.177	278	3894567	438.76		100
32) Benzo[g,h,i]perylene	76.465	276	4275013	458.60		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : PAH500FCV.D
 Acq On : 30 May 2014 04:35 am
 Operator :
 Sample : PAH500FCV
 Misc :
 ALS Vial : 103 Sample Multiplier: 1

Page 220 of 270

Quant Time: Jun 03 11:33:54 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Tue Jun 03 11:29:59 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	31.783	188	17294450	2000.00		0.00
29) d12-Benzo[g,h,i]perylene	76.306	288	12336687	2000.00		0.00
System Monitoring Compounds						
2) (d8-Naphthalene)	12.755	136	8382739	1102.92		0.00
3) (d10-Acenaphthene)	20.615	164	4977593	995.22		0.00
4) (d10-Phenanthrene)	31.374	188	8153550	900.57		0.00
5) (d12-Chrysene)	55.056	240	8719891	844.59		0.02
6) (d12-Perylene)	67.191	264	8293354	818.81		0.01
Target Compounds						Qvalue
7) Naphthalene	12.813	128	3987124	411.57		100
8) 2-Methylnaphthalene	15.210	142	2773251	404.02		98
9) 1-Methylnaphthalene	15.639	142	2481032	407.47		99
10) Biphenyl	17.443	154	3469986	408.84		100
11) 2,6-Dimethylnaphthalene	18.239	156	2606601	420.99		99
12) Acenaphthylene	19.670	152	3943309	431.47		100
13) Acenaphthene	20.809	153	2583556	435.74		98
14) 2,3,5-Trimethylnaphtha...	23.505	170	2480681	480.05		98
15) Fluorene	24.240	166	2915245	472.69		97
16) Dibenzothiophene	30.531	184	3861933	449.80		100
17) Phenanthrene	31.551	178	4158243	451.87		100
18) Anthracene	31.927	178	4194729	459.51		100
19) 1-Methylphenanthrene	37.019	192	2987880	428.68		98
20) Fluoranthene	41.951	202	4194723	407.71		100
21) Pyrene	43.795	202	4349973	419.15		100
22) Benz[a]anthracene	54.947	228	3767813	377.68		100
23) Chrysene	55.278	228	4089631	417.25		100
24) Benzo[b]fluoranthene	64.281	252	3834927	365.31		100
25) Benzo[k]fluoranthene	64.477	252	4321996	378.28		100
26) Benzo[e]pyrene	66.340	252	3863132	375.92		100
27) Benzo[a]pyrene	66.723	252	3843950	376.08		100
28) Perylene	67.379	252	4024005	388.54		100
30) Indeno[1,2,3-c,d]pyrene	74.886	276	3434400	402.19		100
31) Dibenz[a,h]anthracene	75.193	278	3566536	428.14		100
32) Benzo[g,h,i]perylene	76.470	276	3970276	453.83		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PAH500 ICV			PAH500 CCV			PAH500 FCV		
	5/27/14 6:56 PM			5/29/14 5:07 AM			5/30/14 4:35 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
d8-Naphthalene	1000	1324	32	1000	1136	14	1000	1103	10
d10-Acenaphthene	1000	1051	5	1000	1018	2	1000	995	0
d10-Phenanthrene	1000	909	9	1000	915	9	1000	901	10
d10-Chrysene	1000	789	21	1000	861	14	1000	845	16
d12-Perylene	1000	787	21	1000	883	12	1000	819	18
Naphthalene	500	583	17	500	423	15	500	412	18
2-Methylnaphthalene	500	519	4	500	414	17	500	404	19
1-Methylnaphthalene	500	610	22	500	424	15	500	407	19
Biphenyl	500	502	0	500	420	16	500	409	18
2,6-Dimethylnaphthalene	500	484	3	500	433	13	500	421	16
Acenaphthylene	500	484	3	500	441	12	500	431	14
Acenaphthene	500	526	5	500	445	11	500	436	13
2,3,5-Trimethylnaphthalene	500	475	5	500	500	0	500	480	4
Fluorene	500	559	12	500	478	4	500	473	5
Dibenzothiophene	500	520	4	500	453	9	500	450	10
Phenanthrene	500	534	7	500	458	8	500	452	10
Anthracene	500	404	19	500	459	8	500	460	8
1-Methylphenanthrene	500	464	7	500	442	12	500	429	14
Fluoranthene	500	465	7	500	427	15	500	408	18
Pyrene	500	488	2	500	438	12	500	419	16
Benz[a]anthracene	500	408	18	500	404	19	500	378	24
Chrysene	500	464	7	500	425	15	500	417	17
Benzo[b]fluoranthene	500	452	10	500	401	20	500	365	27
Benzo[k]fluoranthene	500	419	16	500	405	19	500	378	24
Benzo[e]pyrene	500	432	14	500	412	18	500	376	25
Benzo[a]pyrene	500	429	14	500	413	17	500	376	25
Perylene	500	404	19	500	424	15	500	389	22
Indeno[1,2,3-c,d]pyrene	500	475	5	500	427	15	500	402	20
Dibenz[a,h]anthracene	500	491	2	500	439	12	500	428	14
Benzo[g,h,i]perylene	500	532	6	500	459	8	500	454	9
Average	-	-	11	-	-	13	-	-	15

Organics - GC-MS-NCI

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Analytical Solutions
(EPA 8270C)

PHYSIS

Instrument Run Log

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AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

2013 Nov 14 1434 Sequence Log .LOG
 Starting sequence Thu Nov 14 14:34:14 2013

Instrument Name: GCMSQQQ
 Sequence File: D:\MASSHUNTER\GCMS\1\SEQUENCE\131113 NCI . sequence. xml
 Comment:
 Operator: DATASYSTEM01\Admin
 Data Path: D:\MassHunter\GCMS\1\data\131114 NCI\
 Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX	HEX_NCI	HEX
2)	Sample	121	FIP25	PYR_NCI	FIP25
3)	Sample	122	FIP50	PYR_NCI	FIP50
4)	Sample	123	FIP100	PYR_NCI	FIP100
5)	Sample	124	FIP250	PYR_NCI	FIP250
6)	Sample	125	FIP500	PYR_NCI	FIP500
7)	Sample	126	FIP1000	PYR_NCI	FIP1000
8)	Sample	131	PYR25	PYR_NCI	PYR25
9)	Sample	132	PYR50	PYR_NCI	PYR50
10)	Sample	133	PYR100	PYR_NCI	PYR100
11)	Sample	134	PYR250	PYR_NCI	PYR250
12)	Sample	135	PYR500	PYR_NCI	PYR500
13)	Sample	136	PYR1000	PYR_NCI	PYR1000
14)	Sample	138	TRAL01000I CV		
	Datafile		TRAL01000I CV		
	Method		PYR_NCI		
15)	Sample	101	TOX10000I CV		
	Datafile		TOX10000I CV		
	Method		PYR_NCI		
16)	Sample	137	PYR1000SPEX		
	Datafile		PYR1000SPEX		
	Method		PYR_NCI		
17)	Sample	141	HEX2	HEX_NCI	HEX2
18)	Sample	1	B_5039	PYR_NCI	B_5039
19)	Sample	2	BS1_5039	PYR_NCI	BS1_5039
20)	Sample	3	BS2_5039	PYR_NCI	BS2_5039
21)	Sample	4	22571MS1	PYR_NCI	22571MS1
22)	Sample	5	22571MS2	PYR_NCI	22571MS2
23)	Sample	141	HEX3	HEX_NCI	HEX3
24)	Sample	6	22576	PYR_NCI	22576
25)	Sample	7	22551	PYR_NCI	22551
26)	Sample	31	22551RE	PYR_NCI	22551RE
27)	Sample	8	22552	PYR_NCI	22552
28)	Sample	9	22553	PYR_NCI	22553
29)	Sample	10	22554	PYR_NCI	22554
30)	Sample	11	22555	PYR_NCI	22555
31)	Sample	12	22556	PYR_NCI	22556
32)	Sample	13	22557	PYR_NCI	22557
33)	Sample	126	FIP1000CCV		
	Datafile		FIP1000CCV		
	Method		PYR_NCI		
34)	Sample	136	PYR1000CCV		
	Datafile		PYR1000CCV		
	Method		PYR_NCI		
35)	Sample	101	TOX10000CCV		
	Datafile		TOX10000CCV		
	Method		PYR_NCI		
36)	Sample	141	HEX4	HEX_NCI	HEX4
37)	Sample	14	22571	PYR_NCI	22571
38)	Sample	15	22571R2	PYR_NCI	22571R2
39)	Sample	16	22572	PYR_NCI	22572

2013 Nov 14 1434 Sequence Log .LOG

Sat Nov 16 07:01:04 2013

Fatal sequence error detected.

MS is in fault state: QqQ fault detected: 2.5 Emission current controller cannot regulate the requested setting after a fixed amount of time.

D: \MassHunter\GCMS\1\data\131114 NCI\2013 Nov 14 1434 Sequence Log .LOG

2013 Nov 17 1108 Sequence Log .LOG
Starting sequence Sat Nov 16 21:56:01 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MASSHUNTER\GCMS\1\SEQUENCE\131113 NCI . sequence. xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131116 NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
33)	Sample	126	FIP1000CCV		
	Datafile		FIP1000CCV		
	Method		PYR_NCI		
34)	Sample	136	PYR1000CCV		
	Datafile		PYR1000CCV		
	Method		PYR_NCI		
35)	Sample	101	TOX10000CCV		
	Datafile		TOX10000CCV		
	Method		PYR_NCI		
36)	Sample	141	HEX4	HEX_NCI	HEX4

Sun Nov 17 01:43:14 2013
Fatal sequence error detected.
There was no bottle in the gripper.

D:\MassHunter\GCMS\1\data\131116 NCI\2013 Nov 16 2156 Sequence Log .LOG

Resuming sequence Sun Nov 17 11:08:57 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MASSHUNTER\GCMS\1\SEQUENCE\131113 NCI . sequence. xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131116 NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
38)	Sample	14	22571RR	PYR_NCI	22571RR
39)	Sample	15	22571R2	PYR_NCI	22571R2
40)	Sample	16	22572	PYR_NCI	22572
41)	Sample	17	22573	PYR_NCI	22573
42)	Sample	17	22573RR	PYR_NCI	22573RR
43)	Sample	18	22574	PYR_NCI	22574
44)	Sample	19	22575	PYR_NCI	22575
45)	Sample	20	22599	PYR_NCI	22599
46)	Sample	21	22600	PYR_NCI	22600
47)	Sample	126	FIP1000FCV		
	Datafile		FIP1000FCV		
	Method		PYR_NCI		
48)	Sample	136	PYR1000FCV		
	Datafile		PYR1000FCV		
	Method		PYR_NCI		
49)	Sample	101	TOX10000FCV		
	Datafile		TOX10000FCV		
	Method		PYR_NCI		

Sequence completed Sun Nov 17 23:52:45 2013

D:\MassHunter\GCMS\1\data\131116 NCI\2013 Nov 17 1108 Sequence Log .LOG

2013 Nov 22 0828 Sequence Log .LOG
Starting sequence Thu Nov 21 19:07:49 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MassHunter\GCMS\1\sequence\131121 PBDE NCI . sequence.xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131121 PBDE NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX	HEX_NCI	HEX

Thu Nov 21 19:41:43 2013
Fatal sequence error detected.
There was no bottle in the gripper.

D:\MassHunter\GCMS\1\data\131121 PBDE NCI\2013 Nov 21 1907 Sequence Log .LOG

Resuming sequence Fri Nov 22 08:28:46 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MassHunter\GCMS\1\sequence\131121 PBDE NCI . sequence.xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131121 PBDE NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
3)	Sample	121	PBDE10RR		
	Datafile		PBDE10RR		
	Method		NCI -15m PBDE		
4)	Sample	122	PBDE25		
	Datafile		PBDE25		
	Method		NCI -15m PBDE		
5)	Sample	123	PBDE50		
	Datafile		PBDE50		
	Method		NCI -15m PBDE		
6)	Sample	124	PBDE75		
	Datafile		PBDE75		
	Method		NCI -15m PBDE		
7)	Sample	125	PBDE100		
	Datafile		PBDE100		
	Method		NCI -15m PBDE		
8)	Sample	126	PBDE200		
	Datafile		PBDE200		
	Method		NCI -15m PBDE		
9)	Sample	141	HEX2	HEX_NCI	HEX2
10)	Sample	1	B_5039		
	Datafile		B_5039		
	Method		NCI -15m PBDE		
11)	Sample	2	BS1_5039		
	Datafile		BS1_5039		
	Method		NCI -15m PBDE		
12)	Sample	3	BS2_5039		
	Datafile		BS2_5039		
	Method		NCI -15m PBDE		
13)	Sample	4	22571MS1		
	Datafile		22571MS1		
	Method		NCI -15m PBDE		
14)	Sample	5	22571MS2		

2013 Nov 22 0828 Sequence Log .LOG

	Datafile		22571MS2		
	Method		NCI -15m PBDE		
15)	Sample	141	HEX3	HEX_NCI	HEX3
16)	Sample	6	22576		
	Datafile		22576		
	Method		NCI -15m PBDE		
17)	Sample	7	22551RE		
	Datafile		22551RE		
	Method		NCI -15m PBDE		
18)	Sample	8	22552		
	Datafile		22552		
	Method		NCI -15m PBDE		
19)	Sample	9	22553		
	Datafile		22553		
	Method		NCI -15m PBDE		
20)	Sample	10	22554		
	Datafile		22554		
	Method		NCI -15m PBDE		
21)	Sample	11	22555		
	Datafile		22555		
	Method		NCI -15m PBDE		
22)	Sample	126	PBDE200CCV		
	Datafile		PBDE200CCV		
	Method		NCI -15m PBDE		
23)	Sample	141	HEX4	HEX_NCI	HEX4
24)	Sample	12	22556		
	Datafile		22556		
	Method		NCI -15m PBDE		
25)	Sample	13	22557		
	Datafile		22557		
	Method		NCI -15m PBDE		
26)	Sample	14	22571		
	Datafile		22571		
	Method		NCI -15m PBDE		
27)	Sample	15	22571R2		
	Datafile		22571R2		
	Method		NCI -15m PBDE		
28)	Sample	16	22572		
	Datafile		22572		
	Method		NCI -15m PBDE		
29)	Sample	17	22573		
	Datafile		22573		
	Method		NCI -15m PBDE		
30)	Sample	18	22574		
	Datafile		22574		
	Method		NCI -15m PBDE		
31)	Sample	19	22575		
	Datafile		22575		
	Method		NCI -15m PBDE		
32)	Sample	20	22599		
	Datafile		22599		
	Method		NCI -15m PBDE		
33)	Sample	21	22600		
	Datafile		22600		
	Method		NCI -15m PBDE		
34)	Sample	7	22551		
	Datafile		22551		
	Method		NCI -15m PBDE		
35)	Sample	126	PBDE200FCV		
	Datafile		PBDE200FCV		
	Method		NCI -15m PBDE		

Sequence completed Sat Nov 23 05:29:53 2013

2013 Nov 22 0828 Sequence Log .LOG

D:\MassHunter\GCMS\1\data\131121 PBDE NCI\2013 Nov 22 0828 Sequence Log .LOG

2014 May 30 1739 Sequence Log .LOG
Starting sequence Fri May 30 17:39:40 2014

Instrument Name: GCMS3

Sequence File: D:\MassHunter\GCMS\1\sequence\Q3_140524 EI 0-6004. sequence. x
ml

Comment:

Operator:

Data Path: D:\MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\

Method Path: D:\MassHunter\GCMS\1\methods\checkout\

Line	Type	Vials	DataFile	Sample Name

Acquisition Method: EI Scan. M				
48)	Sample	111	TOX1000	TOX1000
49)	Sample	112	TOX2500	TOX2500
50)	Sample	113	TOX5000	TOX5000
51)	Sample	114	TOX7500	TOX7500
52)	Sample	115	TOX10000	TOX10000
53)	Sample	121	PYR25	PYR25
54)	Sample	122	PYR50	PYR50
55)	Sample	123	PYR100	PYR100
56)	Sample	124	PYR250	PYR250
57)	Sample	125	PYR500	PYR500
58)	Sample	131	FIP+RES25	FIP+RES25
59)	Sample	132	FIP+RES50	FIP+RES50
60)	Sample	133	FIP+RES100	FIP+RES100
Sequence Table edit performed Sat May 31 16:12:21 2014				
61)	Sample	134	FIP+RES250	FIP+RES250
62)	Sample	135	FIP+RES500	FIP+RES500
Acquisition Method: EI_HEX. M				
63)	Sample	141	HEX6	HEX6
Acquisition Method: EI Scan. M				
64)	Sample	91	OCP_PAH_PCB_SPE. . . _100	OCP_PAH_PCB_SPEX500_100
Acquisition Method: EI_HEX. M				
65)	Sample	141	HEX7	HEX7
Acquisition Method: EI Scan. M				
66)	Sample	1	B1_6004CC	B1_6004CC
Comment: 22544, NA, B1, 5/16/2014, 0-6004,				
67)	Sample	2	BS1_6004CC	BS1_6004CC
Comment: 22544, NA, BS1, 5/16/2014, 0-6004,				
68)	Sample	3	BS2_6004CC	BS2_6004CC
Comment: 22544, NA, BS2, 5/16/2014, 0-6004,				
69)	Sample	4	22571MS1CC	22571MS1CC
Comment: 22571, NA, MS1, 5/16/2014, 0-6004,				
70)	Sample	5	22571MS2CC	22571MS2CC
Comment: 22571, NA, MS2, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
71)	Sample	141	HEX3CC	HEX3CC
Acquisition Method: EI Scan. M				
72)	Sample	6	22576CC	22576CC
Comment: 22576, NA, CRM1, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
73)	Sample	141	HEX4CC	HEX4CC
Acquisition Method: EI Scan. M				
74)	Sample	7	22551CC	22551CC

2014 May 30 1739 Sequence Log . LOG

75)	Comment:	22551, NA, R1, 5/16/2014, 0-6004,	
	Sample	8	22552CC
	Comment:	22552, NA, R1, 5/16/2014, 0-6004,	22552CC
76)	Sample	9	22553CC
	Comment:	22553, NA, R1, 5/16/2014, 0-6004,	22553CC
77)	Sample	10	22554CC
	Comment:	22554, NA, R1, 5/16/2014, 0-6004,	22554CC
78)	Sample	103	PAH500CCV2
79)	Sample	105	OCP500_PCB100CCV2

Acqui si ti on Method: EI_HEX. M

80)	Sample	141	HEX52	HEX52
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Acqui si ti on Method: EI Scan. M

81)	Sample	11	22555CC	22555CC
	Comment:	22555, NA, R1, 5/16/2014, 0-6004,		
82)	Sample	12	22556CC	22556CC
	Comment:	22556, NA, R1, 5/16/2014, 0-6004,		
83)	Sample	21	22557CC	22557CC
	Comment:	22557, NA, R1, 5/16/2014, 0-6004,		
84)	Sample	13	22571CC	22571CC
	Comment:	22571, NA, R1, 5/16/2014, 0-6004,		
85)	Sample	14	22571R2CC	22571R2CC
	Comment:	22571, NA, R2, 5/16/2014, 0-6004,		
86)	Sample	15	22572CC	22572CC
	Comment:	22572, NA, R1, 5/16/2014, 0-6004,		
87)	Sample	16	22573CC	22573CC
	Comment:	22573, NA, R1, 5/16/2014, 0-6004,		
88)	Sample	17	22574CC	22574CC
	Comment:	22574, NA, R1, 5/16/2014, 0-6004,		
89)	Sample	22	22575CC	22575CC
	Comment:	22575, NA, R1, 5/16/2014, 0-6004,		
90)	Sample	18	22599CC	22599CC
	Comment:	22599, NA, R1, 5/16/2014, 0-6004,		
91)	Sample	19	22600CC	22600CC
	Comment:	22600, NA, R1, 5/16/2014, 0-6004,		
92)	Sample	103	PAH500FCV2	PAH500FCV2
93)	Sample	105	OCP500_PCB100FCV2	OCP500_PCB100FCV2
94)	Sample	61	PYR500CCV	PYR500CCV
95)	Sample	62	RES500CCV	RES500CCV

Acqui si ti on Method: EI_HEX. M

96)	Sample	141	HEX8	HEX8
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Acqui si ti on Method: EI Scan. M

97)	Sample	31	26212	26212
	Comment:	26212, NA, R1, 5/28/2014, 0-6016,		
98)	Sample	32	26213	26213
	Comment:	26213, NA, R1, 5/28/2014, 0-6016,		
99)	Sample	33	26214	26214
	Comment:	26214, NA, R1, 5/28/2014, 0-6016,		
100)	Sample	34	26215	26215
	Comment:	26215, NA, R1, 5/28/2014, 0-6016,		
101)	Sample	35	26781	26781
	Comment:	26781, NA, R1, 5/28/2014, 0-6016,		
102)	Sample	36	26782	26782
	Comment:	26782, NA, R1, 5/28/2014, 0-6016,		
103)	Sample	37	26783	26783
	Comment:	26783, NA, R1, 5/28/2014, 0-6016,		
104)	Sample	38	26784	26784
	Comment:	26784, NA, R1, 5/28/2014, 0-6016,		
105)	Sample	39	26785	26785
	Comment:	26785, NA, R1, 5/28/2014, 0-6016,		

2014 May 30 1739 Sequence Log . LOG
 Sequence Table edit performed Tue Jun 03 10: 46: 33 2014

106) Sample	40	26786	26786
Comment: 26786, NA, R1, 5/28/2014, 0-6016,			
107) Sample	41	26787	26787
Comment: 26787, NA, R1, 5/28/2014, 0-6016,			
108) Sample	61	PYR500FCV	PYR500FCV
109) Sample	62	RES500FCV	RES500FCV
110) Sample	121	PYR25_POST	PYR25_POST
111) Sample	122	PYR50_POST	PYR50_POST
112) Sample	123	PYR100_POST	PYR100_POST
113) Sample	124	PYR250_POST	PYR250_POST

Sequence completed Tue Jun 03 23: 55: 35 2014

D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 30 1739 Quality Log.
 D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 30 1739 Sequence Log

2014 May 27 1040 Sequence Log .LOG
 Starting sequence Tue May 27 10:40:05 2014

Instrument Name: GCMS3
 Sequence File: D:\MassHunter\GCMS\1\sequence\Q3_140524 EI 0-6004.sequence.xml

... Comment:
 Operator:
 Data Path: D:\MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\
 Method Path: D:\MassHunter\GCMS\1\methods\checkout\

Line	Type	Vials	DataFile	Sample Name
Acquisition Method: EI Scan. M				
2)	Sample	101	PYR_RES1000	PYR_RES1000
3)	Sample	102	TRAL0500	TRAL0500
4)	Sample	103	PAH500	PAH500
5)	Sample	104	FIP500	FIP500
6)	Sample	105	OCP500_PCB100	OCP500_PCB100
7)	Sample	106	SPEXMI X500_100I CV	SPEXMI X500_100I CV
8)	Sample	51	OXY1000I CV	OXY1000I CV
9)	Sample	51	OXY1000I CV_2	OXY1000I CV_2
10)	Sample	142	TUNE	TUNE
Acquisition Method: EI_HEX. M				
11)	Sample	141	HEX2	HEX2
Acquisition Method: EI Scan. M				
12)	Sample	1	B1_6004	B1_6004
Comment: 22544, NA, B1, 5/16/2014, 0-6004,				
13)	Sample	2	BS1_6004	BS1_6004
Comment: 22544, NA, BS1, 5/16/2014, 0-6004,				
14)	Sample	3	BS2_6004	BS2_6004
Comment: 22544, NA, BS2, 5/16/2014, 0-6004,				
15)	Sample	4	22571MS1	22571MS1
Comment: 22571, NA, MS1, 5/16/2014, 0-6004,				
16)	Sample	5	22571MS2	22571MS2
Comment: 22571, NA, MS2, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
17)	Sample	141	HEX3	HEX3
Acquisition Method: EI Scan. M				
18)	Sample	6	22576	22576
Comment: 22576, NA, CRM1, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
19)	Sample	141	HEX4	HEX4
Acquisition Method: EI Scan. M				
20)	Sample	7	22551	22551
Comment: 22551, NA, R1, 5/16/2014, 0-6004,				
21)	Sample	8	22552	22552
Comment: 22552, NA, R1, 5/16/2014, 0-6004,				
22)	Sample	9	22553	22553
Comment: 22553, NA, R1, 5/16/2014, 0-6004,				
23)	Sample	10	22554	22554
Comment: 22554, NA, R1, 5/16/2014, 0-6004,				
24)	Sample	11	22555	22555
Comment: 22555, NA, R1, 5/16/2014, 0-6004,				
25)	Sample	12	22556	22556
Comment: 22556, NA, R1, 5/16/2014, 0-6004,				
26)	Sample	41	22492_RR_CC	22492_RR_CC
Comment: 22492, NA, CRM1, 4/22/2014, 0-5136,				

2014 May 27 1040 Sequence Log . LOG

27) Sample	42	22492_RR	22492_RR
Comment: 22492, NA, CRM1, 4/22/2014, 0-5136,			
28) Sample	101	PYR_RES1000CCV	PYR_RES1000CCV
29) Sample	102	TRAL0500CCV	TRAL0500CCV
30) Sample	103	PAH500CCV	PAH500CCV
31) Sample	104	FI P500CCV	FI P500CCV
32) Sample	105	OCP500_PCB100CCV	OCP500_PCB100CCV

Acquisition Method: EI_HEX.M

33) Sample	141	HEX5	HEX5
------------	-----	------	------

Acquisition Method: EI Scan.M

34) Sample	13	22557	22557
Comment: 22557, NA, R1, 5/16/2014, 0-6004,			
35) Sample	14	22571	22571
Comment: 22571, NA, R1, 5/16/2014, 0-6004,			
36) Sample	15	22571R2	22571R2
Comment: 22571, NA, R2, 5/16/2014, 0-6004,			
37) Sample	16	22572	22572
Comment: 22572, NA, R1, 5/16/2014, 0-6004,			
38) Sample	17	22573	22573
Comment: 22573, NA, R1, 5/16/2014, 0-6004,			
39) Sample	18	22574	22574
Comment: 22574, NA, R1, 5/16/2014, 0-6004,			
40) Sample	19	22575	22575
Comment: 22575, NA, R1, 5/16/2014, 0-6004,			
41) Sample	20	22599	22599
Comment: 22599, NA, R1, 5/16/2014, 0-6004,			
42) Sample	21	22600	22600
Comment: 22600, NA, R1, 5/16/2014, 0-6004,			
43) Sample	101	PYR_RES1000FCV	PYR_RES1000FCV
44) Sample	102	TRAL0500FCV	TRAL0500FCV
45) Sample	103	PAH500FCV	PAH500FCV
46) Sample	104	FI P500FCV	FI P500FCV
47) Sample	105	OCP500_PCB100FCV	OCP500_PCB100FCV

Sequence completed Fri May 30 09: 24: 46 2014

D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 27 1040 Quality Log.
D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 27 1040 Sequence Log

Fipronil & Degradates

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Initial Calibration Data

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Quantitative Analysis Calibration Report

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Batch Info

Batch Data Path	P:\Data, Organics Lab_Q1 Data Files\131108 NCI\QuantResults\O-5034 FIP.batch.bin		
Analysis Time	11/8/2014 9:24 PM	Analyst Name	
Report Time	6/10/2014 3:35 PM	Reporter Name	
Last Calib Update	11/20/2013 4:27 PM	Batch State	

Calibration Information

Fipronil Desulfinyl

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\Masshunter\Data\13110					
8 NCI\FIP100.D	Calibration	4	77372	100.0000	35.1051
C:\Masshunter\Data\13110					
8 NCI\FIP1000CCV.D	Calibration	1	844109	1000.0000	60.8916
C:\Masshunter\Data\13110					
8 NCI\FIP25.D	Calibration	6	32079	25.0000	57.2862
C:\Masshunter\Data\13110					
8 NCI\FIP250.D	Calibration	3	146477	250.0000	50.5091
C:\Masshunter\Data\13110					
8 NCI\FIP50.D	Calibration	5	38001	50.0000	59.2521
C:\Masshunter\Data\13110					
8 NCI\FIP500.D	Calibration	2	439911	500.0000	35.1639

Fipronil Sulfide

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\Masshunter\Data\13110					
8 NCI\FIP100.D	Calibration	4	76387	100.0000	34.6578
C:\Masshunter\Data\13110					
8 NCI\FIP1000CCV.D	Calibration	1	731099	1000.0000	52.7394
C:\Masshunter\Data\13110					
8 NCI\FIP25.D	Calibration	6	28666	25.0000	51.1908
C:\Masshunter\Data\13110					
8 NCI\FIP250.D	Calibration	3	121272	250.0000	41.8177
C:\Masshunter\Data\13110					
8 NCI\FIP50.D	Calibration	5	38172	50.0000	59.5191
C:\Masshunter\Data\13110					
8 NCI\FIP500.D	Calibration	2	436710	500.0000	34.9081

Fipronil

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\Masshunter\Data\13110					
8 NCI\FIP100.D	Calibration	4	19710	100.0000	8.9429
C:\Masshunter\Data\13110					
8 NCI\FIP1000CCV.D	Calibration	1	173487	1000.0000	12.5148
C:\Masshunter\Data\13110					
8 NCI\FIP25.D	Calibration	6	6899	25.0000	12.3201
C:\Masshunter\Data\13110					
8 NCI\FIP250.D	Calibration	3	28957	250.0000	9.9850
C:\Masshunter\Data\13110					
8 NCI\FIP50.D	Calibration	5	8376	50.0000	13.0604
C:\Masshunter\Data\13110					
8 NCI\FIP500.D	Calibration	2	99143	500.0000	7.9249

Fipronil Sulfone

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\Masshunter\Data\13110					
8 NCI\FIP100.D	Calibration	4	34009	100.0000	15.4303
C:\Masshunter\Data\13110					
8 NCI\FIP1000CCV.D	Calibration	1	264975	1000.0000	19.1145
C:\Masshunter\Data\13110					
8 NCI\FIP25.D	Calibration	6	9600	25.0000	17.1433
C:\Masshunter\Data\13110					
8 NCI\FIP250.D	Calibration	3	60264	250.0000	20.7805
C:\Masshunter\Data\13110					
8 NCI\FIP50.D	Calibration	5	15040	50.0000	23.4504

Quantitative Analysis Calibration Report

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C:\Masshunter\Data\13110					
8 NCI\FIP500.D	Calibration	2	132877	500.0000	10.6214

2,2',5,5'-Tetrabromobiphenyl

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\Masshunter\Data\13110					
8 NCI\FIP100.D	Calibration	4	22040	1000.0000	22.0402
C:\Masshunter\Data\13110					
8 NCI\FIP1000CCV.D	Calibration	1	13862	1000.0000	13.8625
C:\Masshunter\Data\13110					
8 NCI\FIP25.D	Calibration	6	22399	1000.0000	22.3991
C:\Masshunter\Data\13110					
8 NCI\FIP250.D	Calibration	3	11600	1000.0000	11.6001
C:\Masshunter\Data\13110					
8 NCI\FIP50.D	Calibration	5	12827	1000.0000	12.8269
C:\Masshunter\Data\13110					
8 NCI\FIP500.D	Calibration	2	25021	1000.0000	25.0206

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Continuing Calibration Data

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	P:\Data, Organics Lab_Q1 Data Files\131108 NCI\QuantResults\O-5034 FIP.batch.bin		
Analysis Time	11/10/2014 4:18 AM	Analyst Name	eugenechae
Report Time	6/10/2014 3:35 PM	Reporter Name	eugenechae
Last Calib Update	11/20/2013 4:27 PM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	FIP1000CCV
Level	1	Data File	FIP1000CCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Calibration	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD 2,2',5,5'-	RT	Response	ISTD Resp	RR	Final Conc	
Fipronil Desulfinyl	Tetrabromobiphenyl	17.166	844109	13862	60.8916	1014.1387	ng
Fipronil Sulfide	Tetrabromobiphenyl	19.093	731099	13862	52.7394	1015.1652	ng
Fipronil	Tetrabromobiphenyl	19.372	173487	13862	12.5148	1014.5149	ng
Fipronil Sulfone	Tetrabromobiphenyl	21.502	264975	13862	19.1145	996.2741	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	P:\Data, Organics Lab_Q1 Data Files\131108 NCI\QuantResults\O-5034 FIP.batch.bin		
Analysis Time	11/10/2014 9:50 PM	Analyst Name	eugenechae
Report Time	6/10/2014 3:35 PM	Reporter Name	eugenechae
Last Calib Update	11/20/2013 4:27 PM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	FIP1000FCV
Level		Data File	FIP1000FCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD 2,2',5,5'-	RT	Response	ISTD Resp	RR	Final Conc	
Fipronil Desulfinyl	Tetrabromobiphenyl	17.183	424333	7416	57.2151	952.9071	ng
Fipronil Sulfide	Tetrabromobiphenyl	19.110	355411	7416	47.9219	922.4338	ng
Fipronil	Tetrabromobiphenyl	19.381	84056	7416	11.3336	918.7618	ng
Fipronil Sulfone	Tetrabromobiphenyl	21.545	115877	7416	15.6244	814.3619	ng

	FIP1000 CCV			FIP1000 FCV		
	11/10/14 4:18 AM			11/10/14 9:50 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Fipronil Desulfinyl	1000	1014	1	1000	953	5
Fipronil Sulfide	1000	1015	2	1000	922	8
Fipronil	1000	1015	1	1000	919	8
Fipronil Sulfone	1000	996	0	1000	814	19
Average	-	-	1	-	-	13

PolyBrominated Diphenyl Ethers (PBDEs)

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	2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time
PBDE200ICV	953570.5306	16.67921667
B_5039	4676807.647	16.67448333
BS1_5039	3591351.281	16.66951667
BS2_5039	2944555.961	16.67436667
22571MS1	4851583.649	16.67436667
22571MS2	2720244.22	16.67436667
22576	4130593.455	16.72775
22551	3111871.999	16.67436667
22552	7524644.433	16.68405
22553	4933763.836	16.67921667
22554	5950076.989	16.67921667
22555	5027026.001	16.67436667
PBDE200CCV	870708.9844	16.67436667
22556	5562542.72	16.67448333
22557	2412738.031	16.67436667
22571	5859813.944	16.67921667
22571R2	2042794.64	16.67436667
22572	3868828.156	16.67436667
22573	2191636.493	16.66951667
22574	1206.566939	16.66951667
22575	4950954.606	16.66951667
22599	4074408.09	16.67436667
22600	5634492.763	16.67921667
22551	2855057.357	16.67436667
PBDE200FCV	840166.3222	16.66951667

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Initial Calibration Data

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Quantitative Analysis Calibration Report

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Batch Info

Batch Data Path	C:\msdchem\1\DATA\O-5034 PBDE\QuantResults\O-5034 PBDE.batch.bin	Analyst Name	
Analysis Time	11/19/2014 2:19 PM	Reporter Name	
Report Time	6/10/2014 12:31 PM	Batch State	
Last Calib Update	1/7/2014 7:24 PM		

Calibration Information*(FTBDE)*

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	362466	50.0000	0.8609
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	337714	50.0000	0.8698
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	607995	50.0000	1.0693
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	307831	50.0000	0.8625
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	296957	50.0000	0.8792
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	282764	50.0000	0.8521

PBDE017

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	52253	10.0000	0.6205
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	528996	100.0000	0.6812
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1704812	200.0000	0.7496
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	123267	25.0000	0.6908
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	223360	50.0000	0.6613
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	332929	75.0000	0.6688

PBDE028

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	58500	10.0000	0.6947
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	566816	100.0000	0.7300
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1874211	200.0000	0.8241
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	117608	25.0000	0.6590
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	216999	50.0000	0.6425
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	338205	75.0000	0.6794

2,2',5,5'Tetrabromobiphenyl

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	8420757	1000.0000	8420.7572
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	7765091	1000.0000	7765.0915
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	11371385	1000.0000	11371.3849
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	7138104	1000.0000	7138.1044
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	6755020	1000.0000	6755.0195

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D Calibration 3 6636959 1000.0000 6636.9590

PBDE049

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	61371	10.0000	0.7288
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	585232	100.0000	0.7537
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1850487	200.0000	0.8137
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	133638	25.0000	0.7489
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	238360	50.0000	0.7057
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	355624	75.0000	0.7144

PBDE071

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	54217	10.0000	0.6438
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	493999	100.0000	0.6362
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1680098	200.0000	0.7387
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	110183	25.0000	0.6174
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	192682	50.0000	0.5705
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	301875	75.0000	0.6065

PBDE047

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	54571	10.0000	0.6481
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	454915	100.0000	0.5858
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1606336	200.0000	0.7063
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	103036	25.0000	0.5774
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	173451	50.0000	0.5135
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	279045	75.0000	0.5606

PBDE066

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	76790	10.0000	0.9119
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	505778	100.0000	0.6513
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1657219	200.0000	0.7287
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	120178	25.0000	0.6734
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	194152	50.0000	0.5748
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	300050	75.0000	0.6028

PBDE100

Calibration STD	CalType	Level	Response	Exp Conc	RF
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Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	47004	10.0000	0.5582
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	424904	100.0000	0.5472
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1356524	200.0000	0.5965
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	92995	25.0000	0.5211
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	155825	50.0000	0.4614
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	246104	75.0000	0.4944

(DFPBDE)

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	255002	50.0000	0.6057
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	271392	50.0000	0.6990
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	448005	50.0000	0.7880
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	211378	50.0000	0.5923
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	189019	50.0000	0.5596
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	205194	50.0000	0.6183

PBDE099

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	50407	10.0000	0.5986
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	442583	100.0000	0.5700
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1386670	200.0000	0.6097
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	92620	25.0000	0.5190
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	148404	50.0000	0.4394
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	253216	75.0000	0.5087

PBDE085

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	39462	10.0000	0.4686
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	360304	100.0000	0.4640
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1060242	200.0000	0.4662
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	72504	25.0000	0.4063
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	120379	50.0000	0.3564
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	199688	75.0000	0.4012

PBDE154

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	44515	10.0000	0.5286
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	412441	100.0000	0.5311

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1209803	200.0000	0.5320
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	83023	25.0000	0.4652
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	142484	50.0000	0.4219
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	243445	75.0000	0.4891

PBDE153

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	39939	10.0000	0.4743
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	390618	100.0000	0.5030
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1095420	200.0000	0.4817
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	80633	25.0000	0.4518
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	129283	50.0000	0.3828
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	219510	75.0000	0.4410

PBDE138

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	33029	10.0000	0.3922
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	358264	100.0000	0.4614
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	993361	200.0000	0.4368
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	72370	25.0000	0.4055
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	102656	50.0000	0.3039
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	198720	75.0000	0.3992

PBDE183

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	38071	10.0000	0.4521
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	311176	100.0000	0.4007
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	846727	200.0000	0.3723
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	66367	25.0000	0.3719
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	101259	50.0000	0.2998
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	185387	75.0000	0.3724

PBDE190

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	13841	10.0000	0.1644
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	154666	100.0000	0.1992
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	367277	200.0000	0.1615
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	32494	25.0000	0.1821

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	41375	50.0000	0.1225
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	88271	75.0000	0.1773

PBDE209

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	1273	50.0000	0.0030
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	7426	500.0000	0.0019
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	19867	1000.0000	0.0017
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	2479	125.0000	0.0028
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	2622	250.0000	0.0016
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	5048	375.0000	0.0020

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Continuing Calibration Data

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path C:\msdchem\1\DATA\O-5034 PBDE\QuantResults\O-5034 PBDE.batch.bin
Analysis Time 11/20/2014 3:06 AM **Analyst Name** eugenechae
Report Time 6/10/2014 12:31 PM **Reporter Name** eugenechae
Last Calib Update 1/7/2014 7:24 PM **Batch State** Processed

Analysis Info

Acq Time
Level
Position
Sample Type Sample
Dilution 1

Sample Name PBDE200CCV
Data File PBDE200CCV.D
Acq Method File NCI-15m PBDE.M
Sample Info
Comment

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphe nyl	15.154	91575	2163969	0.0423	47.0736	ng
PBDE017	2,2',5,5'Tetrabromobiphe nyl	15.706	277446	2163969	0.1282	176.6791	ng
PBDE028	2,2',5,5'Tetrabromobiphe nyl	16.054	318603	2163969	0.1472	187.6555	ng
PBDE049	2,2',5,5'Tetrabromobiphe nyl	18.035	275487	2163969	0.1273	161.4406	ng
PBDE071	2,2',5,5'Tetrabromobiphe nyl	18.118	279872	2163969	0.1293	184.7424	ng
PBDE047	2,2',5,5'Tetrabromobiphe nyl	18.423	247731	2163969	0.1145	172.8648	ng
PBDE066	2,2',5,5'Tetrabromobiphe nyl	18.757	264642	2163969	0.1223	175.5358	ng
PBDE100	2,2',5,5'Tetrabromobiphe nyl	20.254	225042	2163969	0.1040	181.8946	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphe nyl	20.588	68927	2163969	0.0319	49.4748	ng
PBDE099	2,2',5,5'Tetrabromobiphe nyl	20.757	225209	2163969	0.1041	177.8735	ng
PBDE085	2,2',5,5'Tetrabromobiphe nyl	21.619	176131	2163969	0.0814	179.1577	ng
PBDE154	2,2',5,5'Tetrabromobiphe nyl	22.215	215335	2163969	0.0995	190.5119	ng
PBDE153	2,2',5,5'Tetrabromobiphe nyl	22.927	196826	2163969	0.0910	190.7338	ng
PBDE138	2,2',5,5'Tetrabromobiphe nyl	23.789	168352	2163969	0.0778	180.3712	ng
PBDE183	2,2',5,5'Tetrabromobiphe nyl	24.937	157195	2163969	0.0726	194.1260	ng
PBDE190	2,2',5,5'Tetrabromobiphe nyl	26.085	66646	2163969		183.3474	ng
PBDE209	2,2',5,5'Tetrabromobiphe nyl	29.964	2957	2163969		756.3519	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\msdchem\1\DATA\O-5034 PBDE\QuantResults\O-5034 PBDE.batch.bin	Analyst Name	eugenechae
Analysis Time	11/20/2014 12:07 PM	Reporter Name	eugenechae
Report Time	6/10/2014 12:31 PM	Batch State	Processed
Last Calib Update	1/7/2014 7:24 PM		

Analysis Info

Acq Time		Sample Name	PBDE200FCV
Level		Data File	PBDE200FCV.D
Position		Acq Method File	NCI-15m PBDE.M
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphenyl	15.158	111235	2613940	0.0426	47.3364	ng
PBDE017	2,2',5,5'Tetrabromobiphenyl	15.711	341387	2613940	0.1306	179.9734	ng
PBDE028	2,2',5,5'Tetrabromobiphenyl	16.059	384857	2613940	0.1472	187.6576	ng
PBDE049	2,2',5,5'Tetrabromobiphenyl	18.035	326384	2613940	0.1249	158.3418	ng
PBDE071	2,2',5,5'Tetrabromobiphenyl	18.122	339491	2613940	0.1299	185.5199	ng
PBDE047	2,2',5,5'Tetrabromobiphenyl	18.428	292410	2613940	0.1119	168.9168	ng
PBDE066	2,2',5,5'Tetrabromobiphenyl	18.762	295763	2613940	0.1131	162.4072	ng
PBDE100	2,2',5,5'Tetrabromobiphenyl	20.254	241364	2613940	0.0923	161.5042	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphenyl	20.593	71805	2613940	0.0275	42.6679	ng
PBDE099	2,2',5,5'Tetrabromobiphenyl	20.762	235713	2613940	0.0902	154.1224	ng
PBDE085	2,2',5,5'Tetrabromobiphenyl	21.629	164001	2613940	0.0627	138.1027	ng
PBDE154	2,2',5,5'Tetrabromobiphenyl	22.220	213097	2613940	0.0815	156.0776	ng
PBDE153	2,2',5,5'Tetrabromobiphenyl	22.932	174237	2613940	0.0667	139.7793	ng
PBDE138	2,2',5,5'Tetrabromobiphenyl	23.799	128385	2613940	0.0491	113.8727	ng
PBDE183	2,2',5,5'Tetrabromobiphenyl	24.937	111787	2613940	0.0428	114.2854	ng
PBDE190	2,2',5,5'Tetrabromobiphenyl	26.090	37151	2613940	0.0142	84.6108	ng
PBDE209	2,2',5,5'Tetrabromobiphenyl	29.954	1389	2613940		294.0340	ng

	PBDE200 CCV			PBDE200 FCV		
	11/20/14 3:06 AM			11/20/14 12:07 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
FTBDE	50	47	5.85	50	47	5.33
DFPBDE	50	49	1.05	50	43	14.66
PBDE017	200	177	11.66	200	180	10.01
PBDE028	200	188	6.17	200	188	6.17
PBDE049	200	161	19.28	200	158	20.83
PBDE071	200	185	7.63	200	186	7.24
PBDE047	200	173	13.57	200	169	15.54
PBDE066	200	176	12.23	200	162	18.80
PBDE100	200	182	9.05	200	162	19.25
PBDE099	200	178	11.06	200	154	22.94
PBDE085	200	179	10.42	200	138	30.95
PBDE154	200	191	4.74	200	156	21.96
PBDE153	200	191	4.63	200	140	30.11
PBDE138	200	180	9.81	200	114	43.06
PBDE183	200	194	2.94	200	114	42.86
PBDE190	200	183	8.33	200	85	57.69
PBDE209	1000	756	24.36	1000	294	70.60
Average	-	-	9.58	-	-	25.76

PHYSIS

Pyrethroids

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Summary of Internal Standards

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	2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time
Spex_500ICV	236069	50.862
B_6004	865025	50.859
BS1_6004	1054479	50.855
BS2_6004	1090869	50.853
22571MS1	751887	50.829
22571MS2	685069	50.83
22576	853512	50.887
22551	908562	50.855
22552	1025891	50.857
22553	936527	50.86
22554	968541	50.856
22555	851572	50.854
22556	1086888	50.851
PYR1000CCV	311662	50.863
22557	1001001	50.851
22571	1224777	50.85
22571R2	1147905	50.85
22572	1046552	50.85
22573	908979	50.854
22574	1021303	50.847
22575	826008	50.85
22599	805724	50.848
22600	936840	50.847
PYR1000FCV	347568	50.865

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Initial Calibration Data

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Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Method File : Q_PYR_EI_140528.M
 Title : Pyrethroids
 Last Update : Mon Jun 02 09:29:20 2014
 Response Via : Initial Calibration

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Calibration Files

1000=PYR1000.D 500 =PYR500.D 250 =PYR250.D 100 =PYR100.D 50 =PYR50.D 25 =PYR25.D

Compound		1000	500	250	100	50	25	Avg	%RSD

1) I	4,4'-Dibromobiphenyl	-----ISTD-----							
2) S	(TCMX)-PYR	0.478	0.416	0.468	0.447	0.469	0.461	0.456	4.90
3) s	(PCB030)-PYR	1.264	1.137	1.239	1.222	1.237	1.263	1.227	3.82
4)	Allethrin	1.021	0.960	0.808	0.663	0.642	0.666	0.793	20.75
5)	Prallethrin	0.894	0.866	0.600	0.476	0.441	0.428	0.618	34.40
6)	Resmethrin	0.443						0.443	0.00
7) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
8) s	(PCB112)-PYR	4.555	4.269	4.481	4.685	4.608	4.648	4.541	3.33
9) s	(PCB198)-PYR	1.471	1.406	1.410	1.450	1.410	1.427	1.429	1.85
10)	Bifenthrin	9.881	9.548	8.406	7.814	7.001	7.556	8.368	13.64
11)	Danitol (Fenpr...	2.748	2.662	2.281	2.151	1.909	1.635	2.231	19.24
12)	Cyhalothrin-la...	2.032	1.983	1.552	1.346	1.229	1.339	1.580	22.00
13)	Permethrin-cis	5.612	5.669	4.597	4.799	4.244	5.159	5.013	11.36
14)	Permethrin-trans	4.772	4.860	3.976	3.881	3.637	4.211	4.223	11.74
15)	Cyfluthrin-1	0.388	0.396	0.330	0.288	0.258	0.467	0.355	21.77
16)	Cyfluthrin-2	0.528	0.549	0.401	0.372	0.334	0.538	0.454	21.00
17)	Cyfluthrin-3	0.294	0.305	0.255	0.285	0.262	0.243	0.274	8.84
18)	Cyfluthrin-4	0.250	0.266	0.216	0.245	0.299	0.334	0.269	15.67
19)	Cypermethrin-1	0.426	0.450	0.371	0.248	0.438	0.355	0.381	19.84
20)	Cypermethrin-2	0.375	0.410	0.324	0.281	0.243	0.303	0.323	18.94
21)	Cypermethrin-3	0.376	0.393	0.293	0.265	0.314	0.400	0.340	16.77
22)	Cypermethrin-4	0.294	0.303	0.244	0.193	0.261	0.214	0.251	17.16
23)	Fenvalerate	1.623	1.689	1.232	1.142	1.285	1.371	1.390	15.82
24)	Esfenvalerate	1.758	1.850	1.460	1.254	1.245	1.627	1.532	16.65
25)	Fluvalinate	1.446	1.541	1.051	0.835	0.911	0.795	1.097	29.28
26)	Deltamethrin/T...	0.433	0.460	0.206	0.247	0.179		0.305	43.11

(#) = Out of Range

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Continuing Calibration Data

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Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : SPEXMIX500_100ICV.D
 Acq On : 27 May 2014 06:56 pm
 Operator :
 Sample : SPEXMIX500_100ICV
 Misc :
 ALS Vial : 106 Sample Multiplier: 1

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Quant Time: Jun 13 14:38:32 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PYR_EI_140528.M
 Quant Title : Pyrethroids
 QLast Update : Mon Jun 02 09:29:20 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	39.810	312	1216332	1000.00		-0.07
7) 2,2',5,5'-Tetrabromobi...	50.862	391	236069	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)-PYR	25.543	244	233211	420.01		0.00
3) (PCB030)-PYR	30.578	256	587048	393.36		-0.02
8) (PCB112)-PYR	45.059	326	459245	428.40		0.01
9) (PCB198)-PYR	59.203	358	128068	379.69		0.03
Target Compounds						
					Qvalue	
4) Allethrin	42.708	123	767380m	633.79		
5) Prallethrin	43.713	123	440741m	416.16		
6) Resmethrin	0.000		0	N.D.		
10) Bifenthrin	55.857	181	2814174	1225.61		99
11) Danitol (Fenpropathrin)	56.235	97	503398	788.85		95
12) Cyhalothrin-lambda	59.732	181	231104	491.19		90
13) Permethrin-cis	62.329	183	255605	194.53		97
14) Permethrin-trans	62.836	183	1084524	968.75		98
15) Cyfluthrin-1	64.685	163	63065	692.92	#	83
16) Cyfluthrin-2	65.064	163	79020	638.14	#	70
17) Cyfluthrin-3	65.332	163	58092m	836.51		
18) Cyfluthrin-4	65.509	163	80624	1355.57	#	85
19) Cypermethrin-1	65.829	163	97603m	969.88		
20) Cypermethrin-2	66.227	163	97625	1094.11		92
21) Cypermethrin-3	66.495	163	94053	1064.56		95
22) Cypermethrin-4	66.658	163	88056	1275.70	#	90
23) Fenvalerate	69.247	125	483373	1269.58	#	80
24) Esfenvalerate	70.037	125	474394	1144.29	#	88
25) Fluvalinate	70.371	250	360871	1062.18	#	42
26) Deltamethrin/Tralomethrin	72.039	253	79254	789.69	#	26

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : PYR_RES1000CCV.D
 Acq On : 29 May 2014 01:49 am
 Operator :
 Sample : PYR_RES1000CCV
 Misc :
 ALS Vial : 101 Sample Multiplier: 1

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Quant Time: Jun 13 14:40:21 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PYR_EI_140528.M
 Quant Title : Pyrethroids
 QLast Update : Mon Jun 02 09:29:20 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	39.841	312	1512225	1000.00		-0.04
7) 2,2',5,5'-Tetrabromobi...	50.863	391	311662	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)-PYR	25.550	244	264296	382.85		0.01
3) (PCB030)-PYR	30.588	256	715384	385.56		0.00
8) (PCB112)-PYR	45.058	326	593413	419.30		0.00
9) (PCB198)-PYR	59.194	358	180681	405.75		0.02
Target Compounds						
					Qvalue	
4) Allethrin	42.698	123	1106015m	734.74		
5) Prallethrin	43.703	123	942697m	715.95		
6) Resmethrin	53.832	123	875513m	1307.59		
10) Bifenthrin	55.849	181	3838889	1266.38		99
11) Danitol (Fenpropathrin)	56.231	97	715825	849.66		94
12) Cyhalothrin-lambda	59.727	181	672876	1083.26		93
13) Permethrin-cis	62.327	183	706014	406.99		99
14) Permethrin-trans	62.838	183	1531225	1036.02		99
15) Cyfluthrin-1	64.672	163	153541m	1277.84		
16) Cyfluthrin-2	65.048	163	212177m	1297.87		
17) Cyfluthrin-3	65.332	163	110225m	1202.25		
18) Cyfluthrin-4	65.506	163	102084	1300.08	#	69
19) Cypermethrin-1	65.830	163	190582m	1434.47		
20) Cypermethrin-2	66.215	163	164931m	1400.09		
21) Cypermethrin-3	66.493	163	157592	1351.10		93
22) Cypermethrin-4	66.652	163	129170m	1417.44		
23) Fenvalerate	69.246	125	675043	1342.97	#	77
24) Esfenvalerate	70.034	125	791910	1446.87	#	87
25) Fluvalinate	70.364	250	704695	1571.10	#	44
26) Deltamethrin/Tralomethrin	72.041	253	181220	1367.72	#	26

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : PYR_RES1000FCV.D
 Acq On : 30 May 2014 01:17 am
 Operator :
 Sample : PYR_RES1000FCV
 Misc :
 ALS Vial : 101 Sample Multiplier: 1

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Quant Time: Jun 13 14:41:28 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PYR_EI_140528.M
 Quant Title : Pyrethroids
 QLast Update : Mon Jun 02 09:29:20 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	39.855	312	1663011	1000.00		-0.03
7) 2,2',5,5'-Tetrabromobi...	50.865	391	347568	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)-PYR	25.549	244	289319	381.10		0.00
3) (PCB030)-PYR	30.586	256	786808	385.61		0.00
8) (PCB112)-PYR	45.053	326	650979	412.45		0.00
9) (PCB198)-PYR	59.184	358	189168	380.92		0.01
Target Compounds						
					Qvalue	
4) Allethrin	42.688	123	1118864m	675.88		
5) Prallethrin	43.693	123	823642m	568.81		
6) Resmethrin	53.842	123	892369m	1211.92		
10) Bifenthrin	55.843	181	3919800	1159.48		99
11) Danitol (Fenpropathrin)	56.228	97	747624	795.73		91
12) Cyhalothrin-lambda	59.722	181	616857	890.48		91
13) Permethrin-cis	62.324	183	659863	341.09		98
14) Permethrin-trans	62.836	183	1490339	904.19		99
15) Cyfluthrin-1	64.672	163	151008m	1126.92		
16) Cyfluthrin-2	65.054	163	203065	1113.81		94
17) Cyfluthrin-3	65.333	163	112349	1098.82		88
18) Cyfluthrin-4	65.506	163	108916	1243.78	#	85
19) Cypermethrin-1	65.819	163	188866m	1274.69		
20) Cypermethrin-2	66.226	163	164059	1248.82		94
21) Cypermethrin-3	66.494	163	154833	1190.31		95
22) Cypermethrin-4	66.641	163	122111m	1201.55		
23) Fenvalerate	69.242	125	661585	1180.22	#	79
24) Esfenvalerate	70.033	125	785473	1286.85	#	88
25) Fluvalinate	70.366	250	616941m	1233.36		
26) Deltamethrin/Tralomethrin	72.031	253	185878m	1257.95		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PYR500 ICV			PYR1000 CCV			PYR1000 FCV		
	5/27/14 6:56 PM			5/29/14 1:49 AM			5/30/14 1:17 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PCB112	400	428	7	400	419	5	400	412	3
PCB198	400	380	5	400	406	1	400	381	5
Allethrin	500	634	27	1000	735	27	1000	676	32
Prallethrin	500	416	17	1000	716	28	1000	569	43
Resmethrin	500	0	100	1000	1308	31	1000	1212	21
Bifenthrin	500	1226	145	1000	1266	27	1000	1159	16
Danitol (Fenpropathrin)	500	789	58	1000	850	15	1000	796	20
Cyhalothrin-lambda	500	491	2	1000	1083	8	1000	890	11
Permethrin-cis	134	195	46	267	407	52	267	341	28
Permethrin-trans	358	969	171	716	1036	45	716	904	26
Cyfluthrin-1	500	693	39	1000	1278	28	1000	1127	13
Cyfluthrin-2	500	638	28	1000	1298	30	1000	1114	11
Cyfluthrin-3	500	837	67	1000	1202	20	1000	1099	10
Cyfluthrin-4	500	1356	171	1000	1300	30	1000	1244	24
Cypermethrin-1	500	970	94	1000	1434	43	1000	1275	27
Cypermethrin-2	500	1094	119	1000	1400	40	1000	1249	25
Cypermethrin-3	500	1065	113	1000	1351	35	1000	1190	19
Cypermethrin-4	500	1276	155	1000	1417	42	1000	1202	20
Fenvalerate	500	1270	154	1000	1343	34	1000	1180	18
Esfenvalerate	500	1144	129	1000	1447	45	1000	1287	29
Fluvalinate	500	1062	112	1000	1571	57	1000	1233	23
Deltamethrin-Tralomethrin	500	790	58	1000	1368	37	1000	1258	26
Average	-	-	95	-	-	35	-	-	21

PHYSIS

Toxaphene

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Summary of Internal Standards

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	2,2',5,5' - Tetrabromobiphenyl	
	Response	Retention Time
TOX10000ICV.D	152352	23.8695
B_5039.D	672198	23.8611
BS1_5039.D	1112139	23.8526
BS2_5039.D	1047777	23.8526
22571MS1.D	1272375	23.8611
22571MS2.D	625402	23.8526
22576.D	1386168	23.9203
22551.D	1750861	23.8611
22552.D	1137549	23.8611
22553.D	1189231	23.8611
22554.D	1298852	23.8611
22555.D	1569409	23.8611
22556.D	903377	23.8526
22557.D	1548665	23.8611
TOX10000CCV.D	335962	23.8611
22571.D	1123100	23.8611
22571R2.D	1066262	23.8611
22572.D	1359567	23.8526
22573.D	229761	23.0411
22574.D	279473	23.0411
22575.D	211653	23.0411
22599.D	202846	23.0411
22600.D	196349	23.0411
TOX10000FCV.D	174532	23.8530

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Continuing Calibration Data

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	TOX10000 CCV			TOX10000 FCV		
	11/15/13 5:03 AM			11/16/13 1:16 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Toxaphene	10000	12789	28	10000	8585	14

June 05, 2014

Chris Stransky
 AMEC
 9210 Sky Park Court
 Suite 200
 San Diego, CA 92123-

Project Name: RHMP Bight '13
 Physis Project ID: 1307002-016

Dear Chris,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 9/6/2013. A total of 2 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventionals
Percent Solids by SM 2540B
Ammonia as N by SM 4500-NH ₃ D
Acid Volatile Sulfides (AVS) by Plumb, 1981 and TERL
Elements
Trace Metals by EPA 6020
Trace Mercury by EPA 245.7
Total Phosphorus by EPA 6020
Simultaneously Extracted Metals Analysis (AVS-SEM) by EPA 200.8
Organics
Toxaphene w/ OCPs by EPA 8270C-NCI
Synthetic Pyrethroid Pesticides by EPA 8270C-NCI
Polynuclear Aromatic Hydrocarbons by EPA 8270C
PBDE Congeners by EPA 8270C-NCI
Organochlorine Pesticides & PCB Congeners/Aroclors by EPA 8270C
Fipronil & Degradates by EPA 8270C-NCI
Subcontract
Total Organic Carbon by SM 5310 B
Total Nitrogen by SM 4500-N

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

Misty Mercier
Extension 202
714-335-5918 cell
mistymercier@physislabs.com

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and are used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use was assessed through the analysis of procedural blanks at a minimum frequency of one per batch. Physis' QM requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the procedural blanks be flagged in the project sample results with a B qualifier.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS1/MS2, BS1/BS2, LCS1/LCS2, LCM1/LCM2, CRM1/CRM2, surrogate spikes and/or replicate project sample analysis (R1/R2) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

MATRIX SPIKES: MS samples were employed to assess the effect a particular project sample matrix has on the accuracy of a measurement. It is prepared by adding a known amount of the target analyte(s) to an aliquot of the project sample. Matrix spikes indicate the bias of analytical measurements due to chemical interferences inherent in the sample matrix. If the matrix spike recovery does not fall within the specified acceptance limits, it may be an indication of sample matrix interference in the specific project sample used for the MS. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

BLANK SPIKES: BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

CERTIFIED REFERENCE MATERIALS: CRMs are pre-homogenized materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of a preparation and analytical method. CRMs are analyzed to provide evidence that the laboratory method produces results that are comparable to those obtained by an independent organization.

SURROGATES: Where CRMs are unavailable, target analyte recovery can be assessed by monitoring added surrogate compounds/elements. A surrogate is a pure analyte unlikely to be found in any project sample and most often used with organic analytical procedures. Percent recovery is calculated for each surrogate and is used to monitor method performance within each discrete sample and is indicative of the procedure's ability to recover the actual analytes of interest.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored

under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes. Physis' QM requires that all samples analyzed beyond the method recommended holding time be flagged in the sample results with an H qualifier.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
*	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified recovery and/or RPD acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore MS recovery and/or RPD acceptance limits do not apply
SL	analyte results for R1 and/or R2 were lower than 10 times the MDL, therefore RPD acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore MS recovery and/or RPD were outside the specified acceptance limits
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples



CASE NARRATIVE

QUALIFIER NOTES

In addition to the use of analyte specific Physis Qualifier Codes where applicable, the following were also noted.

ELEMENTS CRM: Several elements, Aluminum (Al), Antimony (Sb), Arsenic (As), Beryllium (Be), Chromium (Cr), Iron (Fe) and Nickel (Ni) were above the specified acceptance limits in one or more CRM - RTC 016-050 and/or CRM - ERA 540. This occurred as a result of a more rigorous digestion employed by Physis, which causes a higher yield for some lithogenous elements. These values are in agreement with past internal results for CRM - RTC 016-050 and CRM - ERA 540.

ORGANICS: Blank spikes (BS1/BS2) for Endosulfan-II, Endrin Aldehyde and Resmethrin fell outside of the acceptance range required by the associated project QAPP (70% – 130%), but passed PHYSIS' internal acceptance range for this analysis (50%-150% for Endosulfan-II, 0%-125% for Endrin Aldehyde, 0%-130% for Resmethrin).

Relative percent difference between blank spikes (BS1/BS2) failed for PAHs due to overspiking of BS1 compared to BS2.

ORGANICS TUNE: Physis uses the software supplied with its Agilent GCMS systems to tune its instruments. Moreover, with today's technology software algorithms provided by the instrument manufacturer provide a more stable system across a wider mass range than manual tuning to achieve specific tuning targets such as DFTPP. The following quote is from EPA Method 8270D Section 11.3.1.

“The analyst is always free to choose criteria that are tighter than those included in this method or to use other documented criteria provided they are used consistently throughout the initial calibration, calibration verification, and sample analyses.”

The key here is that the instrument is tuned and that those tune settings are used for the subsequent analysis of the calibration curve, calibration verification, and samples. Moreover, another key reason for tuning to specific criteria is to insure that the GCMS is generating spectra that match the spectra in the NIST Library for confirming the identification of the target analyte. Physis can provide library search results for our calibration standards indicating a very high match quality with the NIST library spectra.



Physis did analyze the DFTPP tune solution with each batch (except for the first batch where the tune solution was mis-injected) and the passing tune reports have been provided indicating that using the instrument tuning software is closely matched to DFTPP tune requirements.

ORGANICS CALIBRATION: A calibration point in the middle of the curve (100 ng) for PCB201 was not used for the calibration of the instrument. This was an error of the analyst that has since been corrected.

ORGANICS CCVS: CCVs for Fipronils were done at 1000 ng, PBDEs were done at 200 ng, and Pyrethroids were done at 1000 ng. These values are at the high point of the calibration. This was an error of the analyst that has since been corrected.

Revisions 6/20/2014-

- Aroclors:
 - Updated Aroclor MDLs/RLs from 10/20 to 1/2
 - Added Aroclor 1262 and Aroclor 1268
 - After review of the data, the Technical Director made a decision to revise the data for the Aroclors
- RPDs:
 - Reviewed and updated all RPDs to 25%, per the RHMP QAPP. Revised Passes to Fails and added QA Qualifiers, where needed due to update.
- Acceptance Ranges
 - Reviewed and updated all Acceptance ranges per the RHMP QAPP. Revised Passes to Fails and added QA Qualifier, where needed due to update.
- CRM
 - After review of the data, the Technical Director made a decision to revise the Organics data for the CRM (SRM 1944).

Revisions 8/20/2014-

- Analytical Report:
 - Added Time Analyzed to all analysis.
- Level 3 reports:
 - Revised tune report.

Performance-Based Chemistry-

The chemistry results provided in this report are derived from “performance-based” chemistry rather than the use of specific EPA published laboratory methods. This does not eliminate our responsibility to use Good Laboratory Practices. It does allow for incorporation of improvements in



technology or the use of laboratory preferences for techniques that improve the efficiency and sensitivity of the laboratory and maintain or enhance the quality of the data.

“The Environmental Protection Agency (EPA) is actively working to implement the President’s program for reinventing government and reforming regulatory policy. As part of this program, EPA has been working at breaking down barriers to using new monitoring techniques. One barrier is the requirement to use specific measurement methods or technologies in complying with some of the Agency’s regulations. EPA’s Environmental Monitoring Management Council (EMMC), members of the regulated community, and Congress agree that EPA needs to change the way it specifies monitoring requirements in regulations and permits. There is broad acceptance for Agency-wide use of a nonprescriptive performance-based measurement system (PBMS)”. PBMS conveys "what" needs to be accomplished, but not prescriptively "how" to do it. EPA defines PBMS as a set of processes wherein the data needs, mandates, or limitations of a program or project are specified, and serve as criteria for selecting appropriate methods to meet those needs in a cost-effective manner. The criteria may be published in regulations, technical guidance documents, permits, work plans, or enforcement orders. Under a performance-based approach, EPA would specify:

- Questions to be answered by monitoring.
- Decisions to be supported by the data.
- Level of uncertainty acceptable for making decisions.
- Documentation to be generated to support this approach in the RCRA monitoring program.

(Taken from OSWER PBMS Implementation Plan, October 9, 1998, A Cooperative Effort Among: OSW, OERR, OUST, TIO, FFROL and CEPPPO).”

The US EPA has included references to being “performance-based” in many of their newer methods. The use of performance-based methods is even more critical for programs like this study in order to allow the laboratory to adapt methods that optimize the goal of the project in terms of achieving ultra-low sensitivity and analysis of new chemicals of concern. I would also like to quote US EPA Method 8270-

“In addition, SW-846 methods, with the exception of required method use for the analysis of method-defined parameters, are intended to be guidance methods which contain general information on how to perform an analytical procedure or technique which a laboratory can use as a basic starting point for generating its own detailed Standard Operating Procedure (SOP), either for its own general use or for a specific project application.”



Performance-based chemistry was first used for NOAA's National Status and Trends Program in the early 1980's which is now operated under the US EPA as the National Coastal Condition Assessment Program (NCCA). The NS&T program included 3 large well-established laboratories for the analysis of samples from each of 3 regions of the United States. It was concluded at the beginning of this program that a significant improvement in the quality and comparability of the results would be achieved by allowing the participating laboratories to optimize their own individual methods. The key to this approach and any subsequent performance-based chemistry programs is the successful inclusion of an interlaboratory comparison as well as the clear detailed specification of data quality objectives (DQOs) for the project. All the Bight Survey projects from 1994 to 2013 have been performance-based and each of the surveys included interlaboratory comparisons as a key component for ensuring high quality data that is comparable between laboratories over time.

The one area that has not evolved along with the advent of performance-based chemistry is the data validation process. Today's data validation process still relies upon collecting and evaluating laboratory analytical information and comparing it to the details of a specific EPA analytical method such as EPA 8270 for GCMS analysis or EPA 6020 for ICPMS analysis. This can occur even when the requirement in the method is out-dated and based on old technology. Data validation procedures need to be adapted to performance-based chemistry allowing for any individual laboratory to use or not use any method or any part of a method they choose as long as they can demonstrate their ability to successfully pass interlaboratory comparisons, performance evaluation samples, and meet the data quality objectives of the project QA Plan.

EPA Method Modifications-

With reference to performance-based methods, the following information is provided as a basis of comparison between the Physis methods used for this study and the associated EPA Method. Its purpose is solely to provide information and is not intended to highlight errors. Physis has successfully participated in several interlaboratory comparison studies including the Bight 13 Project demonstrating the viability of our analytical process. Physis has included the QAQC data in this report necessary to show that the results comply with the project QA Plan and indicate acceptable accuracy and precision.

1. Internal Laboratory QAQC Frequency for GCMS Analyses- Physis uses GC columns that are longer and narrower and the GC oven is programmed at a very slow rate of 2.5°C per minute both of which are not typically used by most laboratories. The purpose for this is to maximize separation of the 100's to 1000's of compounds present in environmental samples



reducing co-elution with interfering compounds, reducing background noise, and enhancing the accuracy of quantitation. At the same time this process extends the run-time for each sample to ca. 90 minutes as compared to the 15-30 minutes with typical conditions. At 90 minutes per run, the maximum number of runs for any 12-hour period is 8. Each batch of samples typically includes the DFTPP tune solution and the initial calibration verification of from 1 to 4 solutions (Depending on the target parameters) for a total of 2-5 runs leaving an opening for 3-6 samples before having to redo the QA samples if the 12-hour constraint is applied. At this rate it's not economically viable to follow the 12-hour rule and complete the analyses of the samples.

Since the 12-hour criteria was established when the state-of-the-art was GCs equipped with packed columns and GCMS systems were not anywhere near as stable as the electronics of today. Physis does follow the criteria's intent by analyzing the calibration verification standards at the beginning, middle, and end of each batch of no more than 20 samples rather than every 12 hours.

2. Calibration and Quantitation- Physis bases its calibration curve on the mass of each compound rather than concentration. Using the internal standard method of quantitation, use of mass rather than concentration eliminates the extract or digestate volume term from the formula used to calculate concentrations in the samples. Therefore there is no need to measure the precise volume of the extract or digestate. For GCMS analysis, extract volumes can be quite low and small volume changes will be reflected in increased variation of the internal standard response from sample to sample due to differences in the extract volume and not due to the instability of the GCMS. Through long-term experience, Physis chemists are trained to take into consideration this change in volume when evaluating whether a change in the internal standard response is caused by a change in the GCMS sensitivity or extract volume.

The "recovery" of the Internal Standard and its variability is reported in Form VII SV-1 for reporting IS peak areas. For the sample IS compared to the ICV/CCV IS peak area, this form has a wide acceptance range at 50-200% which is considerably larger than the variation in the nominal estimate made of our extract volumes. Therefore significant deviations from expected IS responses are clearly obvious to the analyst and would require corrective action and re-analysis. The difficulty is the fact that Form VII SV-1 does not accommodate volumes and therefore does not allow for evaluation of the sample IS as it compares to the ICV/CCV on an even basis.



3. Negative Chemical Ionization- Some target analytes are analyzed using the GCMS in the Negative Chemical Ionization Mode (NCI). This results in non-standard mass spectra that cannot be compared to the EI spectra in the NIST library.
4. Aroclor PCBs- Physis analyzes PCBs using a congener-based calibration standard composed of 52 or more different congeners representing ca. 75-80% of the PCBs discharged into the environment. Physis uses the results from the congener analysis to estimate Aroclor concentrations. To do this, Physis determines the Aroclor mixture present in the sample, sums the results for the congeners present in that Aroclor mixture then corrects the result to account for the missing mass based on a previous comparison of an Aroclor calibration standard to the congener mixture. Physis does not perform blank or matrix spikes using Aroclor mixtures since PCB spiking is done via the congener solution. Aroclor-based quantitation is inherently inaccurate and imprecise and results based on our process are as accurate if not more accurate than the Aroclor-based process since the quantitation is based on individual peaks rather than summing peaks.
5. Pyrethroid/Fipronil Surrogates- Physis spikes all samples with a surrogate solution containing TCMX, PCB030, PCB112, and PCB198 for the Chlorinated Pesticides, Congener PCBs, Pyrethroids, and Fipronils; d8-Naphthalene, d10-Acenaphthene, d10-Phenanthrene, d12-Chrysene, and d12-Perylene for the PAHs; and FBDE-3002, FBDE-5004, and FBDE-8001 for the PBDEs. Since Pyrethroids and Fipronils are quantified using NCI, only the PCB112 and PCB198 surrogates are used as surrogates for these compounds.
6. Sample Preservation - According to the Standard Operating Procedure for Sample Logistics, sediment and tissue samples were placed in a freezer maintained at $-20 \pm 4^{\circ}\text{C}$ until preserved or processed.

ANALYTICAL

REPORT

PHYSICS

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CA ELAP #2769

Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div> Sample ID: 22599-R1 B13-8018 Grab Method: EPA 8270C </div> <div> Matrix: Sediment Batch ID: O-6004 </div> <div> Sampled: 06-Sep-13 10:14 Prepared: 16-May-14 </div> <div> Received: 06-Sep-13 Analyzed: 02-Jun-14 0:00 </div> </div>						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	17.7	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	
<div> <div> Sample ID: 22600-R1 B13-8053 Grab Method: EPA 8270C </div> <div> Matrix: Sediment Batch ID: O-6004 </div> <div> Sampled: 06-Sep-13 Prepared: 16-May-14 </div> <div> Received: 06-Sep-13 Analyzed: 02-Jun-14 0:00 </div> </div>						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	1.6	1	2	ng/dry g	J
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	



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CA ELAP #2769

Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22599-R1 B13-8018 Grab Matrix: Sediment Sampled: 06-Sep-13 10:14 Received: 06-Sep-13 Method: EPA 8270C-NCI Batch ID: O-5039 Prepared: 12-Nov-13 Analyzed: 08-Jan-14 23:49						
Toxaphene	NA	ND	0.1	0.2	ng/dry g	
Method: EPA 8270C Batch ID: O-6004 Prepared: 16-May-14 Analyzed: 02-Jun-14 9:47						
(PCB030)	NA	107			% Recovery	
(PCB112)	NA	105			% Recovery	
(PCB198)	NA	89			% Recovery	
(TCMX)	NA	109			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22600-R1**B13-8053 Grab****Matrix: Sediment****Sampled: 06-Sep-13****Received: 06-Sep-13**

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 09-Jan-14 0:53

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-6004	Prepared: 16-May-14	Analyzed: 02-Jun-14 11:25		
(PCB030)	NA	89			% Recovery	
(PCB112)	NA	91			% Recovery	
(PCB198)	NA	81			% Recovery	
(TCMX)	NA	94			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlorthane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

Conventional

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22599-R1		B13-8018 Grab	Matrix: Sediment	Sampled: 06-Sep-13 10:14	Received: 06-Sep-13	
	Method: SM 2540B	Batch ID: C-14074		Prepared: 22-Oct-13	Analyzed: 22-Oct-13 0:00	
Percent Solids	NA	73.8	0.1	0.1	% Dry Weight	
	Method: SM 4500-NH ₃ D	Batch ID: C-14075		Prepared: 23-Oct-13	Analyzed: 23-Oct-13 0:00	
Ammonia as N	NA	2.1	0.02	0.03	mg/dry kg	
	Method: Plumb, 1981 and TERL	Batch ID: C-14076		Prepared: 23-Oct-13	Analyzed: 23-Oct-13 0:00	
Acid Volatile Sulfides	NA	24.42	0.05	0.1	mg/dry kg	
	Method: EPA 6020	Batch ID: E-7012		Prepared: 23-Oct-13	Analyzed: 01-Nov-13 13:12	
Total Phosphorus	NA	104.406	0.016	0.05	µg/dry g	
Sample ID: 22600-R1		B13-8053 Grab	Matrix: Sediment	Sampled: 06-Sep-13	Received: 06-Sep-13	
	Method: SM 2540B	Batch ID: C-14074		Prepared: 22-Oct-13	Analyzed: 22-Oct-13 0:00	
Percent Solids	NA	69.3	0.1	0.1	% Dry Weight	
	Method: SM 4500-NH ₃ D	Batch ID: C-14075		Prepared: 23-Oct-13	Analyzed: 23-Oct-13 0:00	
Ammonia as N	NA	0.87	0.02	0.03	mg/dry kg	
	Method: Plumb, 1981 and TERL	Batch ID: C-14076		Prepared: 23-Oct-13	Analyzed: 23-Oct-13 0:00	
Acid Volatile Sulfides	NA	22.21	0.05	0.1	mg/dry kg	
	Method: EPA 6020	Batch ID: E-7012		Prepared: 23-Oct-13	Analyzed: 01-Nov-13 13:22	
Total Phosphorus	NA	245.601	0.016	0.05	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22599-R1		B13-8018 Grab	Matrix: Sediment	Sampled: 06-Sep-13 10:14	Received: 06-Sep-13	
	Method: EPA 245.7	Batch ID: E-6040		Prepared: 23-Oct-13	Analyzed: 24-Oct-13 0:00	
Mercury (Hg)	NA	0.0269	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7012		Prepared: 23-Oct-13	Analyzed: 02-Nov-13 13:09	
Aluminum (Al)	NA	5846.8	1	5	µg/dry g	
Antimony (Sb)	NA	0.123	0.025	0.05	µg/dry g	
Arsenic (As)	NA	1.925	0.025	0.05	µg/dry g	
Barium (Ba)	NA	11.323	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.109	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1461	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	11.1959	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	11.4597	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	4524.1	1	5	µg/dry g	
Lead (Pb)	NA	5.0109	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	2.66	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.094	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.1	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	36.44	0.025	0.05	µg/dry g	

Sample ID: 22600-R1		B13-8053 Grab	Matrix: Sediment	Sampled: 06-Sep-13	Received: 06-Sep-13	
	Method: EPA 245.7	Batch ID: E-6040		Prepared: 23-Oct-13	Analyzed: 24-Oct-13 0:00	
Mercury (Hg)	NA	0.0854	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7012		Prepared: 23-Oct-13	Analyzed: 02-Nov-13 13:18	
Aluminum (Al)	NA	20134.9	1	5	µg/dry g	
Antimony (Sb)	NA	0.137	0.025	0.05	µg/dry g	
Arsenic (As)	NA	3.361	0.025	0.05	µg/dry g	
Barium (Ba)	NA	117.956	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.277	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.0937	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	26.9282	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	48.8472	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	21362.3	1	5	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Lead (Pb)	NA	9.0571	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	8.92	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.105	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.38	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	83.788	0.025	0.05	µg/dry g	



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div> Sample ID: 22599-R1 Method: EPA 200.8 </div> <div> B13-8018 Grab Method: EPA 200.8 </div> <div> Matrix: Sediment Batch ID: E-7018 </div> <div> Sampled: 06-Sep-13 10:14 Prepared: 31-Oct-13 </div> <div> Received: 06-Sep-13 Analyzed: 31-Oct-13 15:37 </div> </div>						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.0247	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0141	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	ND	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.3071	0.0015	0.003	µmol/dry g	
<div> <div> Sample ID: 22600-R1 Method: EPA 200.8 </div> <div> B13-8053 Grab Method: EPA 200.8 </div> <div> Matrix: Sediment Batch ID: E-7018 </div> <div> Sampled: 06-Sep-13 Prepared: 31-Oct-13 </div> <div> Received: 06-Sep-13 Analyzed: 31-Oct-13 15:48 </div> </div>						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.1132	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0251	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0056	0.0033	0.0066	µmol/dry g	J
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.4867	0.0015	0.003	µmol/dry g	



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CA ELAP #2769

Fipronil & Degradates**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22599-R1 B13-8018 Grab Matrix: Sediment Sampled: 06-Sep-13 10:14 Received: 06-Sep-13 Method: EPA 8270C-NCI Batch ID: O-5039 Prepared: 12-Nov-13 Analyzed: 08-Jan-14 23:49						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22600-R1 B13-8053 Grab Matrix: Sediment Sampled: 06-Sep-13 Received: 06-Sep-13 Method: EPA 8270C-NCI Batch ID: O-5039 Prepared: 12-Nov-13 Analyzed: 09-Jan-14 0:53						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22599-R1</div> <div>B13-8018 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-6004</div> </div> <div> <div>Sampled: 06-Sep-13 10:14</div> <div>Prepared: 16-May-14</div> </div> <div> <div>Received: 06-Sep-13</div> <div>Analyzed: 02-Jun-14 9:47</div> </div>						
PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	2.41	0.05	0.1	ng/dry g	
PCB095	NA	0.83	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	1.09	0.05	0.1	ng/dry g	
PCB101	NA	1.4	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	1.19	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	1.77	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	2.22	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	1.02	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	2.29	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22600-R1**B13-8053 Grab****Matrix: Sediment****Sampled: 06-Sep-13****Received: 06-Sep-13**

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 02-Jun-14 11:25

PCB003	NA	ND	0.05	0.1	ng/dry g	
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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	ND	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	ND	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	0.69	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	0.24	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	0.38	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	ND	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	ND	0.05	0.1	ng/dry g	
PCB183	NA	ND	0.05	0.1	ng/dry g	
PCB187	NA	ND	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div> Sample ID: 22599-R1 Method: EPA 8270C-NCI </div> <div> B13-8018 Grab Batch ID: O-5039 </div> <div> Matrix: Sediment Batch ID: O-5039 </div> <div> Sampled: 06-Sep-13 10:14 Prepared: 12-Nov-13 </div> <div> Received: 06-Sep-13 Analyzed: 23-Nov-13 2:59 </div> </div>						
(DFPBDE)	NA	88			% Recovery	
(FTBDE)	NA	91			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	ND	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	
<div> <div> Sample ID: 22600-R1 Method: EPA 8270C-NCI </div> <div> B13-8053 Grab Batch ID: O-5039 </div> <div> Matrix: Sediment Batch ID: O-5039 </div> <div> Sampled: 06-Sep-13 Prepared: 12-Nov-13 </div> <div> Received: 06-Sep-13 Analyzed: 23-Nov-13 3:38 </div> </div>						
(DFPBDE)	NA	79			% Recovery	
(FTBDE)	NA	99			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.14	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	



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PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22599-R1	B13-8018 Grab	Matrix: Sediment		Sampled: 06-Sep-13 10:14		Received: 06-Sep-13
	Method: EPA 8270C	Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 02-Jun-14 9:47
(d10-Acenaphthene)	NA	106			% Recovery	
(d10-Phenanthrene)	NA	98			% Recovery	
(d12-Chrysene)	NA	78			% Recovery	
(d8-Naphthalene)	NA	107			% Recovery	
1-Methylnaphthalene	NA	1.3	1	5	ng/dry g	J
1-Methylphenanthrene	NA	ND	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	2	1	5	ng/dry g	J
2-Methylnaphthalene	NA	3	1	5	ng/dry g	J
Acenaphthene	NA	1.3	1	5	ng/dry g	J
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	1.4	1	5	ng/dry g	J
Benz[a]anthracene	NA	3.7	1	5	ng/dry g	J
Benzo[a]pyrene	NA	4.8	1	5	ng/dry g	J
Benzo[b]fluoranthene	NA	8.5	1	5	ng/dry g	
Benzo[e]pyrene	NA	8	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	15.7	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	4.8	1	5	ng/dry g	J
Biphenyl	NA	3.8	1	5	ng/dry g	J
Chrysene	NA	5.8	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	2.6	1	5	ng/dry g	J
Dibenzothiophene	NA	2.8	1	5	ng/dry g	J
Fluoranthene	NA	7.3	1	5	ng/dry g	
Fluorene	NA	3.1	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	10.2	1	5	ng/dry g	
Naphthalene	NA	6.7	1	5	ng/dry g	
Perylene	NA	2.8	1	5	ng/dry g	J
Phenanthrene	NA	12.2	1	5	ng/dry g	
Pyrene	NA	7.7	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22600-R1	B13-8053 Grab	Matrix: Sediment		Sampled: 06-Sep-13		Received: 06-Sep-13
	Method: EPA 8270C	Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 02-Jun-14 11:25
(d10-Acenaphthene)	NA	84			% Recovery	
(d10-Phenanthrene)	NA	76			% Recovery	
(d12-Chrysene)	NA	76			% Recovery	
(d8-Naphthalene)	NA	95			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	2.9	1	5	ng/dry g	J
Anthracene	NA	4.6	1	5	ng/dry g	J
Benz[a]anthracene	NA	7	1	5	ng/dry g	
Benzo[a]pyrene	NA	12.9	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	13.5	1	5	ng/dry g	
Benzo[e]pyrene	NA	9.8	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	15.4	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	9.5	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	14.4	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	2.8	1	5	ng/dry g	J
Dibenzothiophene	NA	ND	1	5	ng/dry g	
Fluoranthene	NA	11.1	1	5	ng/dry g	
Fluorene	NA	1.1	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	12.8	1	5	ng/dry g	
Naphthalene	NA	2	1	5	ng/dry g	J
Perylene	NA	2.9	1	5	ng/dry g	J
Phenanthrene	NA	5.7	1	5	ng/dry g	
Pyrene	NA	12.2	1	5	ng/dry g	



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Pyrethroids**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Sample ID: 22599-R1**B13-8018 Grab**

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-6004

Sampled: 06-Sep-13 10:14

Prepared: 16-May-14

Received: 06-Sep-13

Analyzed: 28-May-14 21:59

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22600-R1**B13-8053 Grab**

Method: EPA 8270C-NCI

Matrix: Sediment

Batch ID: O-6004

Sampled: 06-Sep-13

Prepared: 16-May-14

Received: 06-Sep-13

Analyzed: 28-May-14 23:38

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

QUALITY CONTROL REPORT

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Aroclor PCBs**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22598-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 31-May-14 0:00		
Aroclor 1016	NA	ND	1	2	ng/dry g					
Aroclor 1221	NA	ND	1	2	ng/dry g					
Aroclor 1232	NA	ND	1	2	ng/dry g					
Aroclor 1242	NA	ND	1	2	ng/dry g					
Aroclor 1248	NA	ND	1	2	ng/dry g					
Aroclor 1254	NA	ND	1	2	ng/dry g					
Aroclor 1260	NA	ND	1	2	ng/dry g					
Aroclor 1262	NA	ND	1	2	ng/dry g					
Aroclor 1268	NA	ND	1	2	ng/dry g					



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22598-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C-NCI		Batch ID: O-5039		Prepared: 12-Nov-13		Analyzed: 15-Nov-13 7:42		
Toxaphene	NA	ND	0.1	0.2	ng/dry g					
		Method: EPA 8270C		Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 31-May-14 21:59		
(PCB030)	NA	100			% Recovery	100		100	50 - 150% PASS	
(PCB112)	NA	107			% Recovery	100		107	50 - 150% PASS	
(PCB198)	NA	97			% Recovery	100		97	50 - 150% PASS	
(TCMX)	NA	94			% Recovery	100		94	50 - 150% PASS	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g					
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g					
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g					
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g					
Aldrin	NA	ND	0.05	0.1	ng/dry g					
BHC-alpha	NA	ND	0.05	0.1	ng/dry g					
BHC-beta	NA	ND	0.05	0.1	ng/dry g					
BHC-delta	NA	ND	0.05	0.1	ng/dry g					
BHC-gamma	NA	ND	0.05	0.1	ng/dry g					
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g					
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g					
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g					
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g					
Dicofol	NA	ND	0.05	0.1	ng/dry g					
Dieldrin	NA	ND	0.05	0.1	ng/dry g					
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g					
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g					
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g					
Endrin	NA	ND	0.05	0.1	ng/dry g					
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g					



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Chlorinated Pesticides**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Endrin ketone	NA	ND	0.05	0.1	ng/dry g					
Heptachlor	NA	ND	0.05	0.1	ng/dry g					
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g					
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g					
Methoxychlor	NA	ND	0.05	0.1	ng/dry g					
Mirex	NA	ND	0.05	0.1	ng/dry g					
Oxychlorane	NA	ND	0.05	0.1	ng/dry g					
Perthane	NA	ND	0.05	0.1	ng/dry g					
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 22598-BS1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13 8:46

Toxaphene	NA	9366	0.1	0.2	ng/dry g	10000	0	94	70 - 130%	PASS
Method: EPA 8270C										
Batch ID: O-6004										
Prepared: 16-May-14										
Analyzed: 31-May-14 23:38										
(PCB030)	NA	108			% Recovery	100	0	108	70 - 130%	PASS
(PCB112)	NA	114			% Recovery	100	0	114	70 - 130%	PASS
(PCB198)	NA	97			% Recovery	100	0	97	70 - 130%	PASS
(TCMX)	NA	111			% Recovery	100	0	111	70 - 130%	PASS
2,4'-DDD	NA	1278.4	0.05	0.1	ng/dry g	1000	0	128	70 - 130%	PASS
2,4'-DDE	NA	1128.51	0.05	0.1	ng/dry g	1000	0	113	70 - 130%	PASS
2,4'-DDT	NA	1203.52	0.05	0.1	ng/dry g	1000	0	120	70 - 130%	PASS
4,4'-DDD	NA	1226.55	0.05	0.1	ng/dry g	1000	0	123	70 - 130%	PASS
4,4'-DDE	NA	1119.38	0.05	0.1	ng/dry g	1000	0	112	70 - 130%	PASS
4,4'-DDMU	NA	1010	0.05	0.1	ng/dry g	1000	0	101	70 - 130%	PASS
4,4'-DDT	NA	1195.76	0.05	0.1	ng/dry g	1000	0	120	70 - 130%	PASS
Aldrin	NA	1210.54	0.05	0.1	ng/dry g	1000	0	121	70 - 130%	PASS
BHC-alpha	NA	1228.76	0.05	0.1	ng/dry g	1000	0	123	70 - 130%	PASS
BHC-beta	NA	934.51	0.05	0.1	ng/dry g	1000	0	93	70 - 130%	PASS
BHC-delta	NA	1108.68	0.05	0.1	ng/dry g	1000	0	111	70 - 130%	PASS
BHC-gamma	NA	1281.95	0.05	0.1	ng/dry g	1000	0	128	70 - 130%	PASS
Chlordane-alpha	NA	1192.68	0.05	0.1	ng/dry g	1000	0	119	70 - 130%	PASS
Chlordane-gamma	NA	1259.1	0.05	0.1	ng/dry g	1000	0	126	70 - 130%	PASS



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
cis-Nonachlor	NA	1130.26	0.05	0.1	ng/dry g	1000	0	113 70 - 130% PASS		
DCPA (Dacthal)	NA	1189.43	0.05	0.1	ng/dry g	1000	0	119 70 - 130% PASS		
Dicofol	NA	930.12	0.05	0.1	ng/dry g	1000	0	93 70 - 130% PASS		
Dieldrin	NA	1168.44	0.05	0.1	ng/dry g	1000	0	117 70 - 130% PASS		
Endosulfan sulfate	NA	1063.09	0.05	0.1	ng/dry g	1000	0	106 70 - 130% PASS		
Endosulfan-I	NA	451.1	0.05	0.1	ng/dry g	1000	0	45 70 - 130% FAIL		R
Endosulfan-II	NA	679.96	0.05	0.1	ng/dry g	1000	0	68 70 - 130% FAIL		*
Endrin	NA	1299.88	0.05	0.1	ng/dry g	1000	0	130 70 - 130% PASS		
Endrin aldehyde	NA	115.62	0.05	0.1	ng/dry g	1000	0	12 70 - 130% FAIL		*
Endrin ketone	NA	1050.16	0.05	0.1	ng/dry g	1000	0	105 70 - 130% PASS		
Heptachlor	NA	1280.59	0.05	0.1	ng/dry g	1000	0	128 70 - 130% PASS		
Heptachlor epoxide	NA	1230.67	0.05	0.1	ng/dry g	1000	0	123 70 - 130% PASS		
Hexachlorobenzene	NA	1132.8	0.05	0.1	ng/dry g	1000	0	113 70 - 130% PASS		
Methoxychlor	NA	1229.02	0.05	0.1	ng/dry g	1000	0	123 70 - 130% PASS		
Mirex	NA	1088.74	0.05	0.1	ng/dry g	1000	0	109 70 - 130% PASS		
Oxychlorane	NA	1200.56	0.05	0.1	ng/dry g	1000	0	120 70 - 130% PASS		
Perthane	NA	1211.01	0.05	0.1	ng/dry g	1000	0	121 70 - 130% PASS		
trans-Nonachlor	NA	1234.18	0.05	0.1	ng/dry g	1000	0	123 70 - 130% PASS		

Sample ID: 22598-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13 9:50

Toxaphene	NA	9874	0.1	0.2	ng/dry g	10000	0	99 70 - 130% PASS	5	25	PASS
		Method: EPA 8270C				Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 01-Jun-14 1:17	
(PCB030)	NA	101			% Recovery	100	0	101 70 - 130% PASS	7	25	PASS
(PCB112)	NA	105			% Recovery	100	0	105 70 - 130% PASS	8	25	PASS
(PCB198)	NA	93			% Recovery	100	0	93 70 - 130% PASS	4	25	PASS
(TCMX)	NA	103			% Recovery	100	0	103 70 - 130% PASS	7	25	PASS
2,4'-DDD	NA	1112.38	0.05	0.1	ng/dry g	1000	0	111 70 - 130% PASS	14	25	PASS
2,4'-DDE	NA	1006.37	0.05	0.1	ng/dry g	1000	0	101 70 - 130% PASS	11	25	PASS
2,4'-DDT	NA	1233.04	0.05	0.1	ng/dry g	1000	0	123 70 - 130% PASS	2	25	PASS
4,4'-DDD	NA	1042.23	0.05	0.1	ng/dry g	1000	0	104 70 - 130% PASS	17	25	PASS
4,4'-DDE	NA	996.8	0.05	0.1	ng/dry g	1000	0	100 70 - 130% PASS	11	25	PASS

PHYSIS Project ID: 1307002-016

Client: AMEC

Project: RHMP Bight '13

qcb - 4 of 30



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CA ELAP #2769

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
4,4'-DDMU	NA	1130	0.05	0.1	ng/dry g	1000	0	113 70 - 130% PASS	11 25 PASS	
4,4'-DDT	NA	1182.73	0.05	0.1	ng/dry g	1000	0	118 70 - 130% PASS	2 25 PASS	
Aldrin	NA	1193.48	0.05	0.1	ng/dry g	1000	0	119 70 - 130% PASS	2 25 PASS	
BHC-alpha	NA	1136.6	0.05	0.1	ng/dry g	1000	0	114 70 - 130% PASS	8 25 PASS	
BHC-beta	NA	865.1	0.05	0.1	ng/dry g	1000	0	87 70 - 130% PASS	7 25 PASS	
BHC-delta	NA	979.66	0.05	0.1	ng/dry g	1000	0	98 70 - 130% PASS	12 25 PASS	
BHC-gamma	NA	1232.16	0.05	0.1	ng/dry g	1000	0	123 70 - 130% PASS	4 25 PASS	
Chlordane-alpha	NA	1083.85	0.05	0.1	ng/dry g	1000	0	108 70 - 130% PASS	10 25 PASS	
Chlordane-gamma	NA	1141.53	0.05	0.1	ng/dry g	1000	0	114 70 - 130% PASS	10 25 PASS	
cis-Nonachlor	NA	1060.62	0.05	0.1	ng/dry g	1000	0	106 70 - 130% PASS	6 25 PASS	
DCPA (Dacthal)	NA	1120.07	0.05	0.1	ng/dry g	1000	0	112 70 - 130% PASS	6 25 PASS	
Dicofol	NA	810.84	0.05	0.1	ng/dry g	1000	0	81 70 - 130% PASS	14 25 PASS	
Dieldrin	NA	1050.79	0.05	0.1	ng/dry g	1000	0	105 70 - 130% PASS	11 25 PASS	
Endosulfan sulfate	NA	1021.52	0.05	0.1	ng/dry g	1000	0	102 70 - 130% PASS	4 25 PASS	
Endosulfan-I	NA	268.16	0.05	0.1	ng/dry g	1000	0	27 70 - 130% FAIL	50 25 FAIL	R
Endosulfan-II	NA	579.93	0.05	0.1	ng/dry g	1000	0	58 70 - 130% FAIL	16 25 PASS	*
Endrin	NA	1210.72	0.05	0.1	ng/dry g	1000	0	121 70 - 130% PASS	7 25 PASS	
Endrin aldehyde	NA	158.43	0.05	0.1	ng/dry g	1000	0	16 70 - 130% FAIL	29 25 FAIL	*
Endrin ketone	NA	1086.45	0.05	0.1	ng/dry g	1000	0	109 70 - 130% PASS	4 25 PASS	
Heptachlor	NA	1274.29	0.05	0.1	ng/dry g	1000	0	127 70 - 130% PASS	1 25 PASS	
Heptachlor epoxide	NA	1233.05	0.05	0.1	ng/dry g	1000	0	123 70 - 130% PASS	0 25 PASS	
Hexachlorobenzene	NA	1057.26	0.05	0.1	ng/dry g	1000	0	106 70 - 130% PASS	6 25 PASS	
Methoxychlor	NA	1195.72	0.05	0.1	ng/dry g	1000	0	120 70 - 130% PASS	2 25 PASS	
Mirex	NA	1112.94	0.05	0.1	ng/dry g	1000	0	111 70 - 130% PASS	2 25 PASS	
Oxychlordane	NA	1246.19	0.05	0.1	ng/dry g	1000	0	125 70 - 130% PASS	4 25 PASS	
Perthane	NA	1197.12	0.05	0.1	ng/dry g	1000	0	120 70 - 130% PASS	1 25 PASS	
trans-Nonachlor	NA	1120.33	0.05	0.1	ng/dry g	1000	0	112 70 - 130% PASS	9 25 PASS	

Sample ID: 22601-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14 6:37

(PCB030)	NA	117	% Recovery	100	117	60 - 140% PASS	
(PCB112)	NA	108	% Recovery	100	108	60 - 140% PASS	



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
(PCB198)	NA	66			% Recovery	100		66 60 - 140%	PASS	
(TCMX)	NA	119			% Recovery	100		119 60 - 140%	PASS	
2,4'-DDD	NA	38.22	0.05	0.1	ng/dry g	38		101 60 - 140%	PASS	
2,4'-DDE	NA	24.84	0.05	0.1	ng/dry g	19		131 60 - 140%	PASS	
4,4'-DDD	NA	90.66	0.05	0.1	ng/dry g	108		84 60 - 140%	PASS	
4,4'-DDE	NA	94.36	0.05	0.1	ng/dry g	86		110 60 - 140%	PASS	
4,4'-DDT	NA	136.47	0.05	0.1	ng/dry g	170		80 60 - 140%	PASS	
Chlordane-alpha	NA	16.09	0.05	0.1	ng/dry g	16.5		98 60 - 140%	PASS	
Chlordane-gamma	NA	21.25	0.05	0.1	ng/dry g	19		112 60 - 140%	PASS	
cis-Nonachlor	NA	3.58	0.05	0.1	ng/dry g	3.7		97 60 - 140%	PASS	
Hexachlorobenzene	NA	6.5	0.05	0.1	ng/dry g	6		108 60 - 140%	PASS	
trans-Nonachlor	NA	9.83	0.05	0.1	ng/dry g	8.2		120 60 - 140%	PASS	



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Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
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Acid Volatile Sulfides

Method: Plumb, 1981 and TERL

Fraction: NA

22598-B1	QAQC Procedural Blank	C-14076 ND Prepared: 23-Oct-13	0.05	0.1	mg/dry kg							
22598-BS1	QAQC Procedural Blank	C-14076 5.09 Prepared: 23-Oct-13	0.05	0.1	mg/dry kg	4.89	0	104	80 - 120% PASS			
22598-BS2	QAQC Procedural Blank	C-14076 4.69 Prepared: 23-Oct-13	0.05	0.1	mg/dry kg	4.89	0	96	80 - 120% PASS	8	25	PASS
22599-MS1	B13-8018	C-14076 32.37 Prepared: 23-Oct-13	0.05	0.1	mg/dry kg	10.48	24.03	80	50 - 130% PASS			
22599-MS2	B13-8018	C-14076 30.64 Prepared: 23-Oct-13	0.05	0.1	mg/dry kg	8.76	24.03	75	50 - 130% PASS	6	25	PASS
22599-R2	B13-8018	C-14076 23.65 Prepared: 23-Oct-13	0.05	0.1	mg/dry kg					3	25	PASS

Ammonia as N

Method: SM 4500-NH₃ D

Fraction: NA

22598-B1	QAQC Procedural Blank	C-14075 ND Prepared: 23-Oct-13	0.02	0.03	mg/dry kg							
22598-BS1	QAQC Procedural Blank	C-14075 2.58 Prepared: 23-Oct-13	0.02	0.03	mg/dry kg	2.86	0	90	80 - 120% PASS			
22598-BS2	QAQC Procedural Blank	C-14075 2.75 Prepared: 23-Oct-13	0.02	0.03	mg/dry kg	2.86	0	96	80 - 120% PASS	6	25	PASS
22599-MS1	B13-8018	C-14075 4.79 Prepared: 23-Oct-13	0.02	0.03	mg/dry kg	3.19	1.94	89	70 - 130% PASS			
22599-MS2	B13-8018	C-14075 4.55 Prepared: 23-Oct-13	0.02	0.03	mg/dry kg	2.72	1.94	96	70 - 130% PASS	8	25	PASS
22599-R2	B13-8018	C-14075 1.79 Prepared: 23-Oct-13	0.02	0.03	mg/dry kg					16	25	PASS

Percent Solids

Method: SM 2540B

Fraction: NA

22598-B1	QAQC Procedural Blank	C-14074 ND Prepared: 22-Oct-13	0.1	0.1	% Dry Weight							
22599-R2	B13-8018	C-14074 74.3 Prepared: 22-Oct-13	0.1	0.1	% Dry Weight					1	25	PASS



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CA ELAP #2769

Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Total Phosphorus			Method: EPA 6020			Fraction: NA				
22598-B1	QAQC Procedural Blank	E-7012 ND Prepared: 23-Oct-13	0.016	0.05	µg/dry g	Analyzed: 01-Nov-13 13:08				
22598-BS1	QAQC Procedural Blank	E-7012 48.227 Prepared: 23-Oct-13	0.016	0.05	µg/dry g	50	0	96	80 - 120% PASS	
22598-BS2	QAQC Procedural Blank	E-7012 48.747 Prepared: 23-Oct-13	0.016	0.05	µg/dry g	50	0	97	80 - 120% PASS	1 25 PASS
22599-MS1	B13-8018	E-7012 981.141 Prepared: 23-Oct-13	0.016	0.05	µg/dry g	840.5	113.307	103	70 - 130% PASS	
22599-MS2	B13-8018	E-7012 944.851 Prepared: 23-Oct-13	0.016	0.05	µg/dry g	840.5	113.307	99	70 - 130% PASS	4 25 PASS
22599-R2	B13-8018	E-7012 122.208 Prepared: 23-Oct-13	0.016	0.05	µg/dry g	Analyzed: 01-Nov-13 13:17			16	25 PASS



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22598-B1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 245.7

Batch ID: E-6040

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	ND	0.00001	0.00002	µg/dry g					
Method: EPA 6020										
Batch ID: E-7012										
Prepared: 23-Oct-13										
Analyzed: 02-Nov-13 13:04										
Aluminum (Al)	NA	ND	1	5	µg/dry g					
Antimony (Sb)	NA	ND	0.025	0.05	µg/dry g					
Arsenic (As)	NA	ND	0.025	0.05	µg/dry g					
Barium (Ba)	NA	ND	0.025	0.05	µg/dry g					
Beryllium (Be)	NA	ND	0.025	0.05	µg/dry g					
Cadmium (Cd)	NA	ND	0.0025	0.005	µg/dry g					
Chromium (Cr)	NA	ND	0.0025	0.005	µg/dry g					
Copper (Cu)	NA	ND	0.0025	0.005	µg/dry g					
Iron (Fe)	NA	ND	1	5	µg/dry g					
Lead (Pb)	NA	ND	0.0025	0.005	µg/dry g					
Nickel (Ni)	NA	ND	0.01	0.02	µg/dry g					
Selenium (Se)	NA	ND	0.025	0.05	µg/dry g					
Silver (Ag)	NA	ND	0.01	0.02	µg/dry g					
Zinc (Zn)	NA	ND	0.025	0.05	µg/dry g					

Sample ID: 22598-BS1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 245.7

Batch ID: E-6040

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	0.872	0.00001	0.00002	µg/dry g	1	0	87	80 - 120%	PASS
Method: EPA 6020										
Batch ID: E-7012										
Prepared: 23-Oct-13										
Analyzed: 02-Nov-13 13:38										
Aluminum (Al)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS
Antimony (Sb)	NA	2.172	0.025	0.05	µg/dry g	2	0	109	80 - 120%	PASS
Arsenic (As)	NA	2.196	0.025	0.05	µg/dry g	2	0	110	80 - 120%	PASS
Barium (Ba)	NA	2.206	0.025	0.05	µg/dry g	2	0	110	80 - 120%	PASS
Beryllium (Be)	NA	2.07	0.025	0.05	µg/dry g	2	0	103	80 - 120%	PASS
Cadmium (Cd)	NA	2.0182	0.0025	0.005	µg/dry g	2	0	101	80 - 120%	PASS
Chromium (Cr)	NA	2.0536	0.0025	0.005	µg/dry g	2	0	103	80 - 120%	PASS
Copper (Cu)	NA	2.0434	0.0025	0.005	µg/dry g	2	0	102	80 - 120%	PASS



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS		
Lead (Pb)	NA	2.0734	0.0025	0.005	µg/dry g	2	0	104	80 - 120%	PASS		
Nickel (Ni)	NA	2.02	0.01	0.02	µg/dry g	2	0	101	80 - 120%	PASS		
Selenium (Se)	NA	1.909	0.025	0.05	µg/dry g	2	0	95	80 - 120%	PASS		
Silver (Ag)	NA	0.19	0.01	0.02	µg/dry g	0.2	0	95	80 - 120%	PASS		
Zinc (Zn)	NA	2.191	0.025	0.05	µg/dry g	2	0	110	80 - 120%	PASS		

Sample ID: 22598-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 245.7

Batch ID: E-6040

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	0.853	0.00001	0.00002	µg/dry g	1	0	85	80 - 120%	PASS	2	25	PASS
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Method: EPA 6020

Batch ID: E-7012

Prepared: 23-Oct-13

Analyzed: 02-Nov-13 13:42

Aluminum (Al)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS	0	25	PASS
Antimony (Sb)	NA	2.122	0.025	0.05	µg/dry g	2	0	106	80 - 120%	PASS	3	25	PASS
Arsenic (As)	NA	2.181	0.025	0.05	µg/dry g	2	0	109	80 - 120%	PASS	1	25	PASS
Barium (Ba)	NA	2.171	0.025	0.05	µg/dry g	2	0	109	80 - 120%	PASS	1	25	PASS
Beryllium (Be)	NA	2.057	0.025	0.05	µg/dry g	2	0	103	80 - 120%	PASS	1	25	PASS
Cadmium (Cd)	NA	2.0278	0.0025	0.005	µg/dry g	2	0	101	80 - 120%	PASS	0	25	PASS
Chromium (Cr)	NA	2.0543	0.0025	0.005	µg/dry g	2	0	103	80 - 120%	PASS	0	25	PASS
Copper (Cu)	NA	2.0333	0.0025	0.005	µg/dry g	2	0	102	80 - 120%	PASS	0	25	PASS
Iron (Fe)	NA	1.8	1	5	µg/dry g	2	0	90	80 - 120%	PASS	5	25	PASS
Lead (Pb)	NA	2.044	0.0025	0.005	µg/dry g	2	0	102	80 - 120%	PASS	2	25	PASS
Nickel (Ni)	NA	2.01	0.01	0.02	µg/dry g	2	0	100	80 - 120%	PASS	1	25	PASS
Selenium (Se)	NA	1.941	0.025	0.05	µg/dry g	2	0	97	80 - 120%	PASS	2	25	PASS
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	0.2	0	100	80 - 120%	PASS	5	25	PASS
Zinc (Zn)	NA	2.218	0.025	0.05	µg/dry g	2	0	111	80 - 120%	PASS	1	25	PASS

Sample ID: 22599-MS1**B13-8018 Grab****Matrix: Sediment****Sampled: 06-Sep-13 10:14****Received: 06-Sep-13**

Method: EPA 245.7

Batch ID: E-6040

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	0.18323	0.00001	0.00002	µg/dry g	0.1681	0.0266	93	75 - 125%	PASS			
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Method: EPA 6020

Batch ID: E-7012

Prepared: 23-Oct-13

Analyzed: 02-Nov-13 13:47

Aluminum (Al)	NA	6546.7	1	5	µg/dry g	672	5845.8	104	75 - 125%	PASS			
Antimony (Sb)	NA	35.035	0.025	0.05	µg/dry g	33.62	0.122	104	75 - 125%	PASS			



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Arsenic (As)	NA	38.54	0.025	0.05	µg/dry g	33.62	1.898	109 75 - 125%	PASS	
Barium (Ba)	NA	47.257	0.025	0.05	µg/dry g	33.62	10.86	108 75 - 125%	PASS	
Beryllium (Be)	NA	35.821	0.025	0.05	µg/dry g	33.62	0.107	106 75 - 125%	PASS	
Cadmium (Cd)	NA	33.0196	0.0025	0.005	µg/dry g	33.62	0.1455	98 75 - 125%	PASS	
Chromium (Cr)	NA	46.6861	0.0025	0.005	µg/dry g	33.62	10.8804	107 75 - 125%	PASS	
Copper (Cu)	NA	44.2795	0.0025	0.005	µg/dry g	33.62	11.4245	98 75 - 125%	PASS	
Iron (Fe)	NA	5251	1	5	µg/dry g	672	4520.9	109 75 - 125%	PASS	
Lead (Pb)	NA	37.5398	0.0025	0.005	µg/dry g	33.62	4.8668	97 75 - 125%	PASS	
Nickel (Ni)	NA	36.23	0.01	0.02	µg/dry g	33.62	2.48	100 75 - 125%	PASS	
Selenium (Se)	NA	33.826	0.025	0.05	µg/dry g	33.62	0.08	100 75 - 125%	PASS	
Silver (Ag)	NA	3.36	0.01	0.02	µg/dry g	3.36	0.13	96 75 - 125%	PASS	
Zinc (Zn)	NA	71.041	0.025	0.05	µg/dry g	33.62	35.91	104 75 - 125%	PASS	

Sample ID: 22599-MS2**B13-8018 Grab****Matrix: Sediment****Sampled: 06-Sep-13 10:14****Received: 06-Sep-13**

Method: EPA 245.7

Batch ID: E-6040

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	0.18659	0.00001	0.00002	µg/dry g	0.1681	0.0266	95 75 - 125%	PASS	2 25 PASS
Method: EPA 6020										
Batch ID: E-7012										
Prepared: 23-Oct-13										
Analyzed: 02-Nov-13 13:52										
Aluminum (Al)	NA	6583.9	1	5	µg/dry g	672	5845.8	110 75 - 125%	PASS	6 25 PASS
Antimony (Sb)	NA	34.63	0.025	0.05	µg/dry g	33.62	0.122	103 75 - 125%	PASS	1 25 PASS
Arsenic (As)	NA	38.628	0.025	0.05	µg/dry g	33.62	1.898	109 75 - 125%	PASS	0 25 PASS
Barium (Ba)	NA	46.95	0.025	0.05	µg/dry g	33.62	10.86	107 75 - 125%	PASS	1 25 PASS
Beryllium (Be)	NA	35.283	0.025	0.05	µg/dry g	33.62	0.107	105 75 - 125%	PASS	1 25 PASS
Cadmium (Cd)	NA	32.9755	0.0025	0.005	µg/dry g	33.62	0.1455	98 75 - 125%	PASS	0 25 PASS
Chromium (Cr)	NA	46.701	0.0025	0.005	µg/dry g	33.62	10.8804	107 75 - 125%	PASS	0 25 PASS
Copper (Cu)	NA	44.7473	0.0025	0.005	µg/dry g	33.62	11.4245	99 75 - 125%	PASS	1 25 PASS
Iron (Fe)	NA	5172.5	1	5	µg/dry g	672	4520.9	97 75 - 125%	PASS	12 25 PASS
Lead (Pb)	NA	37.147	0.0025	0.005	µg/dry g	33.62	4.8668	96 75 - 125%	PASS	1 25 PASS
Nickel (Ni)	NA	36.21	0.01	0.02	µg/dry g	33.62	2.48	100 75 - 125%	PASS	0 25 PASS
Selenium (Se)	NA	34.403	0.025	0.05	µg/dry g	33.62	0.08	102 75 - 125%	PASS	2 25 PASS
Silver (Ag)	NA	3.3	0.01	0.02	µg/dry g	3.36	0.13	94 75 - 125%	PASS	2 25 PASS
Zinc (Zn)	NA	71.304	0.025	0.05	µg/dry g	33.62	35.91	105 75 - 125%	PASS	1 25 PASS



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CA ELAP #2769

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22599-R2		B13-8018 Grab		Matrix: Sediment		Sampled: 06-Sep-13 10:14		Received: 06-Sep-13		
		Method: EPA 245.7		Batch ID: E-6040		Prepared: 23-Oct-13		Analyzed: 24-Oct-13 0:00		
Mercury (Hg)	NA	0.0263	0.00001	0.00002	µg/dry g			2	25	PASS
		Method: EPA 6020		Batch ID: E-7012		Prepared: 23-Oct-13		Analyzed: 02-Nov-13 13:14		
Aluminum (Al)	NA	5844.8	1	5	µg/dry g			0	25	PASS
Antimony (Sb)	NA	0.122	0.025	0.05	µg/dry g			1	25	PASS
Arsenic (As)	NA	1.871	0.025	0.05	µg/dry g			3	25	PASS
Barium (Ba)	NA	10.397	0.025	0.05	µg/dry g			9	25	PASS
Beryllium (Be)	NA	0.104	0.025	0.05	µg/dry g			5	25	PASS
Cadmium (Cd)	NA	0.1449	0.0025	0.005	µg/dry g			1	25	PASS
Chromium (Cr)	NA	10.5649	0.0025	0.005	µg/dry g			6	25	PASS
Copper (Cu)	NA	11.3894	0.0025	0.005	µg/dry g			1	25	PASS
Iron (Fe)	NA	4517.8	1	5	µg/dry g			0	25	PASS
Lead (Pb)	NA	4.7228	0.0025	0.005	µg/dry g			6	25	PASS
Nickel (Ni)	NA	2.29	0.01	0.02	µg/dry g			15	25	PASS
Selenium (Se)	NA	0.066	0.025	0.05	µg/dry g			35	25	FAIL SL
Silver (Ag)	NA	0.15	0.01	0.02	µg/dry g			40	25	FAIL SL
Zinc (Zn)	NA	35.38	0.025	0.05	µg/dry g			3	25	PASS

Sample ID: 22602-CRM1		QAQC CRM - RTC 016-050		Matrix: Sediment		Sampled:		Received:		
		Method: EPA 245.7		Batch ID: E-6040		Prepared: 23-Oct-13		Analyzed: 24-Oct-13 0:00		
Mercury (Hg)	NA	0.1661	0.00001	0.00002	µg/dry g	0.158	105	80 - 120%	PASS	
		Method: EPA 6020		Batch ID: E-7012		Prepared: 23-Oct-13		Analyzed: 02-Nov-13 13:23		
Aluminum (Al)	NA	30565.9	1	5	µg/dry g	8920	343	80 - 120%	FAIL	*
Arsenic (As)	NA	9.843	0.025	0.05	µg/dry g	7.76	127	80 - 120%	FAIL	*
Beryllium (Be)	NA	1.014	0.025	0.05	µg/dry g	0.49	207	80 - 120%	FAIL	*
Cadmium (Cd)	NA	0.2902	0.0025	0.005	µg/dry g	0.47	62	80 - 120%	FAIL	R
Chromium (Cr)	NA	45.3332	0.0025	0.005	µg/dry g	14.5	313	80 - 120%	FAIL	*
Copper (Cu)	NA	16.9509	0.0025	0.005	µg/dry g	15.5	109	80 - 120%	PASS	
Iron (Fe)	NA	20737.4	1	5	µg/dry g	16800	123	80 - 120%	FAIL	*
Lead (Pb)	NA	15.5678	0.0025	0.005	µg/dry g	14.01	111	80 - 120%	PASS	



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Nickel (Ni)	NA	20.75	0.01	0.02	µg/dry g	16.7		124 80 - 120% FAIL		*
Zinc (Zn)	NA	82.545	0.025	0.05	µg/dry g	69.7		118 80 - 120% PASS		

Sample ID: 22603-CRM1**QAQC CRM - ERA 540****Matrix: Sediment****Sampled:****Received:**

Method: EPA 245.7

Batch ID: E-6040

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	9.2308	0.00001	0.00002	µg/dry g	9.25		100 80 - 120% PASS		
		Method: EPA 6020		Batch ID: E-7012		Prepared: 23-Oct-13		Analyzed: 02-Nov-13 13:28		
Aluminum (Al)	NA	15625.1	1	5	µg/dry g	9060		172 80 - 120% FAIL		*
Antimony (Sb)	NA	177.93	0.025	0.05	µg/dry g	106		168 80 - 120% FAIL		*
Arsenic (As)	NA	190.99	0.025	0.05	µg/dry g	182		105 80 - 120% PASS		
Beryllium (Be)	NA	97.938	0.025	0.05	µg/dry g	98.3		100 80 - 120% PASS		
Cadmium (Cd)	NA	56.9964	0.0025	0.005	µg/dry g	60.4		94 80 - 120% PASS		
Chromium (Cr)	NA	135.916	0.0025	0.005	µg/dry g	125		109 80 - 120% PASS		
Copper (Cu)	NA	75.7941	0.0025	0.005	µg/dry g	80.1		95 80 - 120% PASS		
Iron (Fe)	NA	16379.6	1	5	µg/dry g	12900		127 80 - 120% FAIL		*
Lead (Pb)	NA	123.9574	0.0025	0.005	µg/dry g	136		91 80 - 120% PASS		
Nickel (Ni)	NA	124.17	0.01	0.02	µg/dry g	128		97 80 - 120% PASS		
Selenium (Se)	NA	81.009	0.025	0.05	µg/dry g	85.9		94 80 - 120% PASS		
Silver (Ag)	NA	62.94	0.01	0.02	µg/dry g	61.3		103 80 - 120% PASS		
Zinc (Zn)	NA	206.576	0.025	0.05	µg/dry g	204		101 80 - 120% PASS		



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Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22598-B1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 200.8

Batch ID: E-7018

Prepared: 31-Oct-13

Analyzed: 31-Oct-13 15:23

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g					
Copper (Cu) - SEM	NA	ND	0.0062	0.0124	µmol/dry g					
Lead (Pb) - SEM	NA	ND	0.0002	0.0004	µmol/dry g					
Nickel (Ni) - SEM	NA	ND	0.0033	0.0066	µmol/dry g					
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g					
Zinc (Zn) - SEM	NA	ND	0.0015	0.003	µmol/dry g					

Sample ID: 22598-BS1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 200.8

Batch ID: E-7018

Prepared: 31-Oct-13

Analyzed: 31-Oct-13 17:18

Cadmium (Cd) - SEM	NA	0.0186	0.0018	0.0036	µmol/dry g	0.0178	0	104	75 - 130%	PASS		
Copper (Cu) - SEM	NA	0.0315	0.0062	0.0124	µmol/dry g	0.0315	0	100	70 - 130%	PASS		
Lead (Pb) - SEM	NA	0.0099	0.0002	0.0004	µmol/dry g	0.0097	0	102	65 - 135%	PASS		
Nickel (Ni) - SEM	NA	0.0339	0.0033	0.0066	µmol/dry g	0.0341	0	99	70 - 130%	PASS		
Silver (Ag) - SEM	NA	0.0009	0.0047	0.0094	µmol/dry g	0.0019	0	47	50 - 155%	FAIL		R
Zinc (Zn) - SEM	NA	0.0354	0.0015	0.003	µmol/dry g	0.0306	0	116	50 - 150%	PASS		

Sample ID: 22598-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 200.8

Batch ID: E-7018

Prepared: 31-Oct-13

Analyzed: 31-Oct-13 17:23

Cadmium (Cd) - SEM	NA	0.0186	0.0018	0.0036	µmol/dry g	0.0178	0	104	75 - 130%	PASS	0	25	PASS
Copper (Cu) - SEM	NA	0.0314	0.0062	0.0124	µmol/dry g	0.0315	0	100	70 - 130%	PASS	0	25	PASS
Lead (Pb) - SEM	NA	0.0099	0.0002	0.0004	µmol/dry g	0.0097	0	102	65 - 135%	PASS	0	25	PASS
Nickel (Ni) - SEM	NA	0.0337	0.0033	0.0066	µmol/dry g	0.0341	0	99	70 - 130%	PASS	0	25	PASS
Silver (Ag) - SEM	NA	0.0011	0.0047	0.0094	µmol/dry g	0.0019	0	58	50 - 155%	PASS	21	25	PASS
Zinc (Zn) - SEM	NA	0.0348	0.0015	0.003	µmol/dry g	0.0306	0	114	50 - 150%	PASS	2	25	PASS

Sample ID: 22599-MS1**B13-8018 Grab****Matrix: Sediment****Sampled: 06-Sep-13 10:14****Received: 06-Sep-13**

Method: EPA 200.8

Batch ID: E-7018

Prepared: 31-Oct-13

Analyzed: 31-Oct-13 17:37

Cadmium (Cd) - SEM	NA	0.2028	0.0018	0.0036	µmol/dry g	0.1945	0	104	75 - 130%	PASS		
Copper (Cu) - SEM	NA	0.3734	0.0062	0.0124	µmol/dry g	0.344	0.0234	102	70 - 130%	PASS		
Lead (Pb) - SEM	NA	0.118	0.0002	0.0004	µmol/dry g	0.1055	0.0135	99	65 - 135%	PASS		



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CA ELAP #2769

Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Nickel (Ni) - SEM	NA	0.373	0.0033	0.0066	µmol/dry g	0.3725	0	100	70 - 130% PASS	
Silver (Ag) - SEM	NA	0.0226	0.0047	0.0094	µmol/dry g	0.0203	0	111	50 - 155% PASS	
Zinc (Zn) - SEM	NA	0.6792	0.0015	0.003	µmol/dry g	0.3344	0.2811	119	50 - 150% PASS	

Sample ID: 22599-MS2**B13-8018 Grab****Matrix: Sediment****Sampled: 06-Sep-13 10:14****Received: 06-Sep-13**

Method: EPA 200.8

Batch ID: E-7018

Prepared: 31-Oct-13

Analyzed: 31-Oct-13 17:42

Cadmium (Cd) - SEM	NA	0.2044	0.0018	0.0036	µmol/dry g	0.1945	0	105	75 - 130% PASS	1	25	PASS
Copper (Cu) - SEM	NA	0.3766	0.0062	0.0124	µmol/dry g	0.344	0.0234	103	70 - 130% PASS	1	25	PASS
Lead (Pb) - SEM	NA	0.1186	0.0002	0.0004	µmol/dry g	0.1055	0.0135	100	65 - 135% PASS	1	25	PASS
Nickel (Ni) - SEM	NA	0.3765	0.0033	0.0066	µmol/dry g	0.3725	0	101	70 - 130% PASS	1	25	PASS
Silver (Ag) - SEM	NA	0.0212	0.0047	0.0094	µmol/dry g	0.0203	0	104	50 - 155% PASS	7	25	PASS
Zinc (Zn) - SEM	NA	0.6869	0.0015	0.003	µmol/dry g	0.3344	0.2811	121	50 - 150% PASS	2	25	PASS

Sample ID: 22599-R2**B13-8018 Grab****Matrix: Sediment****Sampled: 06-Sep-13 10:14****Received: 06-Sep-13**

Method: EPA 200.8

Batch ID: E-7018

Prepared: 31-Oct-13

Analyzed: 31-Oct-13 15:43

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g					0	25	PASS
Copper (Cu) - SEM	NA	0.0222	0.0062	0.0124	µmol/dry g					11	25	PASS
Lead (Pb) - SEM	NA	0.0128	0.0002	0.0004	µmol/dry g					10	25	PASS
Nickel (Ni) - SEM	NA	ND	0.0033	0.0066	µmol/dry g					0	25	PASS
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g					0	25	PASS
Zinc (Zn) - SEM	NA	0.2551	0.0015	0.003	µmol/dry g					18	25	PASS



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CA ELAP #2769

Fipronil & Degradates

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22598-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13 7:42

Fipronil	NA	ND	0.25	0.5	ng/dry g					
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g					
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g					
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g					

Sample ID: 22598-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13 8:46

Fipronil	NA	1009	0.25	0.5	ng/dry g	1000	0	101	50 - 150%	PASS
Fipronil Desulfinyl	NA	955	0.25	0.5	ng/dry g	1000	0	95	50 - 150%	PASS
Fipronil Sulfide	NA	1014	0.25	0.5	ng/dry g	1000	0	101	50 - 150%	PASS
Fipronil Sulfone	NA	1077	0.25	0.5	ng/dry g	1000	0	108	50 - 150%	PASS

Sample ID: 22598-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 15-Nov-13 9:50

Fipronil	NA	1022	0.25	0.5	ng/dry g	1000	0	102	50 - 150%	PASS	1	25	PASS
Fipronil Desulfinyl	NA	1050	0.25	0.5	ng/dry g	1000	0	105	50 - 150%	PASS	9	25	PASS
Fipronil Sulfide	NA	1093	0.25	0.5	ng/dry g	1000	0	109	50 - 150%	PASS	8	25	PASS
Fipronil Sulfone	NA	1073	0.25	0.5	ng/dry g	1000	0	107	50 - 150%	PASS	1	25	PASS



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22598-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 31-May-14 21:59		
PCB003	NA	ND	0.05	0.1	ng/dry g					
PCB005	NA	ND	0.05	0.1	ng/dry g					
PCB008	NA	ND	0.05	0.1	ng/dry g					
PCB015	NA	ND	0.05	0.1	ng/dry g					
PCB018	NA	ND	0.05	0.1	ng/dry g					
PCB027	NA	ND	0.05	0.1	ng/dry g					
PCB028	NA	ND	0.05	0.1	ng/dry g					
PCB029	NA	ND	0.05	0.1	ng/dry g					
PCB031	NA	ND	0.05	0.1	ng/dry g					
PCB033	NA	ND	0.05	0.1	ng/dry g					
PCB037	NA	ND	0.05	0.1	ng/dry g					
PCB044	NA	ND	0.05	0.1	ng/dry g					
PCB049	NA	ND	0.05	0.1	ng/dry g					
PCB052	NA	ND	0.05	0.1	ng/dry g					
PCB056(060)	NA	ND	0.1	0.2	ng/dry g					
PCB066	NA	ND	0.05	0.1	ng/dry g					
PCB070	NA	ND	0.05	0.1	ng/dry g					
PCB074	NA	ND	0.05	0.1	ng/dry g					
PCB077	NA	ND	0.05	0.1	ng/dry g					
PCB081	NA	ND	0.05	0.1	ng/dry g					
PCB087	NA	ND	0.05	0.1	ng/dry g					
PCB095	NA	ND	0.05	0.1	ng/dry g					
PCB097	NA	ND	0.05	0.1	ng/dry g					
PCB099	NA	ND	0.05	0.1	ng/dry g					
PCB101	NA	ND	0.05	0.1	ng/dry g					
PCB105	NA	ND	0.05	0.1	ng/dry g					
PCB110	NA	ND	0.05	0.1	ng/dry g					
PCB114	NA	ND	0.05	0.1	ng/dry g					
PCB118	NA	ND	0.05	0.1	ng/dry g					



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB119	NA	ND	0.05	0.1	ng/dry g					
PCB123	NA	ND	0.05	0.1	ng/dry g					
PCB126	NA	ND	0.05	0.1	ng/dry g					
PCB128	NA	ND	0.05	0.1	ng/dry g					
PCB137	NA	ND	0.05	0.1	ng/dry g					
PCB138	NA	ND	0.05	0.1	ng/dry g					
PCB141	NA	ND	0.05	0.1	ng/dry g					
PCB149	NA	ND	0.05	0.1	ng/dry g					
PCB151	NA	ND	0.05	0.1	ng/dry g					
PCB153	NA	ND	0.05	0.1	ng/dry g					
PCB156	NA	ND	0.05	0.1	ng/dry g					
PCB157	NA	ND	0.05	0.1	ng/dry g					
PCB158	NA	ND	0.05	0.1	ng/dry g					
PCB167	NA	ND	0.05	0.1	ng/dry g					
PCB168+132	NA	ND	0.1	0.2	ng/dry g					
PCB169	NA	ND	0.05	0.1	ng/dry g					
PCB170	NA	ND	0.05	0.1	ng/dry g					
PCB174	NA	ND	0.05	0.1	ng/dry g					
PCB177	NA	ND	0.05	0.1	ng/dry g					
PCB180	NA	ND	0.05	0.1	ng/dry g					
PCB183	NA	ND	0.05	0.1	ng/dry g					
PCB187	NA	ND	0.05	0.1	ng/dry g					
PCB189	NA	ND	0.05	0.1	ng/dry g					
PCB194	NA	ND	0.05	0.1	ng/dry g					
PCB195	NA	ND	0.05	0.1	ng/dry g					
PCB199(200)	NA	ND	0.1	0.2	ng/dry g					
PCB201	NA	ND	0.05	0.1	ng/dry g					
PCB203	NA	ND	0.05	0.1	ng/dry g					
PCB206	NA	ND	0.05	0.1	ng/dry g					
PCB209	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 22598-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

PHYSIS Project ID: 1307002-016

Client: AMEC

Project: RHMP Bight '13

qcb - 16 of 30



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PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Method: EPA 8270C		Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 31-May-14 23:38				
PCB003	NA	239.86	0.05	0.1	ng/dry g	200	0	120 70 - 130% PASS		
PCB008	NA	246.09	0.05	0.1	ng/dry g	200	0	123 70 - 130% PASS		
PCB018	NA	246.87	0.05	0.1	ng/dry g	200	0	123 70 - 130% PASS		
PCB028	NA	239.19	0.05	0.1	ng/dry g	200	0	120 70 - 130% PASS		
PCB031	NA	234.62	0.05	0.1	ng/dry g	200	0	117 70 - 130% PASS		
PCB033	NA	237.85	0.05	0.1	ng/dry g	200	0	119 70 - 130% PASS		
PCB037	NA	225.22	0.05	0.1	ng/dry g	200	0	113 70 - 130% PASS		
PCB044	NA	234.09	0.05	0.1	ng/dry g	200	0	117 70 - 130% PASS		
PCB049	NA	240.7	0.05	0.1	ng/dry g	200	0	120 70 - 130% PASS		
PCB052	NA	220.54	0.05	0.1	ng/dry g	200	0	110 70 - 130% PASS		
PCB056(060)	NA	229.3	0.1	0.2	ng/dry g	200	0	115 70 - 130% PASS		
PCB066	NA	198.71	0.05	0.1	ng/dry g	200	0	99 70 - 130% PASS		
PCB070	NA	222.3	0.05	0.1	ng/dry g	200	0	111 70 - 130% PASS		
PCB074	NA	215.67	0.05	0.1	ng/dry g	200	0	108 70 - 130% PASS		
PCB077	NA	219.44	0.05	0.1	ng/dry g	200	0	110 70 - 130% PASS		
PCB081	NA	231.88	0.05	0.1	ng/dry g	200	0	116 70 - 130% PASS		
PCB087	NA	222.51	0.05	0.1	ng/dry g	200	0	111 70 - 130% PASS		
PCB095	NA	230.19	0.05	0.1	ng/dry g	200	0	115 70 - 130% PASS		
PCB097	NA	218.46	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS		
PCB099	NA	217.94	0.05	0.1	ng/dry g	200	0	109 70 - 130% PASS		
PCB101	NA	225.09	0.05	0.1	ng/dry g	200	0	113 70 - 130% PASS		
PCB105	NA	222.64	0.05	0.1	ng/dry g	200	0	111 70 - 130% PASS		
PCB110	NA	227.74	0.05	0.1	ng/dry g	200	0	114 70 - 130% PASS		
PCB114	NA	225.58	0.05	0.1	ng/dry g	200	0	113 70 - 130% PASS		
PCB118	NA	215.98	0.05	0.1	ng/dry g	200	0	108 70 - 130% PASS		
PCB119	NA	211.28	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS		
PCB123	NA	216.39	0.05	0.1	ng/dry g	200	0	108 70 - 130% PASS		
PCB126	NA	216.81	0.05	0.1	ng/dry g	200	0	108 70 - 130% PASS		
PCB128	NA	227.15	0.05	0.1	ng/dry g	200	0	114 70 - 130% PASS		
PCB138	NA	231.76	0.05	0.1	ng/dry g	200	0	116 70 - 130% PASS		



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB141	NA	228.18	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	
PCB149	NA	224.92	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	
PCB151	NA	227.84	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	
PCB153	NA	226.18	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	
PCB156	NA	217.14	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	
PCB157	NA	220.11	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	
PCB158	NA	223.16	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	
PCB167	NA	212.68	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	
PCB168+132	NA	471.8	0.1	0.2	ng/dry g	400	0	118	70 - 130% PASS	
PCB169	NA	194.72	0.05	0.1	ng/dry g	200	0	97	70 - 130% PASS	
PCB170	NA	222.22	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	
PCB174	NA	230.31	0.05	0.1	ng/dry g	200	0	115	70 - 130% PASS	
PCB177	NA	221.95	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	
PCB180	NA	221.86	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	
PCB183	NA	224.94	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	
PCB187	NA	225.72	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	
PCB189	NA	195.53	0.05	0.1	ng/dry g	200	0	98	70 - 130% PASS	
PCB194	NA	213.39	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	
PCB195	NA	209.88	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS	
PCB199(200)	NA	240.3	0.1	0.2	ng/dry g	200	0	120	70 - 130% PASS	
PCB201	NA	241.37	0.05	0.1	ng/dry g	200	0	121	70 - 130% PASS	
PCB206	NA	202.61	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS	
PCB209	NA	202.26	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS	

Sample ID: 22598-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14 1:17

PCB003	NA	215.21	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	11	25	PASS
PCB008	NA	233.59	0.05	0.1	ng/dry g	200	0	117	70 - 130% PASS	5	25	PASS
PCB018	NA	223.5	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS	9	25	PASS
PCB028	NA	257.7	0.05	0.1	ng/dry g	200	0	129	70 - 130% PASS	7	25	PASS
PCB031	NA	184.71	0.05	0.1	ng/dry g	200	0	92	70 - 130% PASS	24	25	PASS
PCB033	NA	216.19	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	10	25	PASS



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY			PRECISION			QA CODE
								%	LIMITS		%	LIMITS		
PCB037	NA	202.1	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS		11	25 PASS		
PCB044	NA	216.17	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS		8	25 PASS		
PCB049	NA	223.33	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS		7	25 PASS		
PCB052	NA	200.83	0.05	0.1	ng/dry g	200	0	100	70 - 130% PASS		10	25 PASS		
PCB056(060)	NA	211.9	0.1	0.2	ng/dry g	200	0	106	70 - 130% PASS		8	25 PASS		
PCB066	NA	194.24	0.05	0.1	ng/dry g	200	0	97	70 - 130% PASS		2	25 PASS		
PCB070	NA	206.27	0.05	0.1	ng/dry g	200	0	103	70 - 130% PASS		7	25 PASS		
PCB074	NA	202.27	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS		7	25 PASS		
PCB077	NA	212.94	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS		4	25 PASS		
PCB081	NA	222.64	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS		4	25 PASS		
PCB087	NA	222.44	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS		0	25 PASS		
PCB095	NA	218.44	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS		5	25 PASS		
PCB097	NA	209.62	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS		4	25 PASS		
PCB099	NA	217.9	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS		0	25 PASS		
PCB101	NA	216.35	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS		5	25 PASS		
PCB105	NA	201.2	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS		9	25 PASS		
PCB110	NA	219.61	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS		4	25 PASS		
PCB114	NA	216.61	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS		5	25 PASS		
PCB118	NA	209.91	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS		3	25 PASS		
PCB119	NA	192.9	0.05	0.1	ng/dry g	200	0	96	70 - 130% PASS		10	25 PASS		
PCB123	NA	207.77	0.05	0.1	ng/dry g	200	0	104	70 - 130% PASS		4	25 PASS		
PCB126	NA	193.47	0.05	0.1	ng/dry g	200	0	97	70 - 130% PASS		11	25 PASS		
PCB128	NA	202.06	0.05	0.1	ng/dry g	200	0	101	70 - 130% PASS		12	25 PASS		
PCB138	NA	210.41	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS		10	25 PASS		
PCB141	NA	210.39	0.05	0.1	ng/dry g	200	0	105	70 - 130% PASS		8	25 PASS		
PCB149	NA	224.76	0.05	0.1	ng/dry g	200	0	112	70 - 130% PASS		0	25 PASS		
PCB151	NA	226.07	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS		1	25 PASS		
PCB153	NA	198.57	0.05	0.1	ng/dry g	200	0	99	70 - 130% PASS		13	25 PASS		
PCB156	NA	203.16	0.05	0.1	ng/dry g	200	0	102	70 - 130% PASS		7	25 PASS		
PCB157	NA	211.63	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS		4	25 PASS		
PCB158	NA	211.94	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS		6	25 PASS		



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB167	NA	203.28	0.05	0.1	ng/dry g	200	0	102 70 - 130% PASS	4 25 PASS	
PCB168+132	NA	438	0.1	0.2	ng/dry g	400	0	110 70 - 130% PASS	7 25 PASS	
PCB169	NA	193.43	0.05	0.1	ng/dry g	200	0	97 70 - 130% PASS	0 25 PASS	
PCB170	NA	213.76	0.05	0.1	ng/dry g	200	0	107 70 - 130% PASS	4 25 PASS	
PCB174	NA	215.93	0.05	0.1	ng/dry g	200	0	108 70 - 130% PASS	6 25 PASS	
PCB177	NA	220.7	0.05	0.1	ng/dry g	200	0	110 70 - 130% PASS	1 25 PASS	
PCB180	NA	211.07	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS	5 25 PASS	
PCB183	NA	211.44	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS	6 25 PASS	
PCB187	NA	215.17	0.05	0.1	ng/dry g	200	0	108 70 - 130% PASS	5 25 PASS	
PCB189	NA	187.54	0.05	0.1	ng/dry g	200	0	94 70 - 130% PASS	4 25 PASS	
PCB194	NA	212.64	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS	1 25 PASS	
PCB195	NA	207.02	0.05	0.1	ng/dry g	200	0	104 70 - 130% PASS	1 25 PASS	
PCB199(200)	NA	230.9	0.1	0.2	ng/dry g	200	0	115 70 - 130% PASS	4 25 PASS	
PCB201	NA	241.04	0.05	0.1	ng/dry g	200	0	121 70 - 130% PASS	0 25 PASS	
PCB206	NA	202.03	0.05	0.1	ng/dry g	200	0	101 70 - 130% PASS	0 25 PASS	
PCB209	NA	214.25	0.05	0.1	ng/dry g	200	0	107 70 - 130% PASS	6 25 PASS	

Sample ID: 22601-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 01-Jun-14 6:37

PCB008	NA	21.14	0.05	0.1	ng/dry g	22.3	95	60 - 140% PASS	
PCB018	NA	49.31	0.05	0.1	ng/dry g	51	97	60 - 140% PASS	
PCB028	NA	78.72	0.05	0.1	ng/dry g	80.8	97	60 - 140% PASS	
PCB031	NA	80.02	0.05	0.1	ng/dry g	78.7	102	60 - 140% PASS	
PCB044	NA	52.12	0.05	0.1	ng/dry g	60.2	87	60 - 140% PASS	
PCB049	NA	59.24	0.05	0.1	ng/dry g	53	112	60 - 140% PASS	
PCB052	NA	79.92	0.05	0.1	ng/dry g	79.4	101	60 - 140% PASS	
PCB066	NA	47.66	0.05	0.1	ng/dry g	71.9	66	60 - 140% PASS	
PCB087	NA	24.14	0.05	0.1	ng/dry g	29.9	81	60 - 140% PASS	
PCB095	NA	55.69	0.05	0.1	ng/dry g	65	86	60 - 140% PASS	
PCB099	NA	35	0.05	0.1	ng/dry g	37.5	93	60 - 140% PASS	
PCB101	NA	70.45	0.05	0.1	ng/dry g	73.4	96	60 - 140% PASS	
PCB105	NA	23.2	0.05	0.1	ng/dry g	24.5	95	60 - 140% PASS	



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB110	NA	57.41	0.05	0.1	ng/dry g	63.5		90 60 - 140% PASS		
PCB118	NA	43.9	0.05	0.1	ng/dry g	58		76 60 - 140% PASS		
PCB128	NA	7.65	0.05	0.1	ng/dry g	8.5		90 60 - 140% PASS		
PCB138	NA	67.61	0.05	0.1	ng/dry g	62.1		109 60 - 140% PASS		
PCB149	NA	47.37	0.05	0.1	ng/dry g	49.7		95 60 - 140% PASS		
PCB151	NA	17.61	0.05	0.1	ng/dry g	16.9		104 60 - 140% PASS		
PCB153	NA	63.09	0.05	0.1	ng/dry g	74		85 60 - 140% PASS		
PCB156	NA	5.34	0.05	0.1	ng/dry g	6.5		82 60 - 140% PASS		
PCB170	NA	24.6	0.05	0.1	ng/dry g	22.6		109 60 - 140% PASS		
PCB180	NA	43.2	0.05	0.1	ng/dry g	44.3		98 60 - 140% PASS		
PCB183	NA	10.26	0.05	0.1	ng/dry g	12.2		84 60 - 140% PASS		
PCB187	NA	26.83	0.05	0.1	ng/dry g	25.1		107 60 - 140% PASS		
PCB194	NA	8.45	0.05	0.1	ng/dry g	11.2		75 60 - 140% PASS		
PCB195	NA	3.86	0.05	0.1	ng/dry g	3.8		102 60 - 140% PASS		
PCB206	NA	10.84	0.05	0.1	ng/dry g	9.2		118 60 - 140% PASS		
PCB209	NA	6.26	0.05	0.1	ng/dry g	6.8		92 60 - 140% PASS		



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22598-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13 12:56

(DFPBDE)	NA	73			% Recovery	100		73	50 - 150%	PASS
(FTBDE)	NA	93			% Recovery	100		93	50 - 150%	PASS
PBDE017	NA	ND	0.05	0.1	ng/dry g					
PBDE028	NA	ND	0.05	0.1	ng/dry g					
PBDE047	NA	ND	0.05	0.1	ng/dry g					
PBDE049	NA	ND	0.05	0.1	ng/dry g					
PBDE066	NA	ND	0.05	0.1	ng/dry g					
PBDE071	NA	ND	0.05	0.1	ng/dry g					
PBDE085	NA	ND	0.05	0.1	ng/dry g					
PBDE099	NA	ND	0.05	0.1	ng/dry g					
PBDE100	NA	ND	0.05	0.1	ng/dry g					
PBDE138	NA	ND	0.05	0.1	ng/dry g					
PBDE153	NA	ND	0.05	0.1	ng/dry g					
PBDE154	NA	ND	0.05	0.1	ng/dry g					
PBDE183	NA	ND	0.05	0.1	ng/dry g					
PBDE190	NA	ND	0.05	0.1	ng/dry g					
PBDE209	NA	ND	0.05	0.1	ng/dry g					

Sample ID: 22598-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13 13:35

(DFPBDE)	NA	108			% Recovery	100	0	108	70 - 130%	PASS
(FTBDE)	NA	114			% Recovery	100	0	114	70 - 130%	PASS
PBDE017	NA	128	0.05	0.1	ng/dry g	100	0	128	70 - 130%	PASS
PBDE028	NA	112	0.05	0.1	ng/dry g	100	0	112	70 - 130%	PASS
PBDE047	NA	104	0.05	0.1	ng/dry g	100	0	104	70 - 130%	PASS
PBDE049	NA	71	0.05	0.1	ng/dry g	100	0	71	70 - 130%	PASS
PBDE066	NA	113	0.05	0.1	ng/dry g	100	0	113	70 - 130%	PASS
PBDE071	NA	90	0.05	0.1	ng/dry g	100	0	90	70 - 130%	PASS
PBDE085	NA	110	0.05	0.1	ng/dry g	100	0	110	70 - 130%	PASS



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PBDE099	NA	109	0.05	0.1	ng/dry g	100	0	109 70 - 130% PASS		
PBDE100	NA	115	0.05	0.1	ng/dry g	100	0	115 70 - 130% PASS		
PBDE138	NA	86	0.05	0.1	ng/dry g	100	0	86 70 - 130% PASS		
PBDE153	NA	122	0.05	0.1	ng/dry g	100	0	122 70 - 130% PASS		
PBDE154	NA	110.18	0.05	0.1	ng/dry g	100	0	110 70 - 130% PASS		
PBDE183	NA	103	0.05	0.1	ng/dry g	100	0	103 70 - 130% PASS		
PBDE190	NA	103	0.05	0.1	ng/dry g	100	0	103 70 - 130% PASS		
PBDE209	NA	450	0.05	0.1	ng/dry g	500	0	90 70 - 130% PASS		

Sample ID: 22598-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13 14:14

(DFPBDE)	NA	116			% Recovery	100	0	116 70 - 130% PASS	7	25	PASS
(FTBDE)	NA	110			% Recovery	100	0	110 70 - 130% PASS	4	25	PASS
PBDE017	NA	125	0.05	0.1	ng/dry g	100	0	125 70 - 130% PASS	2	25	PASS
PBDE028	NA	113	0.05	0.1	ng/dry g	100	0	113 70 - 130% PASS	1	25	PASS
PBDE047	NA	109	0.05	0.1	ng/dry g	100	0	109 70 - 130% PASS	5	25	PASS
PBDE049	NA	71	0.05	0.1	ng/dry g	100	0	71 70 - 130% PASS	0	25	PASS
PBDE066	NA	121	0.05	0.1	ng/dry g	100	0	121 70 - 130% PASS	7	25	PASS
PBDE071	NA	94	0.05	0.1	ng/dry g	100	0	94 70 - 130% PASS	4	25	PASS
PBDE085	NA	120	0.05	0.1	ng/dry g	100	0	120 70 - 130% PASS	9	25	PASS
PBDE099	NA	119	0.05	0.1	ng/dry g	100	0	119 70 - 130% PASS	9	25	PASS
PBDE100	NA	119	0.05	0.1	ng/dry g	100	0	119 70 - 130% PASS	3	25	PASS
PBDE138	NA	93	0.05	0.1	ng/dry g	100	0	93 70 - 130% PASS	8	25	PASS
PBDE153	NA	110	0.05	0.1	ng/dry g	100	0	110 70 - 130% PASS	10	25	PASS
PBDE154	NA	119.45	0.05	0.1	ng/dry g	100	0	119 70 - 130% PASS	8	25	PASS
PBDE183	NA	116	0.05	0.1	ng/dry g	100	0	116 70 - 130% PASS	12	25	PASS
PBDE190	NA	83	0.05	0.1	ng/dry g	100	0	83 70 - 130% PASS	22	25	PASS
PBDE209	NA	474	0.05	0.1	ng/dry g	500	0	95 70 - 130% PASS	5	25	PASS

Sample ID: 22601-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5039

Prepared: 12-Nov-13

Analyzed: 22-Nov-13 16:42

PBDE047	NA	2.33	0.05	0.1	ng/dry g	1.72		135 60 - 140% PASS			
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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PBDE099	NA	2.02	0.05	0.1	ng/dry g	2		101 60 - 140% PASS		
PBDE100	NA	0.5	0.05	0.1	ng/dry g	0.4		125 60 - 140% PASS		
PBDE153	NA	5.41	0.05	0.1	ng/dry g	6.44		84 60 - 140% PASS		
PBDE154	NA	0.79	0.05	0.1	ng/dry g	1.06		75 60 - 140% PASS		
PBDE183	NA	38.71	0.05	0.1	ng/dry g	31.8		122 60 - 140% PASS		
PBDE209	NA	127.26	0.05	0.1	ng/dry g	93.5		136 60 - 140% PASS		



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22598-B1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 31-May-14 21:59	
(d10-Acenaphthene)	NA	92			% Recovery	100	92	50 - 150% PASS		
(d10-Phenanthrene)	NA	89			% Recovery	100	89	50 - 150% PASS		
(d12-Chrysene)	NA	74			% Recovery	100	74	50 - 150% PASS		
(d8-Naphthalene)	NA	88			% Recovery	100	88	25 - 125% PASS		
1-Methylnaphthalene	NA	ND	1	5	ng/dry g					
1-Methylphenanthrene	NA	ND	1	5	ng/dry g					
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g					
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g					
2-Methylnaphthalene	NA	ND	1	5	ng/dry g					
Acenaphthene	NA	ND	1	5	ng/dry g					
Acenaphthylene	NA	ND	1	5	ng/dry g					
Anthracene	NA	ND	1	5	ng/dry g					
Benz[a]anthracene	NA	ND	1	5	ng/dry g					
Benzo[a]pyrene	NA	ND	1	5	ng/dry g					
Benzo[b]fluoranthene	NA	ND	1	5	ng/dry g					
Benzo[e]pyrene	NA	ND	1	5	ng/dry g					
Benzo[g,h,i]perylene	NA	ND	1	5	ng/dry g					
Benzo[k]fluoranthene	NA	ND	1	5	ng/dry g					
Biphenyl	NA	ND	1	5	ng/dry g					
Chrysene	NA	ND	1	5	ng/dry g					
Dibenz[a,h]anthracene	NA	ND	1	5	ng/dry g					
Dibenzothiophene	NA	ND	1	5	ng/dry g					
Fluoranthene	NA	ND	1	5	ng/dry g					
Fluorene	NA	ND	1	5	ng/dry g					
Indeno[1,2,3-c,d]pyrene	NA	ND	1	5	ng/dry g					
Naphthalene	NA	ND	1	5	ng/dry g					
Perylene	NA	ND	1	5	ng/dry g					
Phenanthrene	NA	ND	1	5	ng/dry g					
Pyrene	NA	ND	1	5	ng/dry g					



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22598-BS1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 31-May-14 23:38	
(d10-Acenaphthene)	NA	109			% Recovery	100	0	109 70 - 130%	PASS	
(d10-Phenanthrene)	NA	102			% Recovery	100	0	102 70 - 130%	PASS	
(d12-Chrysene)	NA	83			% Recovery	100	0	83 70 - 130%	PASS	
(d8-Naphthalene)	NA	118			% Recovery	100	0	118 70 - 130%	PASS	
1-Methylnaphthalene	NA	1211.5	1	5	ng/dry g	1000	0	121 70 - 130%	PASS	
1-Methylphenanthrene	NA	1258.8	1	5	ng/dry g	1000	0	126 70 - 130%	PASS	
2,3,5-Trimethylnaphthalene	NA	1276	1	5	ng/dry g	1000	0	128 70 - 130%	PASS	
2,6-Dimethylnaphthalene	NA	1271.5	1	5	ng/dry g	1000	0	127 70 - 130%	PASS	
2-Methylnaphthalene	NA	1228.9	1	5	ng/dry g	1000	0	123 70 - 130%	PASS	
Acenaphthene	NA	1208.7	1	5	ng/dry g	1000	0	121 70 - 130%	PASS	
Acenaphthylene	NA	1274.7	1	5	ng/dry g	1000	0	127 70 - 130%	PASS	
Anthracene	NA	1297.6	1	5	ng/dry g	1000	0	130 70 - 130%	PASS	
Benz[a]anthracene	NA	1097.2	1	5	ng/dry g	1000	0	110 70 - 130%	PASS	
Benzo[a]pyrene	NA	834.9	1	5	ng/dry g	1000	0	83 70 - 130%	PASS	
Benzo[b]fluoranthene	NA	858.2	1	5	ng/dry g	1000	0	86 70 - 130%	PASS	
Benzo[e]pyrene	NA	835.5	1	5	ng/dry g	1000	0	84 70 - 130%	PASS	
Benzo[g,h,i]perylene	NA	1284.9	1	5	ng/dry g	1000	0	128 70 - 130%	PASS	
Benzo[k]fluoranthene	NA	877.7	1	5	ng/dry g	1000	0	88 70 - 130%	PASS	
Biphenyl	NA	1229.8	1	5	ng/dry g	1000	0	123 70 - 130%	PASS	
Chrysene	NA	1105.8	1	5	ng/dry g	1000	0	111 70 - 130%	PASS	
Dibenz[a,h]anthracene	NA	1257.7	1	5	ng/dry g	1000	0	126 70 - 130%	PASS	
Dibenzothiophene	NA	1286.9	1	5	ng/dry g	1000	0	129 70 - 130%	PASS	
Fluoranthene	NA	1293.3	1	5	ng/dry g	1000	0	129 70 - 130%	PASS	
Fluorene	NA	1272.6	1	5	ng/dry g	1000	0	127 70 - 130%	PASS	
Indeno[1,2,3-c,d]pyrene	NA	1288.7	1	5	ng/dry g	1000	0	129 70 - 130%	PASS	
Naphthalene	NA	1194.5	1	5	ng/dry g	1000	0	119 70 - 130%	PASS	
Perylene	NA	825.9	1	5	ng/dry g	1000	0	83 70 - 130%	PASS	
Phenanthrene	NA	1281.4	1	5	ng/dry g	1000	0	128 70 - 130%	PASS	
Pyrene	NA	1297.4	1	5	ng/dry g	1000	0	130 70 - 130%	PASS	



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
		LIMITS								LIMITS
Sample ID: 22598-BS2		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 01-Jun-14		1:17
(d10-Acenaphthene)	NA	110			% Recovery	100	0	110	70 - 130% PASS	1 25 PASS
(d10-Phenanthrene)	NA	102			% Recovery	100	0	102	70 - 130% PASS	0 25 PASS
(d12-Chrysene)	NA	100			% Recovery	100	0	100	70 - 130% PASS	19 25 PASS
(d8-Naphthalene)	NA	116			% Recovery	100	0	116	70 - 130% PASS	2 25 PASS
1-Methylnaphthalene	NA	774.3	1	5	ng/dry g	1000	0	77	70 - 130% PASS	44 25 FAIL *
1-Methylphenanthrene	NA	945.6	1	5	ng/dry g	1000	0	95	70 - 130% PASS	28 25 FAIL *
2,3,5-Trimethylnaphthalene	NA	992.6	1	5	ng/dry g	1000	0	99	70 - 130% PASS	26 25 FAIL *
2,6-Dimethylnaphthalene	NA	831	1	5	ng/dry g	1000	0	83	70 - 130% PASS	42 25 FAIL *
2-Methylnaphthalene	NA	794.4	1	5	ng/dry g	1000	0	79	70 - 130% PASS	44 25 FAIL *
Acenaphthene	NA	874.3	1	5	ng/dry g	1000	0	87	70 - 130% PASS	33 25 FAIL *
Acenaphthylene	NA	855.9	1	5	ng/dry g	1000	0	86	70 - 130% PASS	38 25 FAIL *
Anthracene	NA	922.5	1	5	ng/dry g	1000	0	92	70 - 130% PASS	34 25 FAIL *
Benz[a]anthracene	NA	853.2	1	5	ng/dry g	1000	0	85	70 - 130% PASS	26 25 FAIL *
Benzo[a]pyrene	NA	756.8	1	5	ng/dry g	1000	0	76	70 - 130% PASS	9 25 PASS
Benzo[b]fluoranthene	NA	748.9	1	5	ng/dry g	1000	0	75	70 - 130% PASS	14 25 PASS
Benzo[e]pyrene	NA	750.1	1	5	ng/dry g	1000	0	75	70 - 130% PASS	11 25 PASS
Benzo[g,h,i]perylene	NA	949.5	1	5	ng/dry g	1000	0	95	70 - 130% PASS	30 25 FAIL *
Benzo[k]fluoranthene	NA	788.9	1	5	ng/dry g	1000	0	79	70 - 130% PASS	11 25 PASS
Biphenyl	NA	804.7	1	5	ng/dry g	1000	0	80	70 - 130% PASS	42 25 FAIL *
Chrysene	NA	893.3	1	5	ng/dry g	1000	0	89	70 - 130% PASS	22 25 PASS
Dibenz[a,h]anthracene	NA	896.7	1	5	ng/dry g	1000	0	90	70 - 130% PASS	33 25 FAIL *
Dibenzothiophene	NA	921.9	1	5	ng/dry g	1000	0	92	70 - 130% PASS	33 25 FAIL *
Fluoranthene	NA	922.5	1	5	ng/dry g	1000	0	92	70 - 130% PASS	33 25 FAIL *
Fluorene	NA	951.3	1	5	ng/dry g	1000	0	95	70 - 130% PASS	29 25 FAIL *
Indeno[1,2,3-c,d]pyrene	NA	847.2	1	5	ng/dry g	1000	0	85	70 - 130% PASS	41 25 FAIL *
Naphthalene	NA	781.8	1	5	ng/dry g	1000	0	78	70 - 130% PASS	42 25 FAIL *
Perylene	NA	768	1	5	ng/dry g	1000	0	77	70 - 130% PASS	8 25 PASS
Phenanthrene	NA	931.3	1	5	ng/dry g	1000	0	93	70 - 130% PASS	32 25 FAIL *
Pyrene	NA	951.2	1	5	ng/dry g	1000	0	95	70 - 130% PASS	31 25 FAIL *



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22601-CRM1		QAQC CRM - SRM 1944			Matrix: Sediment		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-6004		Prepared: 16-May-14		Analyzed: 01-Jun-14 6:37	
(d10-Acenaphthene)	NA	127			% Recovery	100	127	60 - 140% PASS		
(d10-Phenanthrene)	NA	116			% Recovery	100	116	60 - 140% PASS		
(d12-Chrysene)	NA	82			% Recovery	100	82	60 - 140% PASS		
(d8-Naphthalene)	NA	127			% Recovery	100	127	60 - 140% PASS		
1-Methylnaphthalene	NA	450.3	1	5	ng/dry g	470	96	60 - 140% PASS		
1-Methylphenanthrene	NA	1473.3	1	5	ng/dry g	1700	87	60 - 140% PASS		
2,6-Dimethylnaphthalene	NA	666.7	1	5	ng/dry g	790	84	60 - 140% PASS		
2-Methylnaphthalene	NA	616	1	5	ng/dry g	740	83	60 - 140% PASS		
Acenaphthene	NA	329.8	1	5	ng/dry g	390	85	60 - 140% PASS		
Anthracene	NA	1174	1	5	ng/dry g	1130	104	60 - 140% PASS		
Benz[a]anthracene	NA	3557	1	5	ng/dry g	4720	75	60 - 140% PASS		
Benzo[a]pyrene	NA	3320	1	5	ng/dry g	4300	77	60 - 140% PASS		
Benzo[b]fluoranthene	NA	2485.6	1	5	ng/dry g	3870	64	60 - 140% PASS		
Benzo[e]pyrene	NA	2138.1	1	5	ng/dry g	3280	65	60 - 140% PASS		
Benzo[g,h,i]perylene	NA	2884.9	1	5	ng/dry g	2840	102	60 - 140% PASS		
Benzo[k]fluoranthene	NA	1494.6	1	5	ng/dry g	2300	65	60 - 140% PASS		
Biphenyl	NA	199.5	1	5	ng/dry g	250	80	60 - 140% PASS		
Chrysene	NA	4767.1	1	5	ng/dry g	4860	98	60 - 140% PASS		
Dibenz[a,h]anthracene	NA	402	1	5	ng/dry g	424	95	60 - 140% PASS		
Dibenzothiophene	NA	658.5	1	5	ng/dry g	500	132	60 - 140% PASS		
Fluoranthene	NA	8522.7	1	5	ng/dry g	8920	96	60 - 140% PASS		
Fluorene	NA	369.5	1	5	ng/dry g	480	77	60 - 140% PASS		
Indeno[1,2,3-c,d]pyrene	NA	2868.1	1	5	ng/dry g	2780	103	60 - 140% PASS		
Naphthalene	NA	1156.6	1	5	ng/dry g	1280	90	60 - 140% PASS		
Perylene	NA	1072	1	5	ng/dry g	1170	92	60 - 140% PASS		
Phenanthrene	NA	5460.9	1	5	ng/dry g	5270	104	60 - 140% PASS		
Pyrene	NA	8761	1	5	ng/dry g	9700	90	60 - 140% PASS		



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CA ELAP #2769

Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22598-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 1:56

Allethrin	NA	ND	0.25	0.5	ng/dry g					
Bifenthrin	NA	ND	0.25	0.5	ng/dry g					
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g					
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g					
Cypermethrin	NA	ND	0.25	0.5	ng/dry g					
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g					
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g					
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g					
Fenvalerate	NA	ND	0.25	0.5	ng/dry g					
Fluvalinate	NA	ND	0.25	0.5	ng/dry g					
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g					
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g					
Prallethrin	NA	ND	0.25	0.5	ng/dry g					
Resmethrin	NA	ND	0.25	0.5	ng/dry g					

Sample ID: 22598-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 3:35

Allethrin	NA	975	0.25	0.5	ng/dry g	1000	0	98	70 - 130%	PASS	
Bifenthrin	NA	912	0.25	0.5	ng/dry g	1000	0	91	70 - 130%	PASS	
Cyfluthrin	NA	823	0.25	0.5	ng/dry g	1000	0	82	70 - 130%	PASS	
Cyhalothrin, Total Lambda	NA	710	0.25	0.5	ng/dry g	1000	0	71	70 - 130%	PASS	
Cypermethrin	NA	716	0.25	0.5	ng/dry g	1000	0	72	70 - 130%	PASS	
Danitol (Fenpropathrin)	NA	629	0.25	0.5	ng/dry g	1000	0	63	70 - 130%	FAIL	R
Deltamethrin/Tralomethrin	NA	798	0.25	0.5	ng/dry g	1000	0	80	70 - 130%	PASS	
Esfenvalerate	NA	988	0.25	0.5	ng/dry g	1000	0	99	70 - 130%	PASS	
Fenvalerate	NA	822	0.25	0.5	ng/dry g	1000	0	82	70 - 130%	PASS	
Fluvalinate	NA	892	0.25	0.5	ng/dry g	1000	0	89	70 - 130%	PASS	
Permethrin, cis-	NA	210	0.25	0.5	ng/dry g	267	0	79	70 - 130%	PASS	
Permethrin, trans-	NA	611	0.25	0.5	ng/dry g	716	0	85	70 - 130%	PASS	



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CA ELAP #2769

Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Prallethrin	NA	802	0.25	0.5	ng/dry g	1000	0	80 70 - 130% PASS		
Resmethrin	NA	263	0.25	0.5	ng/dry g	1000	0	26 70 - 130% FAIL		*

Sample ID: 22598-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-6004

Prepared: 16-May-14

Analyzed: 28-May-14 5:14

Allethrin	NA	1016	0.25	0.5	ng/dry g	1000	0	102 70 - 130% PASS	4 25 PASS	
Bifenthrin	NA	970	0.25	0.5	ng/dry g	1000	0	97 70 - 130% PASS	6 25 PASS	
Cyfluthrin	NA	855	0.25	0.5	ng/dry g	1000	0	86 70 - 130% PASS	5 25 PASS	
Cyhalothrin, Total Lambda	NA	773	0.25	0.5	ng/dry g	1000	0	77 70 - 130% PASS	8 25 PASS	
Cypermethrin	NA	748	0.25	0.5	ng/dry g	1000	0	75 70 - 130% PASS	4 25 PASS	
Danitol (Fenpropathrin)	NA	715	0.25	0.5	ng/dry g	1000	0	71 70 - 130% PASS	13 25 PASS	
Deltamethrin/Tralomethrin	NA	702	0.25	0.5	ng/dry g	1000	0	70 70 - 130% PASS	13 25 PASS	
Esfenvalerate	NA	964	0.25	0.5	ng/dry g	1000	0	96 70 - 130% PASS	3 25 PASS	
Fenvalerate	NA	901	0.25	0.5	ng/dry g	1000	0	90 70 - 130% PASS	9 25 PASS	
Fluvalinate	NA	903	0.25	0.5	ng/dry g	1000	0	90 70 - 130% PASS	1 25 PASS	
Permethrin, cis-	NA	222	0.25	0.5	ng/dry g	267	0	83 70 - 130% PASS	5 25 PASS	
Permethrin, trans-	NA	650	0.25	0.5	ng/dry g	716	0	91 70 - 130% PASS	7 25 PASS	
Prallethrin	NA	872	0.25	0.5	ng/dry g	1000	0	87 70 - 130% PASS	8 25 PASS	
Resmethrin	NA	311	0.25	0.5	ng/dry g	1000	0	31 70 - 130% FAIL	18 25 PASS	*

PHYSICS

CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

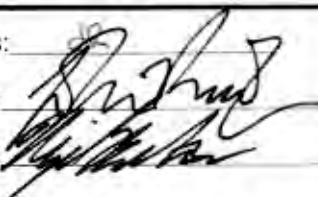
AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

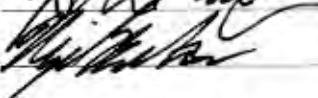
To:


Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8018	9/6/13	1014	General Chemistry	Grab	8 oz Glass	None	1
B13-8018			Metals	Grab	8 oz Glass	None	1
B13-8018			PBDE	Grab	8 oz Glass	None	1
B13-8018			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8018			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: 

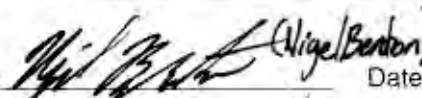
Relinquished By: 

Relinquished By: 

Date/Time:

9/6/13 1414
9/6/13 1513

Received By:

 (Nigel Benton)
Richard Harker

Date/Time:

9/6/13 1415
9/6/13 1713

Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8053	9/6/13		General Chemistry	Grab	8 oz Glass	None	1
B13-8053			Metals	Grab	8 oz Glass	None	1
B13-8053			PBDE	Grab	8 oz Glass	None	1
B13-8053			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8053			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *RL*

Relinquished By: *[Signature]*

Date/Time: *9/6/13 1414*

Received By: *[Signature]* (Nigel Boden)

Date/Time: *9/6/13 1415*

Relinquished By: *[Signature]*

Date/Time: *9/6/13 1513*

Received By: *Richard Hanken*

Date/Time: *9/6/13 1513*

1713

(R6H)

SAMPLE RECEIPT SUMMARY

CLIENT: AMEC Date Received: 9/6/13 Received By: RGH Inspected By: RGH

COURIER

☒ PHYSIS ☐ CLIENT ☐ FEDEX ☐ UPS
start 12:00 end 17:13 ☐ OTHER: Nigel Benton

COOLER

☒ COOLER ☐ BOX total #
☐ OTHER: _____ 3

TEMPERATURE

5.2 °C ☒ WET ICE ☐ BLUE ICE
☐ DRY ICE ☐ NONE

SAMPLE INTEGRITY UPON RECEIPT

1. COC(s) included and completely filled out..... **NO; see notes below**
2. All sample containers arrived intact..... **YES**
3. All samples listed on COC(s) are present..... **YES**
4. Information on containers consistent with information on COC(s)..... **YES**
5. Correct containers and volume for all analyses indicated..... **YES**
6. All samples received within method holding time..... **YES**
7. Correct preservation used for all analyses indicated..... **YES**

NOTES

SID B13-8053 does not have a sampled time on the COC.

PHYSIS

LEVEL 3

DELIVERABLES

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Conventionals

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Summary of Initial Calibration Data and

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ICV/CCV

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1307002-016 AMEC RHMP General Chemistry Calibration Data							
Analysis	Method	Batch ID	Co-efficient	Equation	Slope	ICV/True Value	CCV/True Value
Acid Volatile Sulfides	Plumb, 1981	C-14076	0.9998	$0.196x - 0.001702$	NA	NA	NA
Percent Solids	SM2540 B	C-14074	NA	NA	NA	NA	NA
Ammonia	SM 4500-NH3 D	C-14075	NA	NA	-58.63	.225/.25	.24/.25

Elements – ICP-MS

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2020 High Meadows

PHYSIS

Instrument Blank

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PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name 0MIX_2131101A.D
File Path D:\DATA\2131101B.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 11/1/2013 11:10
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.000	ug/g	---	13.33	3.120E-05	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	---	7.78	1.813E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	430,772.49	0.91	100.0	Pulse	0.30	3

PHYSIS

Initial Calibration Data

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Batch Folder: D:\DATA\2131101B.B\

 Analysis File: 2131101B.batch.xml

 DA Date-Time: 11/4/2013 10:28:56 AM

 Calibration Title:

 Calibration Method: External Calibration

 VIS Interpolation Fit:

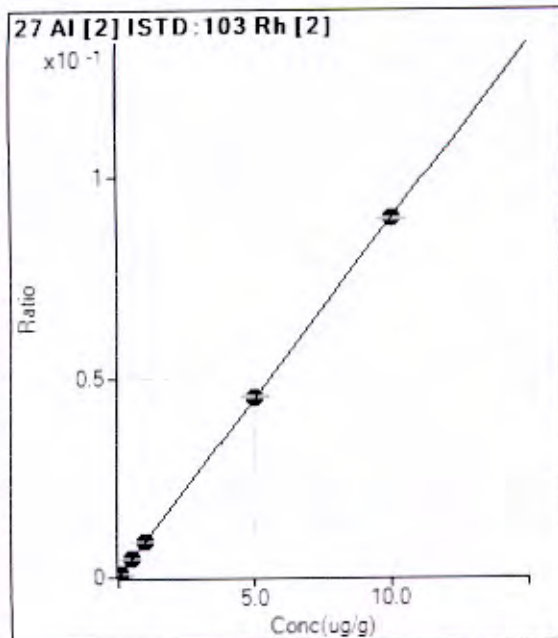
 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX_2131101A.D	0 ppb mix	11/1/2013 11:10:54 AM
2	1MIX_2131101A.D	1 ppb mix	11/1/2013 11:15:41 AM
3	5MIX_2131101A.D	5 ppb mix	11/1/2013 11:20:28 AM
4	10MIX_2131101A.D	10 ppb mix	11/1/2013 11:25:15 AM
5	50MIX_2131101A.D	50 ppb mix	11/1/2013 11:30:00 AM
6	100MIX_2131101A.D	100 ppb mix	11/1/2013 11:34:46 AM
7	500MIX_2131101A.D	500 ppb mix	11/1/2013 11:39:31 AM
8	1000MIX_2131101A.D	1000 ppb mix	11/1/2013 11:44:07 AM
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

Calibration for 2P_2131101A.D



$$y = 0.0090 * x + 3.1202E-005$$

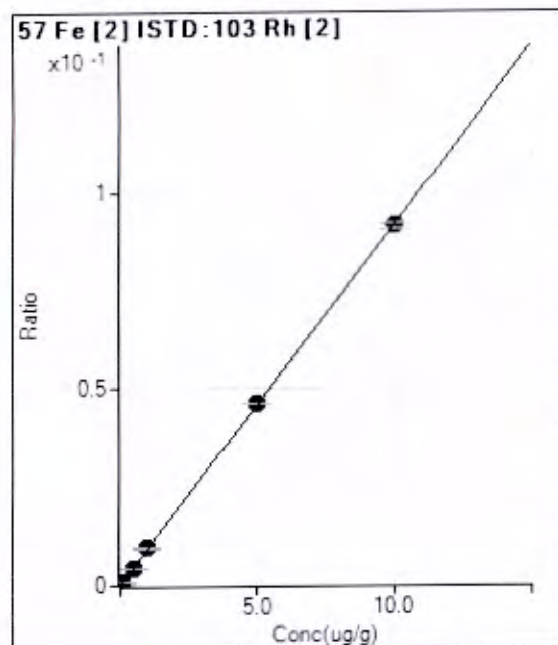
$$R = 1.0000$$

$$DL = 0.01385$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	13.33	0.0000	P	132.7
2	<input type="checkbox"/>	0.010	0.009	45.56	0.0001	P	49.3
3	<input type="checkbox"/>	0.050	0.056	215.57	0.0005	P	9.6
4	<input type="checkbox"/>	0.100	0.101	377.80	0.0009	P	13.3
5	<input type="checkbox"/>	0.500	0.526	1840.18	0.0047	P	6.3
6	<input type="checkbox"/>	1.000	0.983	3323.77	0.0088	P	1.1
7	<input type="checkbox"/>	5.000	5.034	15571.66	0.0452	P	1.3
8	<input type="checkbox"/>	10.00	9.984	29875.22	0.0895	P	0.8
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0092 * x + 1.8126E-005$$

$$R = 1.0000$$

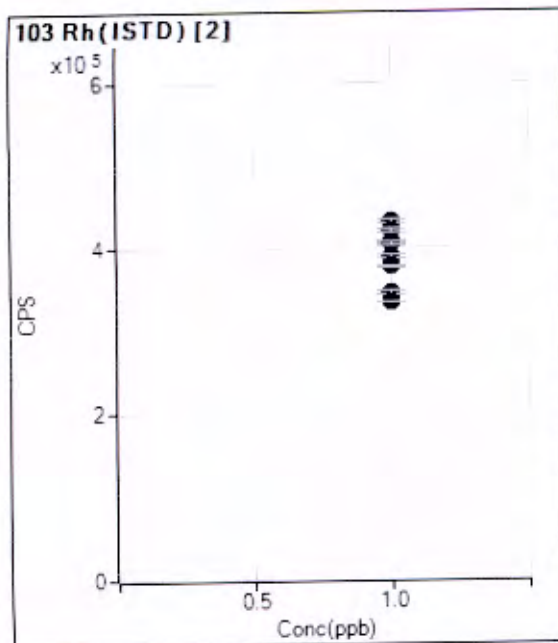
$$DL = 0.003934$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	7.78	0.0000	P	66.3
2	<input type="checkbox"/>	0.010	0.010	46.67	0.0001	P	36.6
3	<input type="checkbox"/>	0.050	0.049	188.90	0.0005	P	24.8
4	<input type="checkbox"/>	0.100	0.101	382.24	0.0009	P	7.0
5	<input type="checkbox"/>	0.500	0.487	1739.05	0.0045	P	2.4
6	<input type="checkbox"/>	1.000	1.035	3573.84	0.0095	P	3.6
7	<input type="checkbox"/>	5.000	5.025	15886.50	0.0461	P	0.1
8	<input type="checkbox"/>	10.00	9.985	30542.53	0.0915	P	1.3
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 2P_2131101A.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		430772.49		P	0.9
2	<input type="checkbox"/>	1.000		420256.20		P	1.1
3	<input type="checkbox"/>	1.000		406234.40		P	0.8
4	<input type="checkbox"/>	1.000		403692.37		P	1.1
5	<input type="checkbox"/>	1.000		388043.81		P	0.7
6	<input type="checkbox"/>	1.000		375971.31		P	0.8
7	<input type="checkbox"/>	1.000		344834.80		P	1.2
8	<input type="checkbox"/>	1.000		333709.14		P	0.4
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

PHYSIS

Continuing Calibration Data

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PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV.D
File Path D:\data\2131101B.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 11/2/2013 15:32
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.101	ug/g	0.47	3,507.14	9.049E-03	Pulse	0.30	3
Fe	57	103	2	0.104	ug/g	0.39	3,690.54	9.522E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	387,585.00	0.37	90.0	Pulse	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV2.D
File Path D:\data\21311018.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 11/2/2013 17:31
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.105	ug/g	3.12	3,663.86	9.455E-03	Pulse	0.30	3
Fe	57	103	2	0.103	ug/g	0.88	3,649.40	9.417E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	387,510.28	0.20	90.0	Pulse	0.30	3

PHYSIS

Instrument Run Log

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H16H METALS

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1	C:\CPMH\1\METHOD S\Physic.m	Sample	1	Rinse9			1.000							
2	C:\CPMH\1\METHOD S\Physic.m	Sample	1	Rinse10			1.000							
3	C:\CPMH\1\METHOD S\Physic.m	Sample	1	Rinse11			1.000							
4	C:\CPMH\1\METHOD S\Physic.m	Sample	3101	22598	QAQC Procedural Blank B1	22598,NA,B1,10/23/2013,E-7012	10.00							
5	C:\CPMH\1\METHOD S\Physic.m	Sample	3102	22599	B13-8018 Grab	22598,NA,R1,10/23/2013,E-7012	336.0							
6	C:\CPMH\1\METHOD S\Physic.m	Sample	3103	22599a2	B13-8018 Grab Dup	22599,NA,R2,10/23/2013,E-7012	273.0							
7	C:\CPMH\1\METHOD S\Physic.m	Sample	3104	22600	B13-8053 Grab	22600,NA,R1,10/23/2013,E-7012	332.0							
8	C:\CPMH\1\METHOD S\Physic.m	Sample	3105	22602cm	QAQC CRM - RTC 815-0501	22602,NA,CRM1,10/23/2013,E-7012	1.000E+03							
9	C:\CPMH\1\METHOD S\Physic.m	Sample	3106	22603cm	QAQC CRM - ERA 5491	22603,NA,CRM1,10/23/2013,E-7012	655.0							
10	C:\CPMH\1\METHOD S\Physic.m	Sample	1	Rinse12			1.000							
11	C:\CPMH\1\METHOD S\Physic.m	Sample	3107	22598a1	QAQC Procedural Blank BS1	22598,NA,BS1,10/23/2013,E-7012	1.000							
12	C:\CPMH\1\METHOD S\Physic.m	Sample	3108	22598a2	QAQC Procedural Blank BS2	22598,NA,BS2,10/23/2013,E-7012	1.000							
13	C:\CPMH\1\METHOD S\Physic.m	Sample	3109	22599ms	B13-8018 Grab MS	22599,NA,MS1,10/23/2013,E-7012	1.000							
14	C:\CPMH\1\METHOD S\Physic.m	Sample	3110	22599msd	B13-8018 Grab MSD	22599,NA,MS2,10/23/2013,E-7012	1.000							
15	C:\CPMH\1\METHOD S\Physic.m	Sample	1	Rinse13			1.000							
16	C:\CPMH\1\METHOD S\Physic.m	Sample	1	Rinse14			1.000							
17	C:\CPMH\1\METHOD S\Physic.m	Sample	1	Rinse15			1.000							
18	C:\CPMH\1\METHOD S\Physic.m	Sample	3101	22626	QAQC Procedural Blank B1	22626,NA,B1,10/23/2013,E-7012	10.00							
19	C:\CPMH\1\METHOD S\Physic.m	Sample	3111	22628	B13-8111 Grab	22628,NA,R1,10/23/2013,E-7012	691.0							
20	C:\CPMH\1\METHOD S\Physic.m	Sample	3112	22628a2	B13-8111 Grab Dup	22628,NA,R2,10/23/2013,E-7012	675.0							
21	C:\CPMH\1\METHOD S\Physic.m	Sample	3201	22628	B13-8112 Grab	22629,NA,R1,10/23/2013,E-7012	666.0							
22	C:\CPMH\1\METHOD S\Physic.m	Sample	3202	22630	B13-8500 Grab	22630,NA,R1,10/23/2013,E-7012	487.0							
23	C:\CPMH\1\METHOD S\Physic.m	Sample	3203	22631	B13-8123 Grab	22631,NA,R1,10/23/2013,E-7012	457.0							
24	C:\CPMH\1\METHOD S\Physic.m	Sample	3204	22632	B13-8124 Grab	22632,NA,R1,10/23/2013,E-7012	512.0							
25	C:\CPMH\1\METHOD S\Physic.m	Sample	3205	22633	B13-8126 Grab	22633,NA,R1,10/23/2013,E-7012	596.0							
26	C:\CPMH\1\METHOD S\Physic.m	Sample	3105	22645cm	QAQC CRM - RTC D15-0501	22645,NA,CRM1,10/23/2013,E-7012	1.000E+03							
27	C:\CPMH\1\METHOD S\Physic.m	Sample	3106	22647cm	QAQC CRM - ERA 5491	22647,NA,CRM1,10/23/2013,E-7012	655.0							
28	C:\CPMH\1\METHOD S\Physic.m	Sample	1	Rinse16			1.000							
29	C:\CPMH\1\METHOD S\Physic.m	Sample	3107	22626a1	QAQC Procedural Blank BS1	22626,NA,BS1,10/23/2013,E-7012	1.000							
30	C:\CPMH\1\METHOD S\Physic.m	Sample	3108	22628a2	QAQC Procedural Blank BS1	22628,NA,BS2,10/23/2013,E-7012	1.000							
31	C:\CPMH\1\METHOD S\Physic.m	Sample	3206	22628ms	B13-8111 Grab MS	22628,NA,MS1,10/23/2013,E-7012	1.000							
32	C:\CPMH\1\METHOD S\Physic.m	Sample	3207	22628msd	B13-8111 Grab MSD	22628,NA,MS2,10/23/2013,E-7012	1.000							
33	C:\CPMH\1\METHOD S\Physic.m	Sample	1	Rinse19			1.000							
34	C:\CPMH\1\METHOD S\Physic.m	Sample	1	Rinse20			1.000							
35	C:\CPMH\1\METHOD S\Physic.m	Sample	1201	CCV			1.000E-01							
36	C:\CPMH\1\METHOD S\Physic.m	Sample	1	Rinse25			1.000							
37	C:\CPMH\1\METHOD S\Physic.m	Sample	1	Rinse26			1.000							
38	C:\CPMH\1\METHOD S\Physic.m	Sample	1	Rinse27			1.000							
39	C:\CPMH\1\METHOD S\Physic.m	Sample	3101	22627	QAQC Procedural Blank B1	22627,NA,B1,10/23/2013,E-7012	10.00							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
40	C:\CPMH\1\METHOD S\Physis.m	Sample	3208	22634	B13-8127 Grab	22634.NA.R1.10/23/2013.E-7013	827.0							
41	C:\CPMH\1\METHOD S\Physis.m	Sample	3209	22634d	B13-8127 Grab Dup	22634.NA.R2.10/23/2013.E-7013	863.0							
42	C:\CPMH\1\METHOD S\Physis.m	Sample	3210	22635	B13-8121 Grab	22635.NA.R1.10/23/2013.E-7013	587.0							
43	C:\CPMH\1\METHOD S\Physis.m	Sample	3211	22636	B13-8026 Grab	22636.NA.R1.10/23/2013.E-7013	762.0							
44	C:\CPMH\1\METHOD S\Physis.m	Sample	3212	22637	B13-8105 Grab	22637.NA.R1.10/23/2013.E-7013	421.0							
45	C:\CPMH\1\METHOD S\Physis.m	Sample	3301	22638	B13-8117 Grab	22638.NA.R1.10/23/2013.E-7013	550.0							
46	C:\CPMH\1\METHOD S\Physis.m	Sample	3302	22639	B13-8113 Grab	22639.NA.R1.10/23/2013.E-7013	612.0							
47	C:\CPMH\1\METHOD S\Physis.m	Sample	3303	22640	B13-8116 Grab	22640.NA.R1.10/23/2013.E-7013	512.0							
48	C:\CPMH\1\METHOD S\Physis.m	Sample	3304	22641	B13-8108 Grab	22641.NA.R1.10/23/2013.E-7013	535.0							
49	C:\CPMH\1\METHOD S\Physis.m	Sample	3305	22642	B13-8108 Grab	22642.NA.R1.10/23/2013.E-7013	486.0							
50	C:\CPMH\1\METHOD S\Physis.m	Sample	3306	22643	B13-8102 Grab	22643.NA.R1.10/23/2013.E-7013	660.0							
51	C:\CPMH\1\METHOD S\Physis.m	Sample	3307	22648cm	QAQC CRM - RTC 019-0501	22646.NA.CRM1.10/23/2013.E-7013	540.0							
52	C:\CPMH\1\METHOD S\Physis.m	Sample	3308	22648cm	QAQC CRM - ERA 5401	22646.NA.CRM1.10/23/2013.E-7013	577.0							
53	C:\CPMH\1\METHOD S\Physis.m	Sample	1	Rinse25			1.000							
54	C:\CPMH\1\METHOD S\Physis.m	Sample	3107	22627bs1	QAQC Procedural Blank BS1	22627.NA.BS1.10/23/2013.E-7013	1.000							
55	C:\CPMH\1\METHOD S\Physis.m	Sample	3108	22627bs2	QAQC Procedural Blank BS2	22627.NA.BS2.10/23/2013.E-7013	1.000							
56	C:\CPMH\1\METHOD S\Physis.m	Sample	3309	22634ms	B13-8127 Grab MS	22634.NA.MS1.10/23/2013.E-7013	1.000							
57	C:\CPMH\1\METHOD S\Physis.m	Sample	3310	22634msd	B13-8127 Grab MSD	22634.NA.MS2.10/23/2013.E-7013	1.000							
58	C:\CPMH\1\METHOD S\Physis.m	Sample	3311	22634ms	B13-8127 Grab MS	22634.NA.MS1.10/23/2013.E-7013	1.000							
59	C:\CPMH\1\METHOD S\Physis.m	Sample	3312	22634msd	B13-8127 Grab MSD	22634.NA.MS2.10/23/2013.E-7013	1.000							
60	C:\CPMH\1\METHOD S\Physis.m	Sample	1	Rinse28			1.000							
61	C:\CPMH\1\METHOD S\Physis.m	Sample	1	Rinse30			1.000							
62	C:\CPMH\1\METHOD S\Physis.m	Sample	1201	GC02			1.000E-01							
63	C:\CPMH\1\METHOD S\Physis.m	Sample	1	Rinse31			1.000							
64	C:\CPMH\1\METHOD S\Physis.m	Sample	1	Rinse32			1.000							
65		Keyword		StandBy										

Elements –

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**(EPA 6020 – Low Metals &
Phosphorous)**

PHYSIS

Instrument Blank

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ENVIRONMENTAL LABORATORIES, INC.

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PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name 0MIX.D
File Path D:\DATA\2131101A.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 11/1/2013 11:10
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.000	ug/g	---	26.67	2.830E-05	Pulse	0.30	3
Al	27	103	2	0.000	ug/g	---	13.33	3.120E-05	Pulse	0.30	3
P	31	103	2		ug/g	---	23.33	5.428E-05	Pulse	0.30	3
Cr	52	103	2	0.000	ug/g	---	88.89	2.061E-04	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	---	7.78	1.813E-05	Pulse	0.30	3
Ni	60	103	2	0.000	ug/g	---	13.33	3.083E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	---	381.13	8.847E-04	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	---	15.56	3.603E-05	Pulse	0.30	3
As	75	103	2	0.000	ug/g	---	0.00		Pulse	0.30	3
Se	78	103	1	0.000	ug/g	---	2.22	3.339E-05	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	---	95.56	2.220E-04	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	---	3.33	7.816E-06	Pulse	0.30	3
Sb	121	169	2	0.000	ug/g	---	2.22	4.319E-06	Pulse	0.30	3
Ba	137	169	2	0.000	ug/g	---	0.00		Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	---	193.34	3.724E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	64,520.44	2.95	100.0	Pulse	0.30	3
2	Rh	103	430,772.49	0.91	100.0	Pulse	0.30	3
3	Rh	103	948,131.27	3.45	100.0	Analog	0.30	3
2	Tm	169	521,790.77	4.77	100.0	Analog	0.30	3

PHYSIS

Initial Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Calibration for 10P.D

Batch Folder: D:\DATA\2131101A.B\

 Analysis File: 2131101A.batch.xml

 DA Date-Time: 4/8/2014 4:50:40 PM

 Calibration Title:

 Calibration Method: External Calibration

 VIS Interpolation Fit:

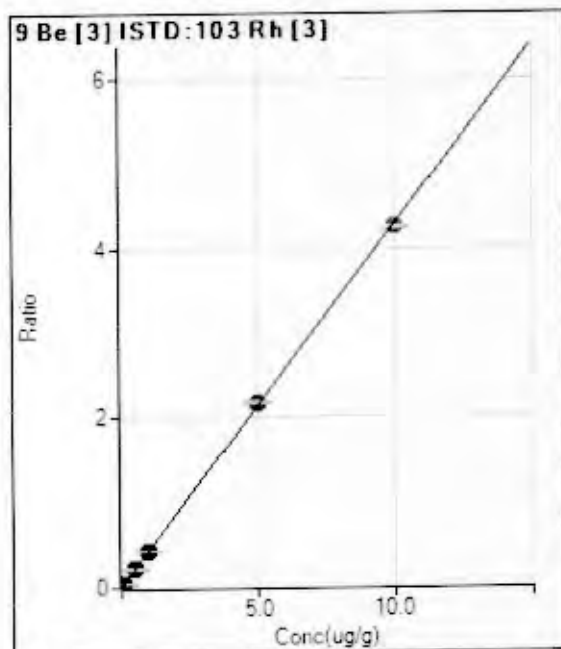
 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX.D	0 ppb mix	11/1/2013 11:10:54 AM
2	1MIX.D	1 ppb mix	11/1/2013 11:15:41 AM
3	5MIX.D	5 ppb mix	11/1/2013 11:20:28 AM
4	10MIX.D	10 ppb mix	11/1/2013 11:25:15 AM
5	50MIX.D	50 ppb mix	11/1/2013 11:30:00 AM
6	100MIX.D	100 ppb mix	11/1/2013 11:34:46 AM
7	500MIX.D	500 ppb mix	11/1/2013 11:39:31 AM
8	1000MIX.D	1000 ppb mix	11/1/2013 11:44:07 AM
9	1P.D	1 ppm P	11/1/2013 12:00:29 PM
10	2P.D	2 ppm P	11/1/2013 12:05:17 PM
11	5P.D	5 ppm P	11/1/2013 12:10:07 PM
12	10P.D	10 ppm P	11/1/2013 12:14:56 PM
13			
14			
15			
16			
17			
18			

Calibration for 10P.D



$$y = 0.4280 * x + 2.8305E-005$$

$$R = 0.9999$$

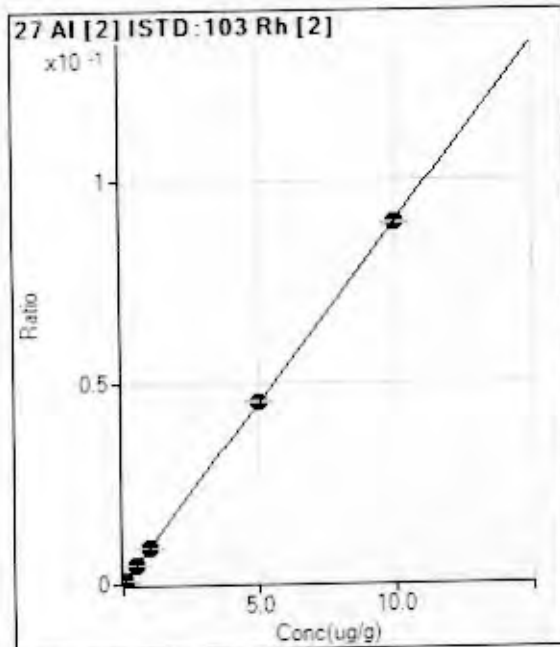
$$DL = 0.0001148$$

$$BEC = 6.613E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	26.67	0.0000	P	57.9
2	<input type="checkbox"/>	0.010	0.010	4078.40	0.0043	P	1.3
3	<input type="checkbox"/>	0.050	0.051	20012.63	0.0218	P	2.5
4	<input type="checkbox"/>	0.100	0.103	39604.50	0.0440	P	1.9
5	<input type="checkbox"/>	0.500	0.505	188291.54	0.2163	P	1.6
6	<input type="checkbox"/>	1.000	1.001	355454.84	0.4283	P	0.8
7	<input type="checkbox"/>	5.000	5.089	1711155.48	2.1784	A	0.4
8	<input type="checkbox"/>	10.00	9.955	3295432.69	4.2612	A	0.2
9	<input type="checkbox"/>			63.34	0.0001	P	17.2
10	<input type="checkbox"/>			62.22	0.0001	P	41.9
11	<input type="checkbox"/>			58.89	0.0001	P	29.9
12	<input type="checkbox"/>			43.33	0.0001	P	36.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0090 * x + 3.1202E-005$$

$$R = 1.0000$$

$$DL = 0.01385$$

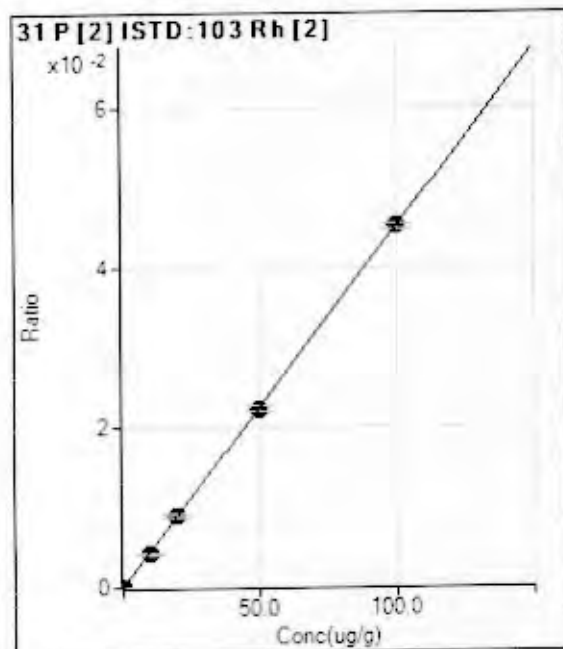
$$BEC = 0.003481$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	13.33	0.0000	P	132.7
2	<input type="checkbox"/>	0.010	0.009	45.56	0.0001	P	49.3
3	<input type="checkbox"/>	0.050	0.056	215.57	0.0005	P	9.6
4	<input type="checkbox"/>	0.100	0.101	377.80	0.0009	P	13.3
5	<input type="checkbox"/>	0.500	0.526	1840.18	0.0047	P	6.3
6	<input type="checkbox"/>	1.000	0.983	3323.77	0.0088	P	1.1
7	<input type="checkbox"/>	5.000	5.034	15571.66	0.0452	P	1.3
8	<input type="checkbox"/>	10.00	9.984	29875.22	0.0895	P	0.8
9	<input type="checkbox"/>			10.00	0.0000	P	0.4
10	<input type="checkbox"/>			10.00	0.0000	P	99.9
11	<input type="checkbox"/>			12.22	0.0000	P	62.9
12	<input type="checkbox"/>			18.89	0.0001	P	38.0
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 4.4999E-004 * x + 5.4276E-005$$

$$R = 1.0000$$

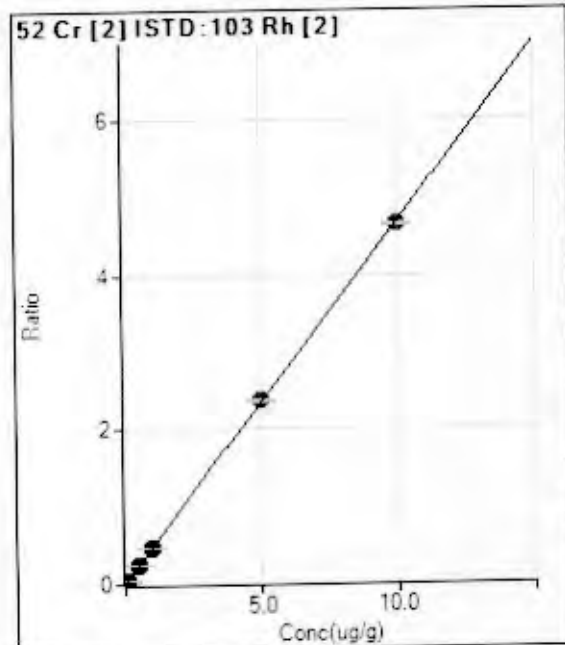
$$DL = 0.1391$$

$$BEC = 0.1206$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	23.33	0.0001	P	38.4
2	<input type="checkbox"/>			35.56	0.0001	P	13.7
3	<input type="checkbox"/>			37.78	0.0001	P	42.7
4	<input type="checkbox"/>			54.44	0.0001	P	61.8
5	<input type="checkbox"/>			45.56	0.0001	P	51.8
6	<input type="checkbox"/>			55.56	0.0001	P	15.9
7	<input type="checkbox"/>			48.89	0.0001	P	33.9
8	<input type="checkbox"/>			27.78	0.0001	P	24.7
9	<input type="checkbox"/>	10.00	9.307	1511.	0.0042	P	4.9
10	<input type="checkbox"/>	20.00	20.026	3201.	0.0091	P	4.5
11	<input type="checkbox"/>	50.00	49.541	7979.	0.0223	P	3.0
12	<input type="checkbox"/>	100.0	100.294	1620	0.0452	P	1.6
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.4681 * x + 2.0614E-004$$

$$R = 1.0000$$

$$DL = 0.000295$$

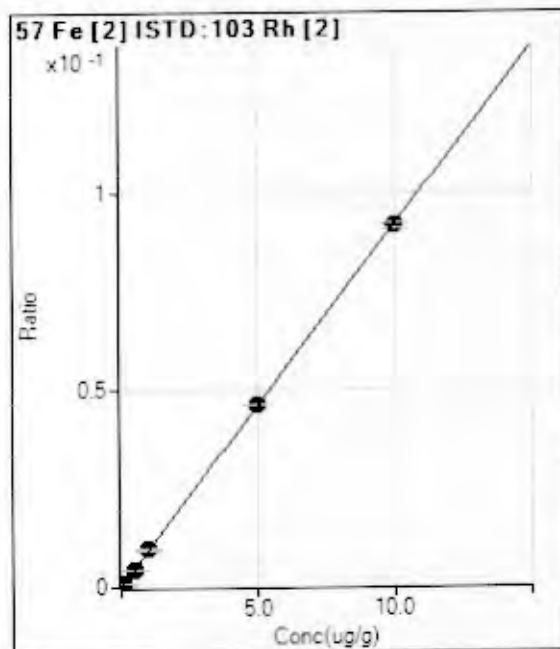
$$BEC = 0.0004404$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	88.89	0.0002	P	22.3
2	<input type="checkbox"/>	0.010	0.011	2182.46	0.0052	P	1.5
3	<input type="checkbox"/>	0.050	0.051	9863.09	0.0243	P	3.4
4	<input type="checkbox"/>	0.100	0.103	19495.68	0.0483	P	1.9
5	<input type="checkbox"/>	0.500	0.518	94156.81	0.2426	P	0.5
6	<input type="checkbox"/>	1.000	1.022	179957.43	0.4786	P	0.4
7	<input type="checkbox"/>	5.000	5.051	815322.47	2.3643	A	0.5
8	<input type="checkbox"/>	10.00	9.972	1557611.3	4.6676	A	0.3
9	<input type="checkbox"/>			132.23	0.0004	P	17.5
10	<input type="checkbox"/>			131.12	0.0004	P	30.3
11	<input type="checkbox"/>			137.79	0.0004	P	20.9
12	<input type="checkbox"/>			125.56	0.0004	P	9.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.0092 * x + 1.8126E-005$$

$$R = 1.0000$$

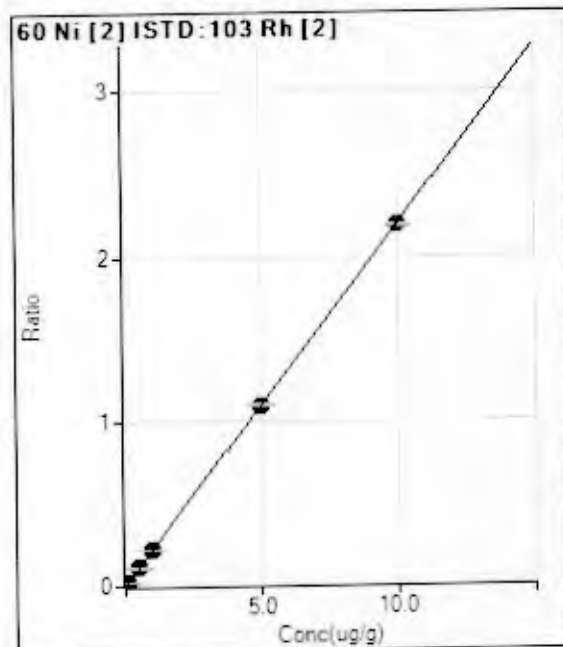
$$DL = 0.003934$$

$$BEC = 0.001978$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	7.78	0.0000	P	66.3
2	<input type="checkbox"/>	0.010	0.010	46.67	0.0001	P	36.6
3	<input type="checkbox"/>	0.050	0.049	188.90	0.0005	P	24.8
4	<input type="checkbox"/>	0.100	0.101	382.24	0.0009	P	7.0
5	<input type="checkbox"/>	0.500	0.487	1739.05	0.0045	P	2.4
6	<input type="checkbox"/>	1.000	1.035	3573.84	0.0095	P	3.6
7	<input type="checkbox"/>	5.000	5.025	15886.50	0.0461	P	0.1
8	<input type="checkbox"/>	10.00	9.985	30542.53	0.0915	P	1.3
9	<input type="checkbox"/>			8.89	0.0000	P	21.8
10	<input type="checkbox"/>			11.11	0.0000	P	105.
11	<input type="checkbox"/>			5.55	0.0000	P	69.2
12	<input type="checkbox"/>			13.33	0.0000	P	1.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2189 * x + 3.0830E-005$$

$$R = 1.0000$$

$$DL = 0.0002779$$

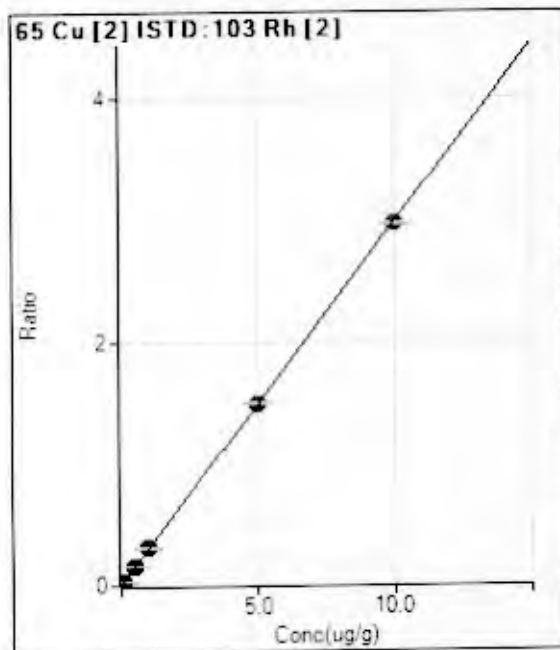
$$BEC = 0.0001408$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	13.33	0.0000	P	65.8
2	<input type="checkbox"/>	0.010	0.010	937.84	0.0022	P	7.3
3	<input type="checkbox"/>	0.050	0.051	4526.31	0.0111	P	2.2
4	<input type="checkbox"/>	0.100	0.104	9218.30	0.0228	P	4.0
5	<input type="checkbox"/>	0.500	0.505	42919.40	0.1106	P	2.0
6	<input type="checkbox"/>	1.000	1.014	83505.41	0.2221	P	0.5
7	<input type="checkbox"/>	5.000	4.996	377244.04	1.0939	P	0.7
8	<input type="checkbox"/>	10.00	10.000	730647.53	2.1895	A	0.3
9	<input type="checkbox"/>			6.67	0.0000	P	49.9
10	<input type="checkbox"/>			16.67	0.0000	P	103.
11	<input type="checkbox"/>			11.11	0.0000	P	17.1
12	<input type="checkbox"/>			6.67	0.0000	P	86.6
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.2969 * x + 8.8471E-004$$

$$R = 1.0000$$

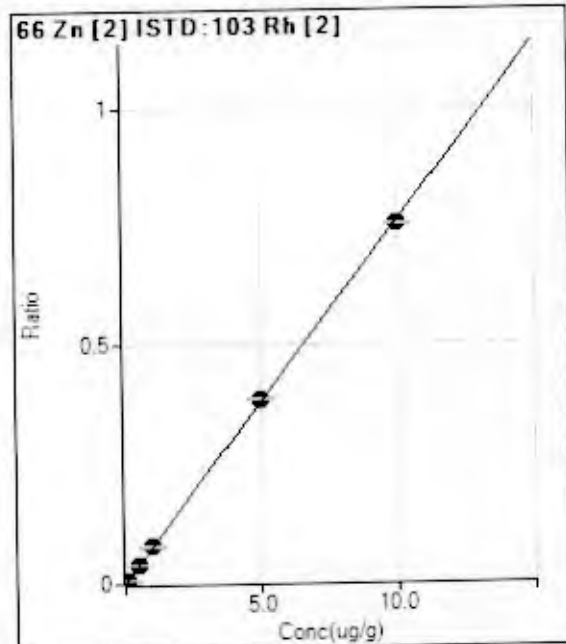
$$DL = 0.0004841$$

$$BEC = 0.00298$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	381.13	0.0009	P	5.4
2	<input type="checkbox"/>	0.010	0.012	1822.40	0.0043	P	10.0
3	<input type="checkbox"/>	0.050	0.076	9495.12	0.0234	P	2.3
4	<input type="checkbox"/>	0.100	0.124	15243.74	0.0378	P	2.1
5	<input type="checkbox"/>	0.500	0.531	61521.69	0.1586	P	1.6
6	<input type="checkbox"/>	1.000	1.034	115766.37	0.3079	P	1.8
7	<input type="checkbox"/>	5.000	5.040	516323.88	1.4973	A	0.4
8	<input type="checkbox"/>	10.00	9.975	988604.26	2.9625	A	0.5
9	<input type="checkbox"/>			266.68	0.0007	P	8.7
10	<input type="checkbox"/>			202.24	0.0006	P	11.0
11	<input type="checkbox"/>			157.79	0.0004	P	25.3
12	<input type="checkbox"/>			176.68	0.0005	P	27.7
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0760 * x + 3.6026E-005$$

$$R = 1.0000$$

$$DL = 0.000762$$

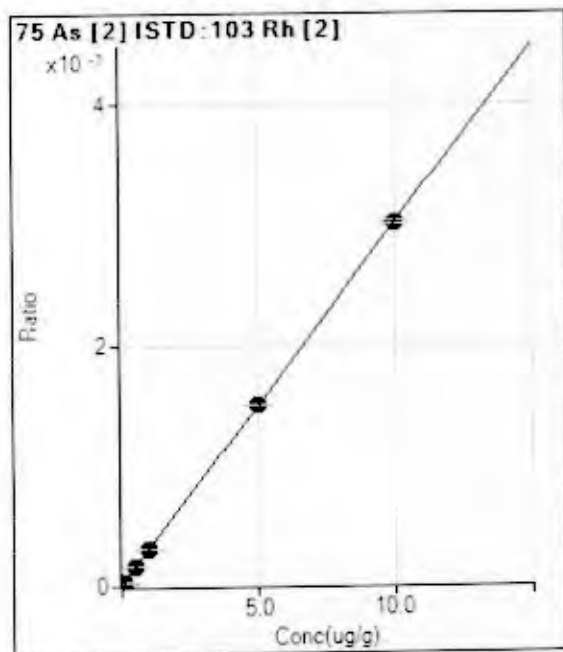
$$BEC = 0.0004739$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	15.56	0.0000	P	53.6
2	<input type="checkbox"/>	0.010	0.012	400.02	0.0010	P	1.9
3	<input type="checkbox"/>	0.050	0.052	1606.81	0.0040	P	1.9
4	<input type="checkbox"/>	0.100	0.105	3251.55	0.0081	P	3.6
5	<input type="checkbox"/>	0.500	0.517	15270.47	0.0393	P	3.2
6	<input type="checkbox"/>	1.000	1.031	29468.66	0.0784	P	1.1
7	<input type="checkbox"/>	5.000	5.083	133271.31	0.3864	P	1.1
8	<input type="checkbox"/>	10.00	9.955	252544.63	0.7568	P	0.6
9	<input type="checkbox"/>			32.22	0.0001	P	15.9
10	<input type="checkbox"/>			15.55	0.0000	P	44.6
11	<input type="checkbox"/>			37.78	0.0001	P	22.5
12	<input type="checkbox"/>			85.56	0.0002	P	17.7
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.0300 * x + 0.0000E+000$$

$$R = 1.0000$$

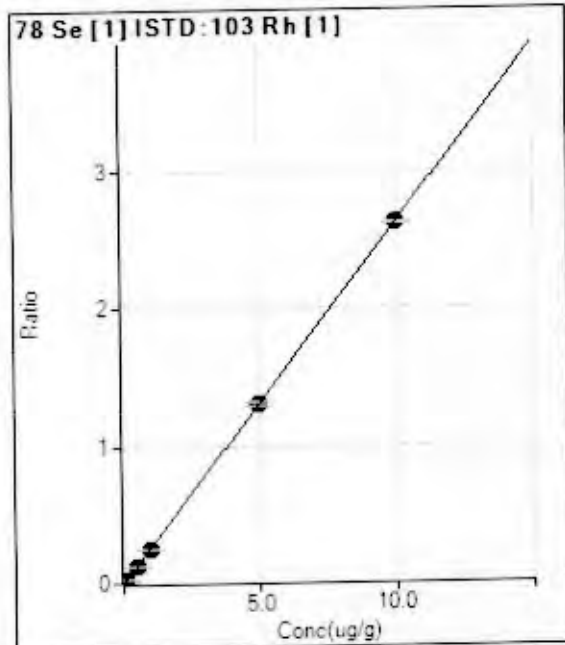
$$DL = 0$$

$$BEC = 0$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	0.00	0.0000	P	
2	<input type="checkbox"/>	0.010	0.013	162.23	0.0004	P	23.8
3	<input type="checkbox"/>	0.050	0.054	658.93	0.0016	P	2.0
4	<input type="checkbox"/>	0.100	0.099	1193.43	0.0030	P	1.6
5	<input type="checkbox"/>	0.500	0.529	6152.44	0.0159	P	2.8
6	<input type="checkbox"/>	1.000	1.001	11278.48	0.0300	P	1.3
7	<input type="checkbox"/>	5.000	5.033	52007.72	0.1508	P	0.3
8	<input type="checkbox"/>	10.00	9.982	99812.00	0.2991	P	1.2
9	<input type="checkbox"/>			5.55	0.0000	P	124.
10	<input type="checkbox"/>			5.56	0.0000	P	173.
11	<input type="checkbox"/>			0.00	0.0000	P	
12	<input type="checkbox"/>			4.44	0.0000	P	173.
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2616 * x + 3.3392E-005$$

$$R = 1.0000$$

$$DL = 0.0006633$$

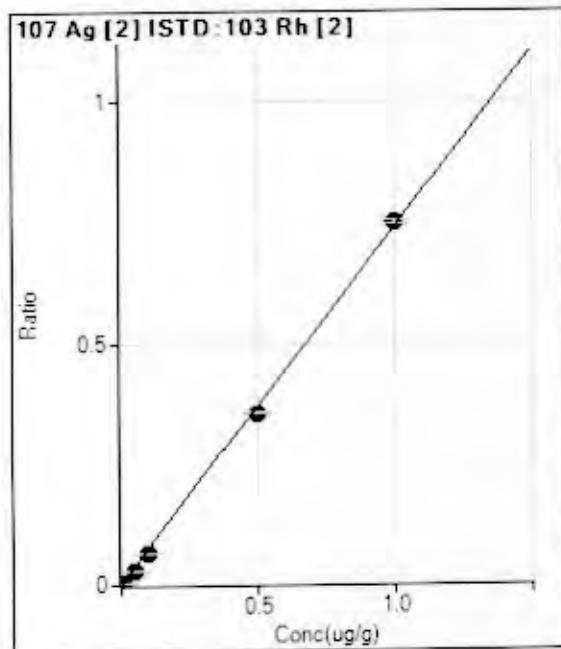
$$BEC = 0.0001277$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	2.22	0.0000	P	173.2
2	<input type="checkbox"/>	0.010	0.008	125.56	0.0020	P	21.7
3	<input type="checkbox"/>	0.050	0.046	677.82	0.0120	P	7.8
4	<input type="checkbox"/>	0.100	0.091	1323.44	0.0237	P	1.8
5	<input type="checkbox"/>	0.500	0.492	6958.36	0.1286	P	1.7
6	<input type="checkbox"/>	1.000	0.946	13023.11	0.2474	P	1.0
7	<input type="checkbox"/>	5.000	4.979	63545.77	1.3025	P	1.5
8	<input type="checkbox"/>	10.00	10.016	120205.8	2.6201	P	0.8
9	<input type="checkbox"/>			5.55	0.0001	P	69.6
10	<input type="checkbox"/>			7.78	0.0001	P	66.2
11	<input type="checkbox"/>			4.45	0.0001	P	86.6
12	<input type="checkbox"/>			2.22	0.0000	P	173.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.7395 * x + 2.2199E-004$$

$$R = 0.9996$$

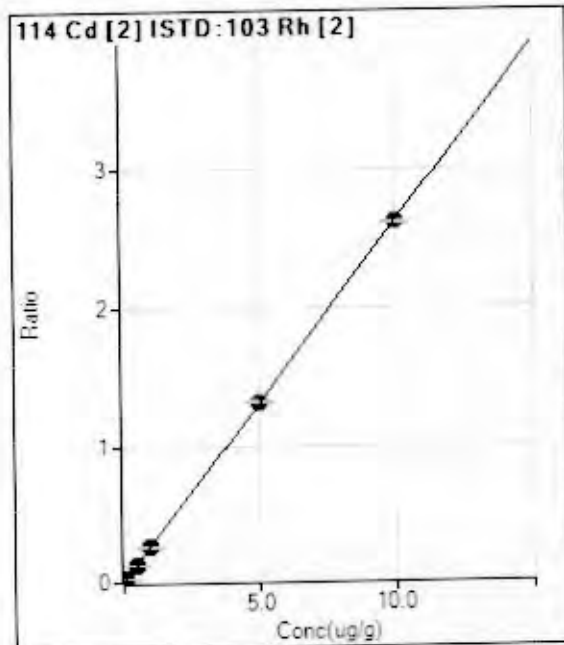
$$DL = 0.0001044$$

$$BEC = 0.0003002$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	95.56	0.0002	P	11.6
2	<input type="checkbox"/>	0.001	0.000	142.23	0.0003	P	19.6
3	<input type="checkbox"/>	0.005	0.004	1311.22	0.0032	P	3.4
4	<input type="checkbox"/>	0.010	0.007	2284.69	0.0057	P	2.6
5	<input type="checkbox"/>	0.050	0.039	11366.43	0.0293	P	2.1
6	<input type="checkbox"/>	0.100	0.086	23952.00	0.0637	P	2.1
7	<input type="checkbox"/>	0.500	0.479	122135.03	0.3542	P	1.2
8	<input type="checkbox"/>	1.000	1.013	249964.15	0.7490	P	1.0
9	<input type="checkbox"/>			291.13	0.0008	P	4.0
10	<input type="checkbox"/>			255.57	0.0007	P	1.8
11	<input type="checkbox"/>			210.01	0.0006	P	23.6
12	<input type="checkbox"/>			138.90	0.0004	P	36.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2618 * x + 7.8162E-006$$

$$R = 1.0000$$

$$DL = 0.0001551$$

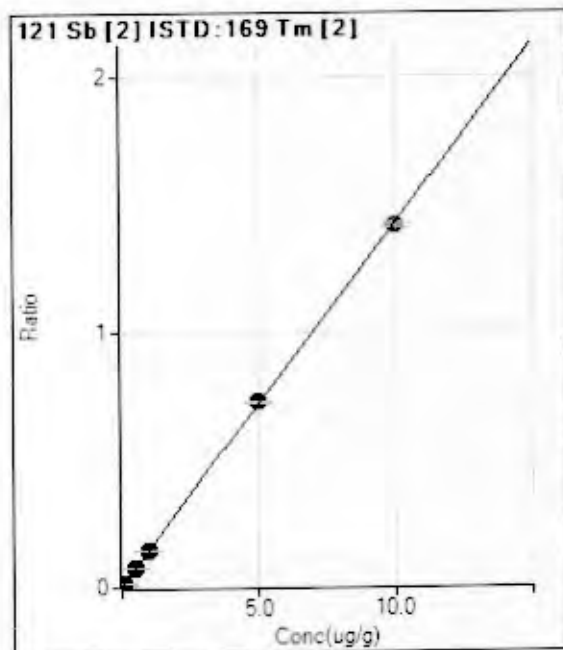
$$BEC = 2.986E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	3.33	0.0000	P	173.2
2	<input type="checkbox"/>	0.010	0.010	1117.86	0.0027	P	4.9
3	<input type="checkbox"/>	0.050	0.049	5246.57	0.0129	P	3.4
4	<input type="checkbox"/>	0.100	0.098	10348.00	0.0256	P	2.4
5	<input type="checkbox"/>	0.500	0.485	49260.92	0.1270	P	0.8
6	<input type="checkbox"/>	1.000	0.981	96519.53	0.2567	P	1.0
7	<input type="checkbox"/>	5.000	5.048	455755.51	1.3216	A	0.5
8	<input type="checkbox"/>	10.00	9.978	871736.71	2.6122	A	0.8
9	<input type="checkbox"/>			5.56	0.0000	P	91.5
10	<input type="checkbox"/>			12.22	0.0000	P	56.9
11	<input type="checkbox"/>			5.56	0.0000	P	91.6
12	<input type="checkbox"/>			4.44	0.0000	P	114.5
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.1425 * x + 4.3191E-006$$

$$R = 1.0000$$

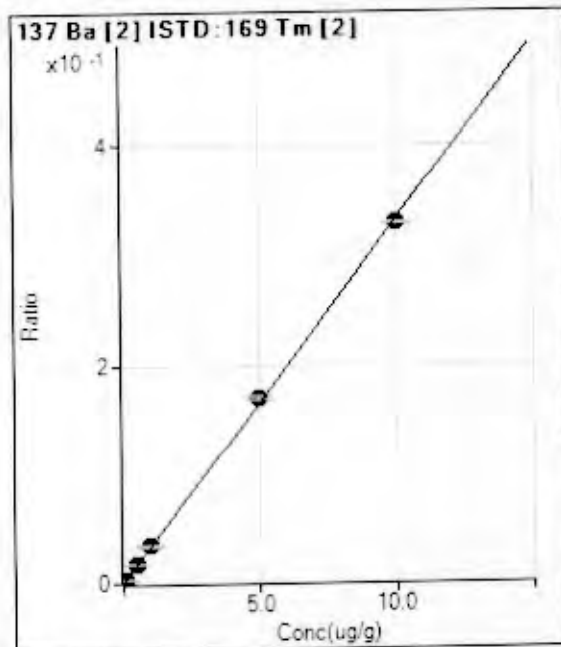
$$DL = 7.898E-05$$

$$BEC = 3.032E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	2.22	0.0000	P	86.8
2	<input type="checkbox"/>	0.010	0.011	802.28	0.0016	P	6.2
3	<input type="checkbox"/>	0.050	0.055	3801.69	0.0079	P	8.4
4	<input type="checkbox"/>	0.100	0.106	7340.79	0.0151	P	0.9
5	<input type="checkbox"/>	0.500	0.526	35457.94	0.0749	P	1.5
6	<input type="checkbox"/>	1.000	1.025	68072.73	0.1460	P	0.2
7	<input type="checkbox"/>	5.000	5.052	319051.52	0.7198	P	0.6
8	<input type="checkbox"/>	10.00	9.970	622212.94	1.4203	A	1.2
9	<input type="checkbox"/>			11.11	0.0000	P	95.2
10	<input type="checkbox"/>			17.78	0.0000	P	64.3
11	<input type="checkbox"/>			41.11	0.0001	P	31.6
12	<input type="checkbox"/>			88.89	0.0006	P	22.8
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0331 * x + 0.0000E+000$$

$$R = 0.9999$$

$$DL = 0$$

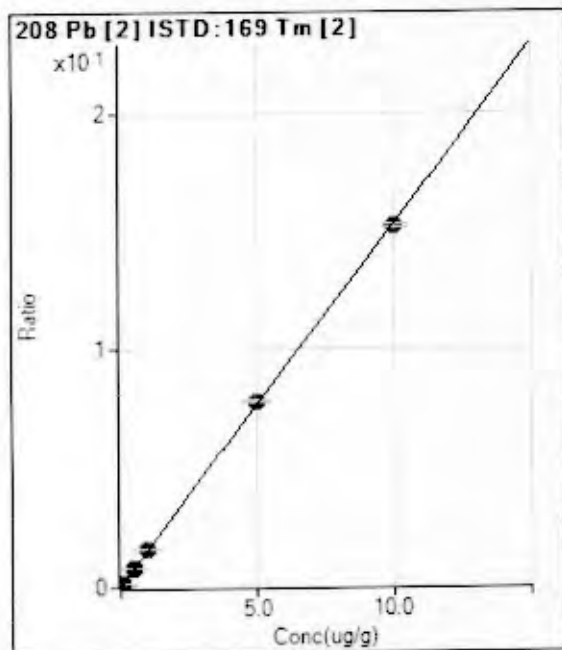
$$BEC = 0$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	0.00	0.0000	P	
2	<input type="checkbox"/>	0.010	0.011	178.90	0.0004	P	23.3
3	<input type="checkbox"/>	0.050	0.056	892.29	0.0018	P	15.1
4	<input type="checkbox"/>	0.100	0.120	1922.41	0.0040	P	1.1
5	<input type="checkbox"/>	0.500	0.546	8553.67	0.0181	P	2.2
6	<input type="checkbox"/>	1.000	1.028	15872.50	0.0340	P	1.0
7	<input type="checkbox"/>	5.000	5.137	75375.76	0.1701	P	1.9
8	<input type="checkbox"/>	10.00	9.926	143948.1	0.3286	P	0.6
9	<input type="checkbox"/>			0.00	0.0000	P	
10	<input type="checkbox"/>			0.00	0.0000	P	
11	<input type="checkbox"/>			2.22	0.0000	P	87.4
12	<input type="checkbox"/>			5.56	0.0000	P	41.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 1.5338 * x + 3.7240E-004$$

$$R = 1.0000$$

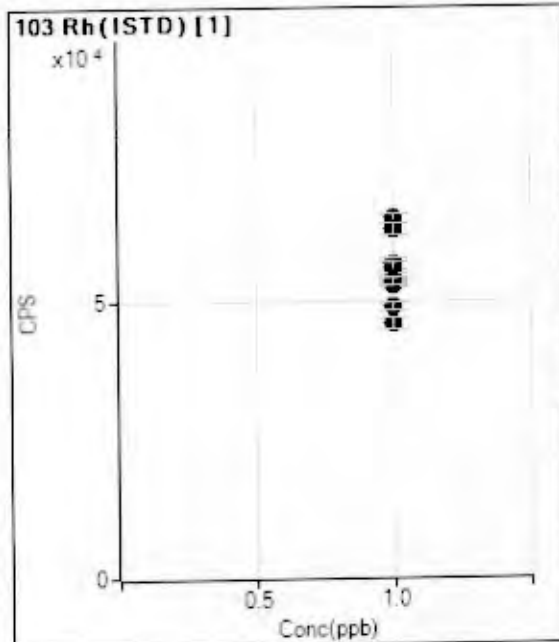
$$DL = 0.0001152$$

$$BEC = 0.0002428$$

Weight: None

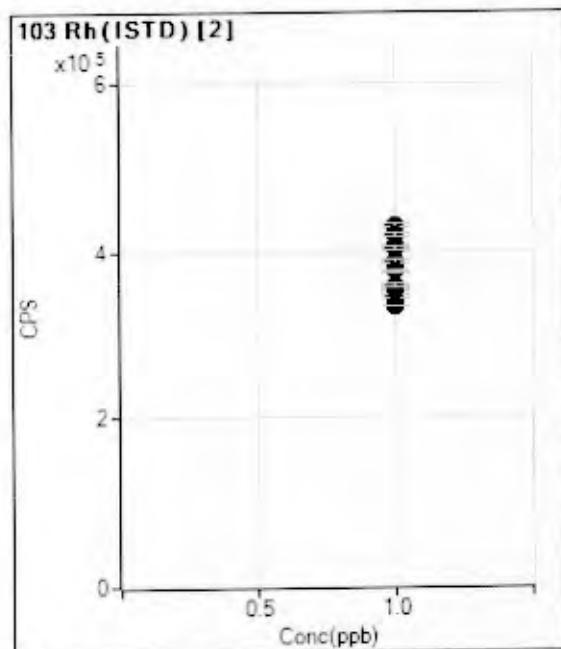
Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	193.34	0.0004	P	15.8
2	<input type="checkbox"/>	0.010	0.011	8291.20	0.0165	P	2.0
3	<input type="checkbox"/>	0.050	0.052	39017.16	0.0806	P	0.8
4	<input type="checkbox"/>	0.100	0.105	78626.33	0.1619	P	0.8
5	<input type="checkbox"/>	0.500	0.525	381188.74	0.8055	P	0.4
6	<input type="checkbox"/>	1.000	1.035	740432.69	1.5880	A	0.6
7	<input type="checkbox"/>	5.000	5.081	3454796.36	7.7938	A	0.6
8	<input type="checkbox"/>	10.00	9.955	6688965.34	15.268	A	0.9
9	<input type="checkbox"/>			192.23	0.0004	P	9.0
10	<input type="checkbox"/>			171.12	0.0003	P	30.7
11	<input type="checkbox"/>			143.35	0.0003	P	22.4
12	<input type="checkbox"/>			126.68	0.0008	P	19.3
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

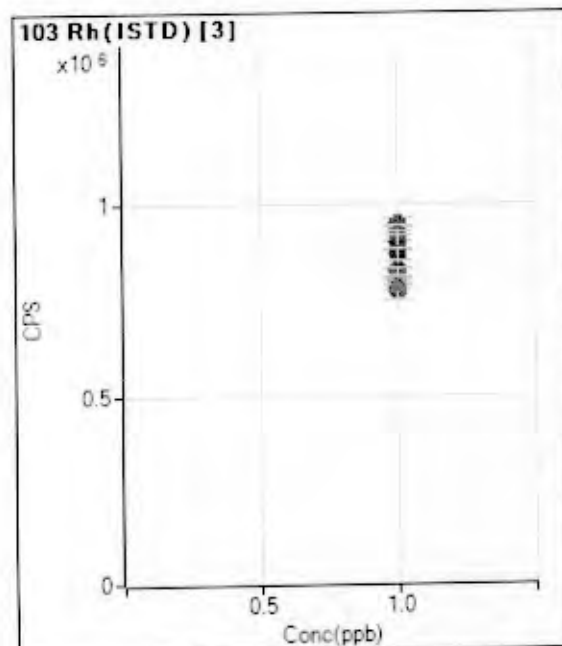


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		64520.44		P	2.9
2	<input type="checkbox"/>	1.000		62633.54		P	2.9
3	<input type="checkbox"/>	1.000		56400.01		P	4.0
4	<input type="checkbox"/>	1.000		55793.55		P	3.9
5	<input type="checkbox"/>	1.000		54091.47		P	2.6
6	<input type="checkbox"/>	1.000		52644.76		P	0.9
7	<input type="checkbox"/>	1.000		48778.97		P	2.9
8	<input type="checkbox"/>	1.000		45881.95		P	4.1
9	<input type="checkbox"/>	1.000		53756.93		P	1.2
10	<input type="checkbox"/>	1.000		53529.52		P	0.8
11	<input type="checkbox"/>	1.000		54143.55		P	1.8
12	<input type="checkbox"/>	1.000		53455.04		P	2.4
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for 10P.D

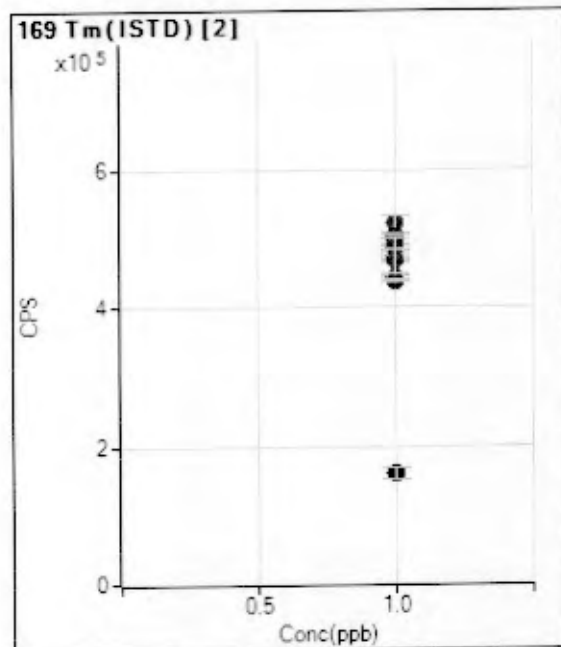


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		430772.49		P	0.9
2	<input type="checkbox"/>	1.000		420256.20		P	1.1
3	<input type="checkbox"/>	1.000		406234.40		P	0.8
4	<input type="checkbox"/>	1.000		403692.37		P	1.1
5	<input type="checkbox"/>	1.000		388043.81		P	0.7
6	<input type="checkbox"/>	1.000		375971.31		P	0.8
7	<input type="checkbox"/>	1.000		344834.80		P	1.2
8	<input type="checkbox"/>	1.000		333709.14		P	0.4
9	<input type="checkbox"/>	1.000		356221.54		P	0.4
10	<input type="checkbox"/>	1.000		353122.83		P	0.2
11	<input type="checkbox"/>	1.000		357071.59		P	0.3
12	<input type="checkbox"/>	1.000		358645.07		P	1.1
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		948131.27		A	3.5
2	<input type="checkbox"/>	1.000		943510.36		A	0.6
3	<input type="checkbox"/>	1.000		918439.66		A	2.9
4	<input type="checkbox"/>	1.000		900312.96		A	4.2
5	<input type="checkbox"/>	1.000		870304.80		A	3.6
6	<input type="checkbox"/>	1.000		829625.20		A	6.0
7	<input type="checkbox"/>	1.000		785516.87		A	1.1
8	<input type="checkbox"/>	1.000		773378.40		A	4.9
9	<input type="checkbox"/>	1.000		795742.79		A	2.0
10	<input type="checkbox"/>	1.000		799666.71		A	1.8
11	<input type="checkbox"/>	1.000		809306.26		A	1.4
12	<input type="checkbox"/>	1.000		825296.07		A	2.6
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for 10P.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		521790.77		A	4.8
2	<input type="checkbox"/>	1.000		503131.75		A	0.9
3	<input type="checkbox"/>	1.000		483877.82		A	0.5
4	<input type="checkbox"/>	1.000		485522.39		A	1.3
5	<input type="checkbox"/>	1.000		473225.69		A	0.8
6	<input type="checkbox"/>	1.000		466275.28		A	0.8
7	<input type="checkbox"/>	1.000		443288.42		A	1.2
8	<input type="checkbox"/>	1.000		438122.42		A	1.1
9	<input type="checkbox"/>	1.000		498574.26		A	2.5
10	<input type="checkbox"/>	1.000		492993.08		A	3.3
11	<input type="checkbox"/>	1.000		466604.71		A	7.6
12	<input type="checkbox"/>	1.000		159476.80		P	10.
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

PHYSIS

Continuing Calibration Data

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PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCVP.D
File Path D:\DATA\2131101A.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 11/1/2013 12:29
Sample Name 5 PPM Phosphorus
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.000	ug/g	42.05	128.89	1.568E-04	Pulse	0.30	3
Al	27	103	2	0.000	ug/g	-3852.42	11.11	3.060E-05	Pulse	0.30	3
P	31	103	2	5.055	ug/g	2.32	8,267.76	2.280E-02	Pulse	0.30	3
Cr	52	103	2	0.000	ug/g	30.31	132.23	3.648E-04	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	437.04	8.89	2.458E-05	Pulse	0.30	3
Ni	60	103	2	0.000	ug/g	-124.24	5.55	1.536E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	-84.82	246.68	6.801E-04	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	42.43	57.78	1.594E-04	Pulse	0.30	3
As	75	103	2	0.000	ug/g	86.60	2.22	6.129E-06	Pulse	0.30	3
Se	78	103	1	0.000	ug/g	69.59	8.89	1.616E-04	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	19.55	400.02	1.104E-03	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	173.97	6.67	1.843E-05	Pulse	0.30	3
Sb	121	169	2	0.000	ug/g	18.51	90.00	1.791E-04	Pulse	0.30	3
Ba	137	169	2	0.000	ug/g	86.61	2.22	4.319E-06	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	141.44	200.01	3.962E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	54,279.93	3.59	84.1	Pulse	0.30	3
2	Rh	103	362,552.53	0.34	84.2	Pulse	0.30	3
3	Rh	103	822,530.42	0.76	86.8	Analog	0.30	3
2	Tm	169	503,954.07	3.50	96.6	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name ICV.D
File Path D:\DATA\2131101A.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 11/1/2013 12:24
Sample Name 100 ppb (10 ppb Ag)
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.102	ug/g	0.58	362,352.84	4.363E-01	Pulse	0.30	3
Al	27	103	2	0.105	ug/g	3.65	3,500.49	9.429E-03	Pulse	0.30	3
P	31	103	2		ug/g	---	40.00	1.077E-04	Pulse	0.30	3
Cr	52	103	2	0.103	ug/g	0.88	178,718.13	4.815E-01	Pulse	0.30	3
Fe	57	103	2	0.104	ug/g	3.98	3,559.39	9.587E-03	Pulse	0.30	3
Ni	60	103	2	0.102	ug/g	0.61	83,213.91	2.242E-01	Pulse	0.30	3
Cu	65	103	2	0.103	ug/g	1.06	113,700.52	3.063E-01	Pulse	0.30	3
Zn	66	103	2	0.104	ug/g	1.38	29,240.48	7.877E-02	Pulse	0.30	3
As	75	103	2	0.103	ug/g	0.95	11,498.61	3.098E-02	Pulse	0.30	3
Se	78	103	1	0.097	ug/g	1.39	13,459.02	2.545E-01	Pulse	0.30	3
Ag	107	103	2	0.009	ug/g	3.44	23,598.07	6.358E-02	Pulse	0.30	3
Cd	114	103	2	0.101	ug/g	0.60	98,057.43	2.642E-01	Pulse	0.30	3
Sb	121	169	2	0.101	ug/g	3.15	68,506.52	1.441E-01	Pulse	0.30	3
Ba	137	169	2	0.104	ug/g	0.92	16,393.01	3.447E-02	Pulse	0.30	3
Pb	208	169	2	0.103	ug/g	0.66	752,687.22	1.583E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	52,875.40	4.51	82.0	Pulse	0.30	3
2	Rh	103	371,196.07	0.67	86.2	Pulse	0.30	3
3	Rh	103	830,332.27	4.24	87.6	Analog	0.30	3
2	Tm	169	475,591.35	0.95	91.1	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV.D
File Path D:\DATA\2131101A.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 11/1/2013 16:06
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.094	ug/g	1.11	390,117.08	4.024E-01	Pulse	0.30	3
Al	27	103	2	0.098	ug/g	2.88	3,678.31	8.834E-03	Pulse	0.30	3
P	31	103	2		ug/g	---	18.89	4.537E-05	Pulse	0.30	3
Cr	52	103	2	0.102	ug/g	0.52	198,726.67	4.772E-01	Pulse	0.30	3
Fe	57	103	2	0.100	ug/g	3.14	3,825.01	9.184E-03	Pulse	0.30	3
Ni	60	103	2	0.101	ug/g	1.05	91,962.31	2.208E-01	Pulse	0.30	3
Cu	65	103	2	0.101	ug/g	0.40	124,682.12	2.994E-01	Pulse	0.30	3
Zn	66	103	2	0.102	ug/g	1.42	32,280.25	7.751E-02	Pulse	0.30	3
As	75	103	2	0.105	ug/g	1.55	13,162.12	3.160E-02	Pulse	0.30	3
Se	78	103	1	0.092	ug/g	1.80	15,489.60	2.397E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	1.78	29,600.76	7.108E-02	Pulse	0.30	3
Cd	114	103	2	0.097	ug/g	0.77	105,710.75	2.538E-01	Pulse	0.30	3
Sb	121	169	2	0.108	ug/g	2.09	77,840.07	1.545E-01	Pulse	0.30	3
Ba	137	169	2	0.114	ug/g	1.10	19,011.44	3.773E-02	Pulse	0.30	3
Pb	208	169	2	0.104	ug/g	1.56	801,047.18	1.590E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	64,609.51	1.81	100.1	Pulse	0.30	3
2	Rh	103	416,450.12	0.79	96.7	Pulse	0.30	3
3	Rh	103	969,276.58	1.28	102.2	Analog	0.30	3
2	Tm	169	503,796.16	0.80	96.6	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV2.D
File Path D:\DATA\2131101A.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 11/1/2013 18:31
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.088	ug/g	0.77	396,534.77	3.769E-01	Pulse	0.30	3
Al	27	103	2	0.100	ug/g	3.45	3,885.02	8.983E-03	Pulse	0.30	3
P	31	103	2		ug/g	---	25.56	5.904E-05	Pulse	0.30	3
Cr	52	103	2	0.099	ug/g	0.86	199,593.12	4.615E-01	Pulse	0.30	3
Fe	57	103	2	0.102	ug/g	3.74	4,062.84	9.394E-03	Pulse	0.30	3
Ni	60	103	2	0.098	ug/g	0.53	92,935.90	2.149E-01	Pulse	0.30	3
Cu	65	103	2	0.098	ug/g	0.16	126,033.02	2.914E-01	Pulse	0.30	3
Zn	66	103	2	0.099	ug/g	1.28	32,671.98	7.555E-02	Pulse	0.30	3
As	75	103	2	0.102	ug/g	0.91	13,165.39	3.044E-02	Pulse	0.30	3
Se	78	103	1	0.095	ug/g	2.74	16,888.74	2.486E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	2.61	31,393.01	7.259E-02	Pulse	0.30	3
Cd	114	103	2	0.100	ug/g	0.24	112,769.07	2.608E-01	Pulse	0.30	3
Sb	121	169	2	0.102	ug/g	0.10	81,331.44	1.457E-01	Pulse	0.30	3
Ba	137	169	2	0.109	ug/g	1.17	20,180.61	3.615E-02	Pulse	0.30	3
Pb	208	169	2	0.105	ug/g	0.36	897,254.61	1.607E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	67,937.76	0.87	105.3	Pulse	0.30	3
2	Rh	103	432,462.73	0.39	100.4	Pulse	0.30	3
3	Rh	103	1,052,051.05	1.83	111.0	Analog	0.30	3
2	Tm	169	558,178.01	0.65	107.0	Analog	0.30	3

PHYSIS

Instrument Run Log

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LOW METALS

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1	C:\ICPMH\1\METHODS\Physis.m	Keyword		CALBEG	Start of CALIB									
2	C:\ICPMH\1\METHODS\Physis.m	Sample	1	Rinse1				1.000						
3	C:\ICPMH\1\METHODS\Physis.m	Sample	1	Rinse2				1.000						
4	C:\ICPMH\1\METHODS\Physis.m	Sample	1101	Rinse				1.000						
5	C:\ICPMH\1\METHODS\Physis.m	CalStd	1101	0MIX	0 ppb mix	0 ng	0 ng Ag	Level 1						
6	C:\ICPMH\1\METHODS\Physis.m	CalStd	1102	1MIX	1 ppb mix	10 ng	1 ng Ag	Level 2						
7	C:\ICPMH\1\METHODS\Physis.m	CalStd	1103	5MIX	5 ppb mix	50 ng	5 ng Ag	Level 3						
8	C:\ICPMH\1\METHODS\Physis.m	CalStd	1104	10MIX	10 ppb mix	100 ng	10 ng Ag	Level 4						
9	C:\ICPMH\1\METHODS\Physis.m	CalStd	1105	50MIX	50 ppb mix	500 ng	50 ng Ag	Level 5						
10	C:\ICPMH\1\METHODS\Physis.m	CalStd	1106	100MIX	100 ppb mix	1000 ng	100 ng Ag	Level 6						
11	C:\ICPMH\1\METHODS\Physis.m	CalStd	1107	500MIX	500 ppb mix	5000 ng	500 ng Ag	Level 7						
12	C:\ICPMH\1\METHODS\Physis.m	CalStd	1108	1000MIX	1000 ppb mix	10000 ng	1000 ng Ag	Level 8						
13	C:\ICPMH\1\METHODS\Physis.m	Sample	1	Rinse3				1.000						
14	C:\ICPMH\1\METHODS\Physis.m	Sample	1	Rinse4				1.000						
15	C:\ICPMH\1\METHODS\Physis.m	CalStd	1109	1P	1 ppm P	10 ug P		Level 9						
16	C:\ICPMH\1\METHODS\Physis.m	CalStd	1110	2P	2 ppm P	20 ug P		Level 10						
17	C:\ICPMH\1\METHODS\Physis.m	CalStd	1111	5P	5 ppm P	50 ug P		Level 11						
18	C:\ICPMH\1\METHODS\Physis.m	CalStd	1112	10P	10 ppm P	100 ug P		Level 12						
19	C:\ICPMH\1\METHODS\Physis.m	Sample	1	Rinse5				1.000						
20	C:\ICPMH\1\METHODS\Physis.m	Sample	1201	ICV	100 ppb (10 ppb Ag)			1.000E-01						
21	C:\ICPMH\1\METHODS\Physis.m	Sample	1111	CCVP	5 PPM Phosphorus			1.000E-01						
22	C:\ICPMH\1\METHODS\Physis.m	Sample	1202	2ndP	ERA Phosphorus 9.71 PPM			1.000E-01						
23	C:\ICPMH\1\METHODS\Physis.m	Sample	1	Rinse6				1.000						
24	C:\ICPMH\1\METHODS\Physis.m	Sample	1	Rinse7				1.000						
25		Keyword		CALEND	End of CALIB									
26		Keyword		SMPLSEG	Start of SMPL									
27	C:\ICPMH\1\METHODS\Physis.m	Sample	1	Rinse8				1.000						
28	C:\ICPMH\1\METHODS\Physis.m	Sample	1	Rinse9				1.000						
29	C:\ICPMH\1\METHODS\Physis.m	Sample	1	Rinse10				1.000						
30	C:\ICPMH\1\METHODS\Physis.m	Sample	1	Rinse11				1.000						
31	C:\ICPMH\1\METHODS\Physis.m	Sample	2101	22598	QAQC Procedural Blank B1	22599.NA.B1,10/23/2013,E-7012		10.00						
32	C:\ICPMH\1\METHODS\Physis.m	Sample	2102	22599	B13-8018 Grab	22599.NA.R1,10/23/2013,E-7012		16.81						
33	C:\ICPMH\1\METHODS\Physis.m	Sample	2103	22599r2	B13-8018 Grab Dup	22599.NA.R2,10/23/2013,E-7012		13.67						
34	C:\ICPMH\1\METHODS\Physis.m	Sample	2104	22600	B13-8053 Grab	22600.NA.R1,10/23/2013,E-7012		16.58						
35	C:\ICPMH\1\METHODS\Physis.m	Sample	2105	22602crm	QAQC CRM - RTC 016-0501	22602.NA.CRM1,10/23/2013,E-7012		54.83						
36	C:\ICPMH\1\METHODS\Physis.m	Sample	2106	22603crm	QAQC CRM - ERA 5401	22603.NA.CRM1,10/23/2013,E-7012		42.74						
37	C:\ICPMH\1\METHODS\Physis.m	Sample	1	Rinse12				1.000						

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
38	C:\ICPMH\1\METHODS (Physis.m)	Sample	2107	22598bs1	QAQC Procedural Blank BS1	22598,NA,BS1,10/23/2013,E-7012	1.000							
39	C:\ICPMH\1\METHODS (Physis.m)	Sample	2108	22598bs2	QAQC Procedural Blank BS2	22598,NA,BS2,10/23/2013,E-7012	1.000							
40	C:\ICPMH\1\METHODS (Physis.m)	Sample	2109	22598ms	B13-8018 Grab MS	22598,NA,MS1,10/23/2013,E-7012	1.000							
41	C:\ICPMH\1\METHODS (Physis.m)	Sample	2110	22598msd	B13-8018 Grab MSD	22598,NA,MS2,10/23/2013,E-7012	1.000							
42	C:\ICPMH\1\METHODS (Physis.m)	Sample	2111	22598Ps1	B13-8018 Grab MS	22598,NA,MS1,10/23/2013,E-7012	1.000							
43	C:\ICPMH\1\METHODS (Physis.m)	Sample	2112	22598Ps2	B13-8018 Grab MSD	22598,NA,MS2,10/23/2013,E-7012	1.000							
44	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse13			1.000							
45	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse14			1.000							
46	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse15			1.000							
47	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse16			1.000							
48	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse17			1.000							
49	C:\ICPMH\1\METHODS (Physis.m)	Sample	2101	22626	QAQC Procedural Blank B1	22626,NA,B1,10/23/2013,E-7012	10.00							
50	C:\ICPMH\1\METHODS (Physis.m)	Sample	2201	22626	B13-8111 Grab	22626,NA,R1,10/23/2013,E-7012	24.53							
51	C:\ICPMH\1\METHODS (Physis.m)	Sample	2202	22626r2	B13-8111 Grab Dup	22626,NA,R2,10/23/2013,E-7012	33.73							
52	C:\ICPMH\1\METHODS (Physis.m)	Sample	2203	22626	B13-8112 Grab	22626,NA,R1,10/23/2013,E-7012	33.29							
53	C:\ICPMH\1\METHODS (Physis.m)	Sample	2204	22630	B13-8500 Grab	22630,NA,R1,10/23/2013,E-7012	24.35							
54	C:\ICPMH\1\METHODS (Physis.m)	Sample	2205	22631	B13-8123 Grab	22631,NA,R1,10/23/2013,E-7012	22.83							
55	C:\ICPMH\1\METHODS (Physis.m)	Sample	2206	22632	B13-8124 Grab	22632,NA,R1,10/23/2013,E-7012	25.58							
56	C:\ICPMH\1\METHODS (Physis.m)	Sample	2207	22633	B13-8128 Grab	22633,NA,R1,10/23/2013,E-7012	29.90							
57	C:\ICPMH\1\METHODS (Physis.m)	Sample	2208	22645crm	QAQC CRM - RTC 016 0501	22645,NA,CRM1,10/23/2013,E-7012	54.63							
58	C:\ICPMH\1\METHODS (Physis.m)	Sample	2209	22647crm	QAQC CRM - ERA 5401	22647,NA,CRM1,10/23/2013,E-7012	42.74							
59	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse18			1.000							
60	C:\ICPMH\1\METHODS (Physis.m)	Sample	2107	22626bs1	QAQC Procedural Blank BS1	22626,NA,BS1,10/23/2013,E-7012	1.000							
61	C:\ICPMH\1\METHODS (Physis.m)	Sample	2108	22626bs2	QAQC Procedural Blank BS1	22626,NA,BS2,10/23/2013,E-7012	1.000							
62	C:\ICPMH\1\METHODS (Physis.m)	Sample	2210	22628ms	B13-8111 Grab MS	22628,NA,MS1,10/23/2013,E-7012	1.000							
63	C:\ICPMH\1\METHODS (Physis.m)	Sample	2211	22628msd	B13-8111 Grab MSD	22628,NA,MS2,10/23/2013,E-7012	1.000							
64	C:\ICPMH\1\METHODS (Physis.m)	Sample	2212	22628Ps1	B13-8111 Grab MS	22628,NA,MS1,10/23/2013,E-7012	1.000							
65	C:\ICPMH\1\METHODS (Physis.m)	Sample	2301	22628Ps2	B13-8111 Grab MSD	22628,NA,MS2,10/23/2013,E-7012	1.000							
66	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse19			1.000							
67	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse20			1.000							
68	C:\ICPMH\1\METHODS (Physis.m)	Sample	1201	CCV			1.000E-01							
69	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse21			1.000							
70	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse22			1.000							
71	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse23			1.000							
72	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse24			1.000							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
73	C:\NCPMH\1\METHODS (Physis.m)	Sample	1	Rinse25			1.000							
74	C:\NCPMH\1\METHODS (Physis.m)	Sample	1	Rinse26			1.000							
75	C:\NCPMH\1\METHODS (Physis.m)	Sample	1	Rinse27			1.000							
76	C:\NCPMH\1\METHODS (Physis.m)	Sample	2101	22627	QAQC Procedural Blank B1	22627,NA,B1,10/23/2013,E-7013,	10.00							
77	C:\NCPMH\1\METHODS (Physis.m)	Sample	2307	22634	B13-8127 Grab	22634,NA,R1,10/23/2013,E-7013,	41.35							
78	C:\NCPMH\1\METHODS (Physis.m)	Sample	2303	22634r2	B13-8127 Grab Dup	22634,NA,R2,10/23/2013,E-7013,	43.17							
79	C:\NCPMH\1\METHODS (Physis.m)	Sample	2304	22635	B13-8121 Grab	22635,NA,R1,10/23/2013,E-7013,	29.34							
80	C:\NCPMH\1\METHODS (Physis.m)	Sample	2305	22636	B13-8065 Grab	22636,NA,R1,10/23/2013,E-7013,	35.08							
81	C:\NCPMH\1\METHODS (Physis.m)	Sample	2306	22637	B13-8105 Grab	22637,NA,R1,10/23/2013,E-7013,	21.03							
82	C:\NCPMH\1\METHODS (Physis.m)	Sample	2307	22638	B13-8117 Grab	22638,NA,R1,10/23/2013,E-7013,	27.52							
83	C:\NCPMH\1\METHODS (Physis.m)	Sample	2308	22639	B13-8113 Grab	22639,NA,R1,10/23/2013,E-7013,	30.59							
84	C:\NCPMH\1\METHODS (Physis.m)	Sample	2308	22640	B13-8116 Grab	22640,NA,R1,10/23/2013,E-7013,	25.61							
85	C:\NCPMH\1\METHODS (Physis.m)	Sample	2310	22641	B13-8108 Grab	22641,NA,R1,10/23/2013,E-7013,	26.73							
86	C:\NCPMH\1\METHODS (Physis.m)	Sample	2311	22642	B13-8109 Grab	22642,NA,R1,10/23/2013,E-7013,	24.38							
87	C:\NCPMH\1\METHODS (Physis.m)	Sample	2312	22643	B13-8102 Grab	22643,NA,R1,10/23/2013,E-7013,	33.00							
88	C:\NCPMH\1\METHODS (Physis.m)	Sample	2401	22646cm	QAQC CRM - RTC 018-0501	22646,NA,CRM1,10/23/2013,E-7013,	42.02							
89	C:\NCPMH\1\METHODS (Physis.m)	Sample	2402	22648cm	QAQC CRM - ERA 5401	22648,NA,CRM1,10/23/2013,E-7013,	48.83							
90	C:\NCPMH\1\METHODS (Physis.m)	Sample	1	Rinse28			1.000							
91	C:\NCPMH\1\METHODS (Physis.m)	Sample	2107	22627bs1	QAQC Procedural Blank BS1	22627,NA,BS1,10/23/2013,E-7013,	1.000							
92	C:\NCPMH\1\METHODS (Physis.m)	Sample	2108	22627bs2	QAQC Procedural Blank BS2	22627,NA,BS2,10/23/2013,E-7013,	1.000							
93	C:\NCPMH\1\METHODS (Physis.m)	Sample	2403	22634ms	B13-8127 Grab MS	22634,NA,MS1,10/23/2013,E-7013,	1.000							
94	C:\NCPMH\1\METHODS (Physis.m)	Sample	2404	22634mad	B13-8127 Grab MSQ	22634,NA,MS2,10/23/2013,E-7013,	1.000							
95	C:\NCPMH\1\METHODS (Physis.m)	Sample	1	Rinse29			1.000							
96	C:\NCPMH\1\METHODS (Physis.m)	Sample	1	Rinse30			1.000							
97	C:\NCPMH\1\METHODS (Physis.m)	Sample	1201	CCV2			1.000E-01							
98	C:\NCPMH\1\METHODS (Physis.m)	Sample	1	Rinse31			1.000							
99	C:\NCPMH\1\METHODS (Physis.m)	Sample	1	Rinse32			1.000							
100	C:\NCPMH\1\METHODS (Physis.m)	Sample	1	Rinse33			1.000							
101		Keyword		StandBy										
102		Keyword		SAMPLED	End of SMPL									
103		Keyword		END	End of Sequence									
104		Keyword		BLKBEG	Start of BLANK									
105		Keyword		BLKEND	End of BLANK									
106		Keyword		ERRBEG	Start of ERRTERM									
107		Keyword		ERREND	End of ERRTERM									

Elements –

ICP-MS

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(EPA 200.8 – SEM)

PHYSIS

Instrument Blank

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Innovative Solutions for Nature

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name 0MIX.D
File Path D:\data\2131031.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/31/2013 13:52
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.000	ug/g	---	51.11	1.185E-04	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	---	2,289.13	5.309E-03	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	---	42.22	9.786E-05	Pulse	0.30	3
Ag	107	103	2	0.003	ug/g	4.19	122.23	2.836E-04	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	---	6.67	1.547E-05	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	---	100.00	2.156E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	60,752.14	1.96	100.0	Pulse	0.30	3
2	Rh	103	431,207.42	0.20	100.0	Pulse	0.30	3
3	Rh	103	958,789.25	1.41	100.0	Analog	0.30	3
2	Tm	169	463,098.25	1.39	100.0	Analog	0.30	3

PHYSIS

Initial Calibration Data

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Calibration for 1000MIX.D

Batch Folder: D:\DATA\2131031.B\

 Analysis File: 2131031.batch.xml

 DA Date-Time: 10/31/2013 3:41:33 PM

 Calibration Title:

 Calibration Method: External Calibration

 VIS Interpolation Fit:

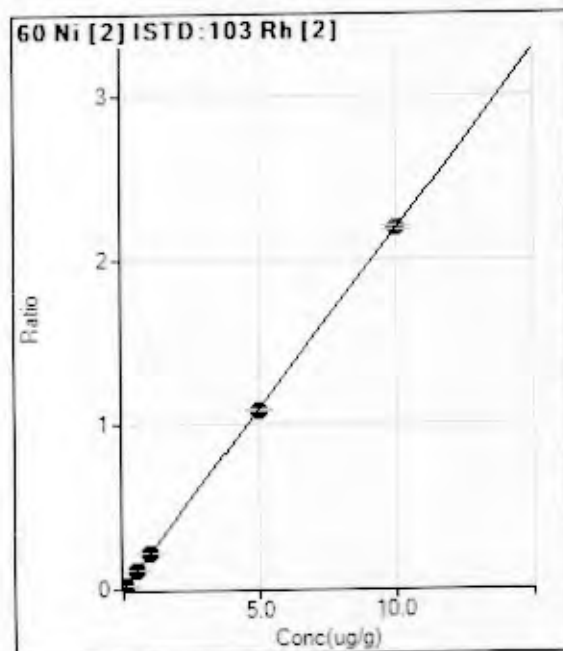
 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX.D	0 ppb mix	10/31/2013 1:52:35 PM
2	1MIX.D	1 ppb mix	10/31/2013 1:57:22 PM
3	5MIX.D	5 ppb mix	10/31/2013 2:02:07 PM
4	10MIX.D	10 ppb mix	10/31/2013 2:06:54 PM
5	50MIX.D	50 ppb mix	10/31/2013 2:11:40 PM
6	100MIX.D	100 ppb mix	10/31/2013 2:16:27 PM
7	500MIX.D	500 ppb mix	10/31/2013 2:21:12 PM
8	1000MIX.D	1000 ppb mix	10/31/2013 2:25:46 PM
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

Calibration for 1000MIX.D



$$y = 0.2190 * x + 1.1848E-004$$

$$R = 1.0000$$

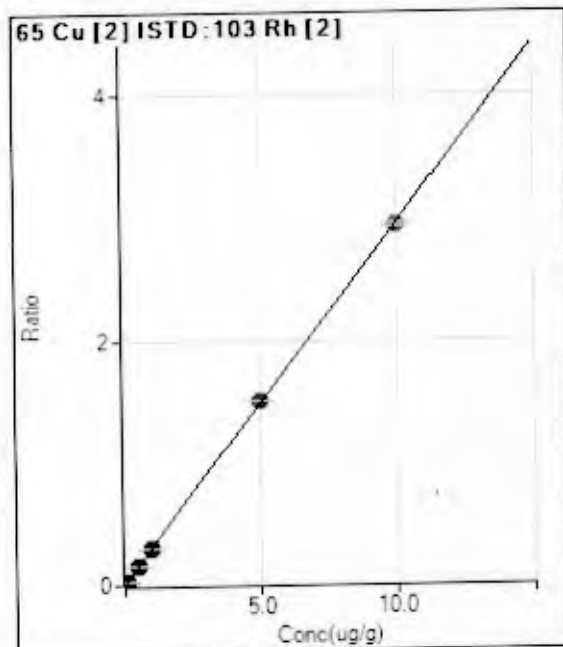
$$DL = 0.0006442$$

$$BEC = 0.0005411$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	51.11	0.0001	P	39.7
2	<input type="checkbox"/>	0.010	0.014	1346.77	0.0031	P	3.3
3	<input type="checkbox"/>	0.050	0.068	6519.27	0.0150	P	3.3
4	<input type="checkbox"/>	0.100	0.101	9514.01	0.0223	P	0.1
5	<input type="checkbox"/>	0.500	0.508	46540.70	0.1113	P	0.6
6	<input type="checkbox"/>	1.000	1.006	89186.98	0.2204	P	1.1
7	<input type="checkbox"/>	5.000	4.958	399899.43	1.0857	P	0.9
8	<input type="checkbox"/>	10.00	10.020	760598.71	2.1940	A	1.0
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2941 * x + 0.0053$$

$$R = 1.0000$$

$$DL = 0.00661$$

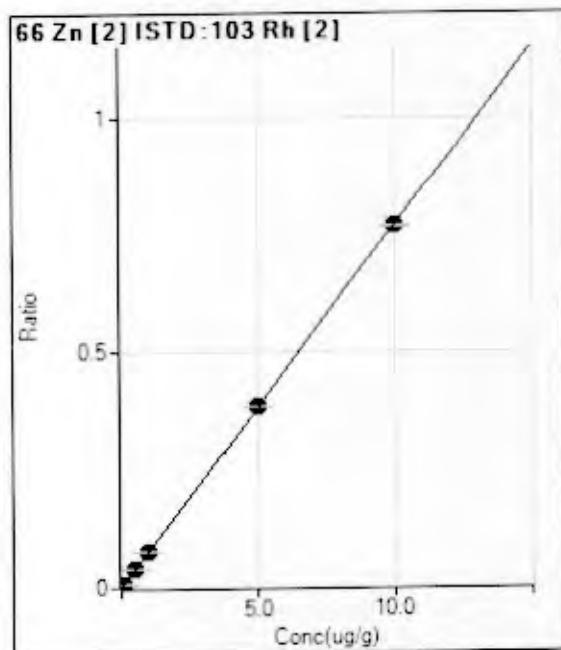
$$BEC = 0.01805$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	2289.13	0.0053	P	12.2
2	<input type="checkbox"/>	0.010	0.014	4061.75	0.0093	P	4.5
3	<input type="checkbox"/>	0.050	0.068	10947.15	0.0252	P	1.4
4	<input type="checkbox"/>	0.100	0.104	15268.23	0.0358	P	0.2
5	<input type="checkbox"/>	0.500	0.510	64975.94	0.1554	P	1.6
6	<input type="checkbox"/>	1.000	1.006	121918.48	0.3013	P	0.7
7	<input type="checkbox"/>	5.000	5.061	550189.59	1.4937	A	0.9
8	<input type="checkbox"/>	10.00	9.968	1018142.4	2.9369	A	1.0
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D



$$y = 0.0769 * x + 9.7864E-005$$

$$R = 1.0000$$

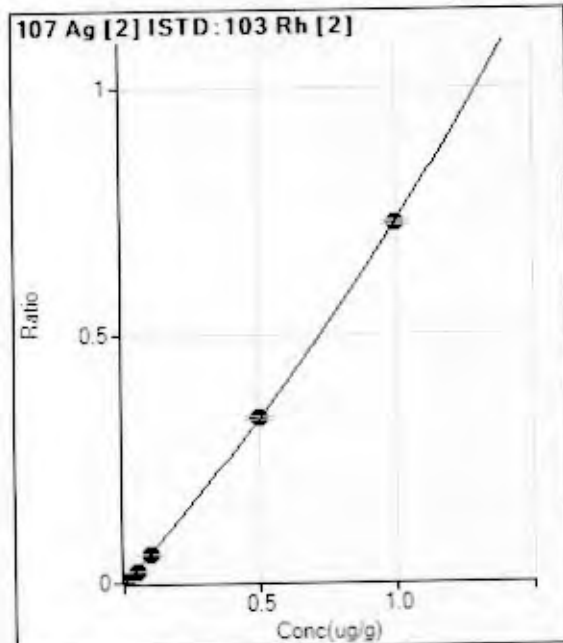
$$DL = 0.001932$$

$$BEC = 0.001273$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	42.22	0.0001	P	50.6
2	<input type="checkbox"/>	0.010	0.014	524.48	0.0012	P	10.0
3	<input type="checkbox"/>	0.050	0.068	2306.92	0.0053	P	3.7
4	<input type="checkbox"/>	0.100	0.103	3402.69	0.0080	P	2.2
5	<input type="checkbox"/>	0.500	0.513	16523.78	0.0395	P	1.4
6	<input type="checkbox"/>	1.000	1.005	31316.26	0.0774	P	0.5
7	<input type="checkbox"/>	5.000	5.031	142511.84	0.3869	P	0.8
8	<input type="checkbox"/>	10.00	9.983	266090.49	0.7675	P	0.5
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.1354 * x ^ 2 + 0.5945 * x - 0.0017$$

$$DL = 0.0004196$$

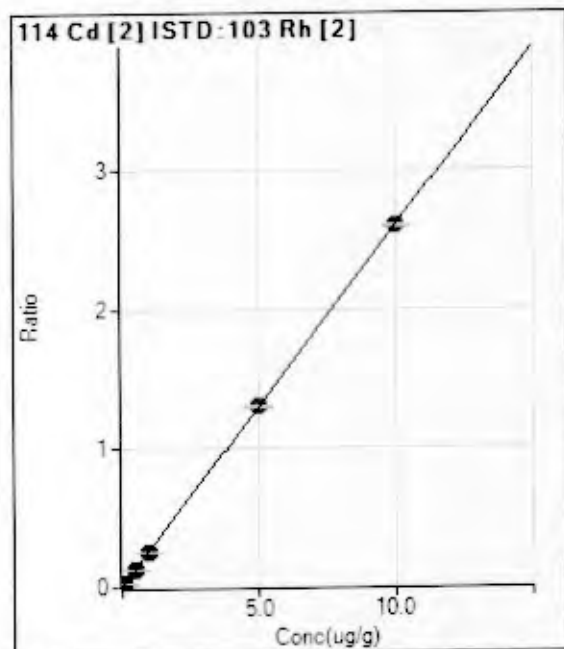
$$BEC = -0.002858$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.003	122.23	0.0003	P	29.3
2	<input type="checkbox"/>	0.001	0.004	305.57	0.0007	P	19.1
3	<input type="checkbox"/>	0.005	0.007	1144.53	0.0026	P	5.9
4	<input type="checkbox"/>	0.010	0.010	1815.73	0.0043	P	4.6
5	<input type="checkbox"/>	0.050	0.043	10197.84	0.0244	P	2.3
6	<input type="checkbox"/>	0.100	0.096	22943.95	0.0567	P	1.4
7	<input type="checkbox"/>	0.500	0.502	121898.56	0.3310	P	1.9
8	<input type="checkbox"/>	1.000	1.000	252297.58	0.7278	P	1.2
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D



$$y = 0.2601 * x + 1.5467E-005$$

$$R = 1.0000$$

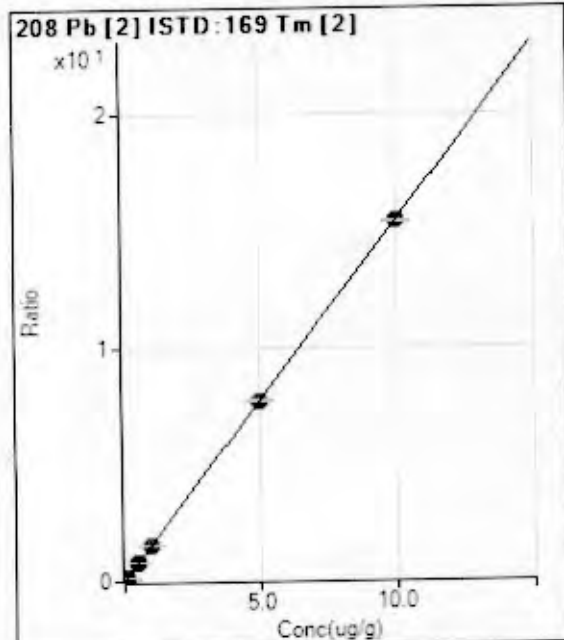
$$DL = 8.951E-05$$

$$BEC = 5.947E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	6.67	0.0000	P	50.2
2	<input type="checkbox"/>	0.010	0.013	1466.79	0.0034	P	5.7
3	<input type="checkbox"/>	0.050	0.062	6971.71	0.0160	P	3.7
4	<input type="checkbox"/>	0.100	0.097	10742.72	0.0252	P	3.0
5	<input type="checkbox"/>	0.500	0.487	52934.20	0.1266	P	0.9
6	<input type="checkbox"/>	1.000	0.975	102596.27	0.2535	P	0.7
7	<input type="checkbox"/>	5.000	5.014	480329.16	1.3041	A	1.1
8	<input type="checkbox"/>	10.00	9.996	901384.69	2.6001	A	0.8
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 1.5415 * x + 2.1563E-004$$

$$R = 1.0000$$

$$DL = 8.802E-05$$

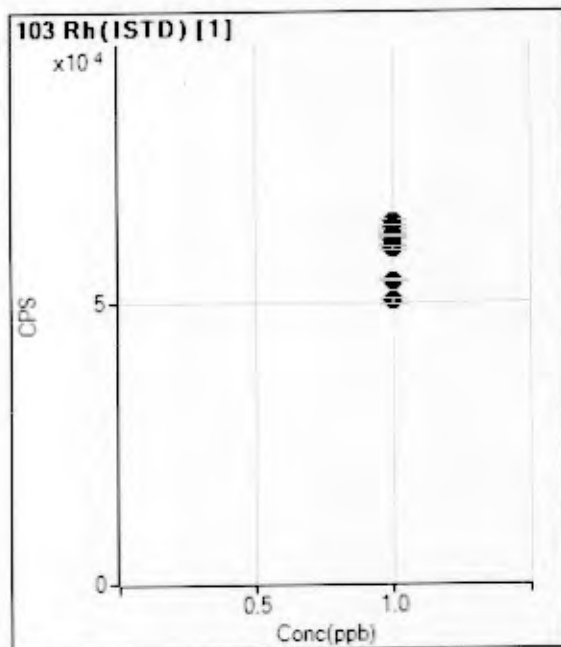
$$BEC = 0.0001399$$

Weight: None

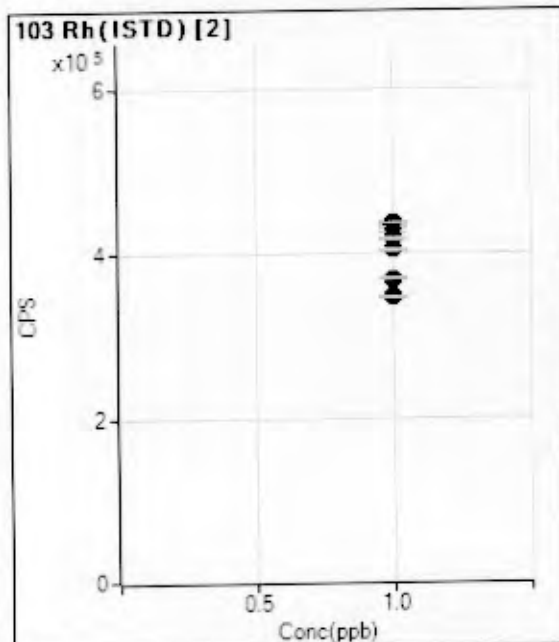
Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	100.00	0.0002	P	21.0
2	<input type="checkbox"/>	0.010	0.014	10486.26	0.0220	P	3.3
3	<input type="checkbox"/>	0.050	0.069	52044.31	0.1072	P	0.8
4	<input type="checkbox"/>	0.100	0.105	78001.48	0.1614	P	2.2
5	<input type="checkbox"/>	0.500	0.513	395221.34	0.7915	P	1.2
6	<input type="checkbox"/>	1.000	1.007	768293.07	1.5526	A	1.8
7	<input type="checkbox"/>	5.000	5.002	3601940.82	7.7114	A	0.6
8	<input type="checkbox"/>	10.00	9.997	6940516.08	15.410	A	0.7
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D

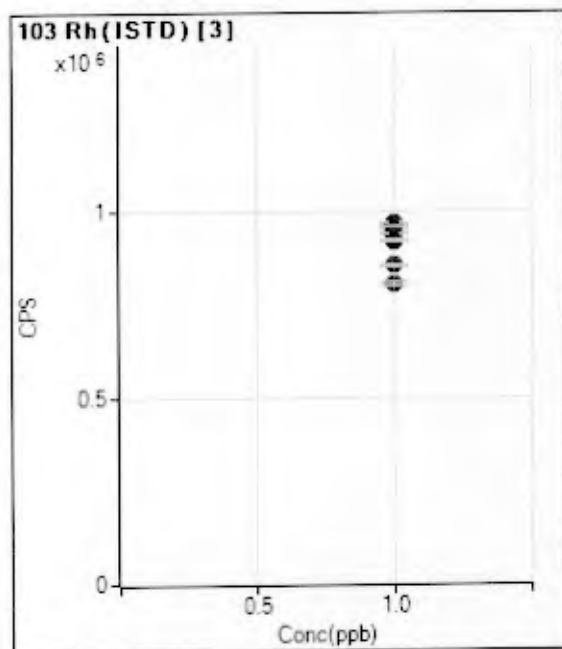


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	1.000		60752.14		P	2.0
2	<input type="checkbox"/>	1.000		62966.03		P	2.4
3	<input type="checkbox"/>	1.000		64131.18		P	1.3
4	<input type="checkbox"/>	1.000		63146.41		P	1.3
5	<input type="checkbox"/>	1.000		61704.45		P	1.0
6	<input type="checkbox"/>	1.000		59512.66		P	1.0
7	<input type="checkbox"/>	1.000		53803.79		P	0.7
8	<input type="checkbox"/>	1.000		50147.29		P	1.7
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

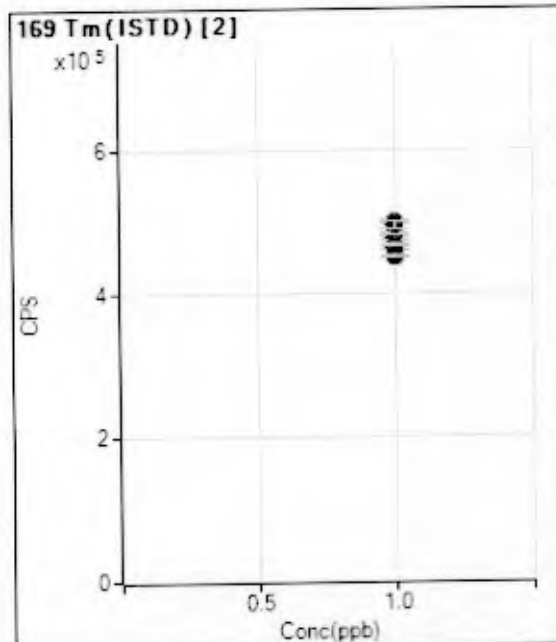


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	1.000		431207.42		P	0.2
2	<input type="checkbox"/>	1.000		436687.93		P	1.0
3	<input type="checkbox"/>	1.000		434848.12		P	0.8
4	<input type="checkbox"/>	1.000		425905.61		P	0.5
5	<input type="checkbox"/>	1.000		418094.33		P	0.9
6	<input type="checkbox"/>	1.000		404698.33		P	0.6
7	<input type="checkbox"/>	1.000		368342.23		P	0.7
8	<input type="checkbox"/>	1.000		346682.82		P	0.5
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for 1000MIX.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		958789.25		A	1.4
2	<input type="checkbox"/>	1.000		966667.99		A	0.5
3	<input type="checkbox"/>	1.000		963227.28		A	1.3
4	<input type="checkbox"/>	1.000		949414.78		A	1.7
5	<input type="checkbox"/>	1.000		930749.16		A	1.4
6	<input type="checkbox"/>	1.000		918820.81		A	0.5
7	<input type="checkbox"/>	1.000		854762.05		A	0.5
8	<input type="checkbox"/>	1.000		805945.31		A	1.0
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		463098.25		A	1.4
2	<input type="checkbox"/>	1.000		477039.62		A	1.1
3	<input type="checkbox"/>	1.000		485593.76		A	1.3
4	<input type="checkbox"/>	1.000		483365.88		A	0.7
5	<input type="checkbox"/>	1.000		499403.68		A	1.2
6	<input type="checkbox"/>	1.000		494930.45		A	1.9
7	<input type="checkbox"/>	1.000		467107.86		A	0.7
8	<input type="checkbox"/>	1.000		450388.58		A	0.7
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

PHYSIS

Continuing Calibration Data

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ICPMS 7700x DATA REPORT

File Name ICV.D
File Path D:\data\2131031.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/31/2013 14:44
Sample Name 100 ppb (10 ppb Ag)
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.099	ug/g	1.77	77,702.65	2.164E-01	Pulse	0.30	3
Cu	65	103	2	0.100	ug/g	0.51	107,996.55	3.008E-01	Pulse	0.30	3
Zn	66	103	2	0.099	ug/g	0.99	27,311.73	7.607E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	2.84	21,288.39	5.929E-02	Pulse	0.30	3
Cd	114	103	2	0.100	ug/g	0.68	93,498.77	2.604E-01	Pulse	0.30	3
Pb	208	169	2	0.102	ug/g	0.19	725,045.07	1.576E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	50,238.92	2.49	82.7	Pulse	0.30	3
2	Rh	103	359,055.35	0.11	83.3	Pulse	0.30	3
3	Rh	103	824,724.01	0.95	86.0	Analog	0.30	3
2	Tm	169	460,142.67	0.06	99.4	Analog	0.30	3

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ICPMS 7700x DATA REPORT

File Name CCV.D
File Path D:\data\2131031.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/31/2013 18:05
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.099	ug/g	0.98	79,372.15	2.175E-01	Pulse	0.30	3
Cu	65	103	2	0.100	ug/g	1.51	109,604.23	3.004E-01	Pulse	0.30	3
Zn	66	103	2	0.102	ug/g	1.88	28,695.14	7.864E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.44	22,245.20	6.096E-02	Pulse	0.30	3
Cd	114	103	2	0.098	ug/g	1.02	93,394.86	2.559E-01	Pulse	0.30	3
Pb	208	169	2	0.102	ug/g	0.69	706,257.40	1.575E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	54,922.74	1.61	90.4	Pulse	0.30	3
2	Rh	103	364,913.61	0.60	84.6	Pulse	0.30	3
3	Rh	103	822,212.88	0.31	85.8	Analog	0.30	3
2	Tm	169	448,432.58	0.32	96.8	Analog	0.30	3

PHYSIS

Instrument Run Log

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	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1		Keyword		CALBEG	Start of CALIB									
2	C:\CPMH\1\METHODS\Physis.m	Sample	1101	Rinse			1.000							
3	C:\CPMH\1\METHODS\Physis.m	CalBk	1101	0MIX	0 ppb mix	0 ng 0 ng Ag	Level 1							
4	C:\CPMH\1\METHODS\Physis.m	CalStd	1102	1MIX	1 ppb mix	10 ng 1 ng Ag	Level 2							
5	C:\CPMH\1\METHODS\Physis.m	CalStd	1103	5MIX	5 ppb mix	50 ng 5 ng Ag	Level 3							
6	C:\CPMH\1\METHODS\Physis.m	CalStd	1104	10MIX	10 ppb mix	100 ng 10 ng Ag	Level 4							
7	C:\CPMH\1\METHODS\Physis.m	CalStd	1105	50MIX	50 ppb mix	500 ng 50 ng Ag	Level 5							
8	C:\CPMH\1\METHODS\Physis.m	CalStd	1106	100MIX	100 ppb mix	1000 ng 100 ng Ag	Level 6							
9	C:\CPMH\1\METHODS\Physis.m	CalStd	1107	500MIX	500 ppb mix	5000 ng 500 ng Ag	Level 7							
10	C:\CPMH\1\METHODS\Physis.m	CalStd	1108	1000MIX	1000 ppb mix	10000 ng 1000 ng Ag	Level 8							
11	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse1			1.000							
12	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse2			1.000							
13	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse3			1.000							
14	C:\CPMH\1\METHODS\Physis.m	Sample	1201	ICV	100 ppb (10 ppb Ag)		1.000E-01							
15	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse4			1.000							
16	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse5			1.000							
17	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse6			1.000							
18		Keyword		CALEND	End of CALIB									
19		Keyword		SMPLEBEG	Start of SMPLE									
20	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse7			1.000							
21	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse8			1.000							
22	C:\CPMH\1\METHODS\Physis.m	Sample	1	Rinse9			1.000							
23	C:\CPMH\1\METHODS\Physis.m	Sample	2101	Rinse10			1.000							
24	C:\CPMH\1\METHODS\Physis.m	Sample	2101	22596	QAQC Procedural Blank B1	22596,NA,B1,10/31/2013,E-7018,	10.00							
25	C:\CPMH\1\METHODS\Physis.m	Sample	2101	22626	QAQC Procedural Blank B1	22626,NA,B1,10/31/2013,E-7018,	10.00							
26	C:\CPMH\1\METHODS\Physis.m	Sample	2101	22627	QAQC Procedural Blank B1	22627,NA,B1,10/31/2013,E-7018,	10.00							
27	C:\CPMH\1\METHODS\Physis.m	Sample	2102	22599	B13-8018 Grab	22599,NA,R1,10/31/2013,E-7018,	10.93							
28	C:\CPMH\1\METHODS\Physis.m	Sample	2103	22599r2	B13-8018 Grab Dup	22599,NA,R2,10/31/2013,E-7018,	12.48							
29	C:\CPMH\1\METHODS\Physis.m	Sample	2104	22600	B13-8053 Grab	22600,NA,R1,10/31/2013,E-7018,	14.29							
30	C:\CPMH\1\METHODS\Physis.m	Sample	2105	22628	B13-8111 Grab	22628,NA,R1,10/31/2013,E-7018,	28.74							
31	C:\CPMH\1\METHODS\Physis.m	Sample	2106	22628r2	B13-8111 Grab Dup	22628,NA,R2,10/31/2013,E-7018,	22.63							
32	C:\CPMH\1\METHODS\Physis.m	Sample	2107	22629	B13-8112 Grab	22629,NA,R1,10/31/2013,E-7018,	22.36							
33	C:\CPMH\1\METHODS\Physis.m	Sample	2108	22630	B13-8500 Grab	22630,NA,R1,10/31/2013,E-7018,	17.47							
34	C:\CPMH\1\METHODS\Physis.m	Sample	2109	22631	B13-8123 Grab	22631,NA,R1,10/31/2013,E-7018,	16.53							
35	C:\CPMH\1\METHODS\Physis.m	Sample	2110	22632	B13-8124 Grab	22632,NA,R1,10/31/2013,E-7018,	19.01							
36	C:\CPMH\1\METHODS\Physis.m	Sample	2111	22633	B13-8126 Grab	22633,NA,R1,10/31/2013,E-7018,	21.50							
37	C:\CPMH\1\METHODS\Physis.m	Sample	2112	22634	B13-8127 Grab	22634,NA,R1,10/31/2013,E-7018,	22.58							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc.	Action on Failure	Skip	Result
1	C:\CPMH1\METHOD S\Physic.m	Sample	1	Rinse1			1.000							
2	C:\CPMH1\METHOD S\Physic.m	Sample	1	Rinse6			1.000							
3	C:\CPMH1\METHOD S\Physic.m	Sample	1	Rinse9			1.000							
4	C:\CPMH1\METHOD S\Physic.m	Sample	2101	Rinse10			1.000							
5	C:\CPMH1\METHOD S\Physic.m	Sample	2101	22508	QAQC Procedural Blank B1	22508 NA, B1, 10/31/2013, E-7018	10.00							
6	C:\CPMH1\METHOD S\Physic.m	Sample	2101	22520	QAQC Procedural Blank B1	22520 NA, B1, 10/31/2013, E-7018	10.00							
7	C:\CPMH1\METHOD S\Physic.m	Sample	2101	22827	QAQC Procedural Blank B1	22827 NA, B1, 10/31/2013, E-7018	10.00							
8	C:\CPMH1\METHOD S\Physic.m	Sample	2102	22509	B13-8018 Grab	22509 NA, R1, 10/31/2013, E-7018	10.93							
9	C:\CPMH1\METHOD S\Physic.m	Sample	2103	22509/2	B13-8018 Grab Dup	22509 NA, R2, 10/31/2013, E-7018	12.48							
10	C:\CPMH1\METHOD S\Physic.m	Sample	2104	22530	B13-8053 Grab	22530 NA, R1, 10/31/2013, E-7018	14.29							
11	C:\CPMH1\METHOD S\Physic.m	Sample	2105	22628	B13-8111 Grab	22628 NA, R1, 10/31/2013, E-7018	28.74							
12	C:\CPMH1\METHOD S\Physic.m	Sample	2106	22628/2	B13-8111 Grab Dup	22628 NA, R2, 10/31/2013, E-7018	22.63							
13	C:\CPMH1\METHOD S\Physic.m	Sample	2107	22629	B13-8112 Grab	22629 NA, R1, 10/31/2013, E-7018	22.39							
14	C:\CPMH1\METHOD S\Physic.m	Sample	2108	22630	B13-8100 Grab	22630 NA, R1, 10/31/2013, E-7018	17.47							
15	C:\CPMH1\METHOD S\Physic.m	Sample	2109	22631	B13-8121 Grab	22631 NA, R1, 10/31/2013, E-7018	15.53							
16	C:\CPMH1\METHOD S\Physic.m	Sample	2110	22632	B13-8124 Grab	22632 NA, R1, 10/31/2013, E-7018	18.01							
17	C:\CPMH1\METHOD S\Physic.m	Sample	2111	22633	B13-8128 Grab	22633 NA, R1, 10/31/2013, E-7018	21.86							
18	C:\CPMH1\METHOD S\Physic.m	Sample	2112	22634	B13-8127 Grab	22634 NA, R1, 10/31/2013, E-7018	22.58							
19	C:\CPMH1\METHOD S\Physic.m	Sample	2201	22635	B13-8121 Grab	22635 NA, R1, 10/31/2013, E-7018	23.97							
20	C:\CPMH1\METHOD S\Physic.m	Sample	2202	22636	B13-8085 Grab	22636 NA, R1, 10/31/2013, E-7018	30.32							
21	C:\CPMH1\METHOD S\Physic.m	Sample	2203	22637	B13-8105 Grab	22637 NA, R1, 10/31/2013, E-7018	19.48							
22	C:\CPMH1\METHOD S\Physic.m	Sample	2204	22638	B13-8117 Grab	22638 NA, R1, 10/31/2013, E-7018	17.86							
23	C:\CPMH1\METHOD S\Physic.m	Sample	2205	22639	B13-8113 Grab	22639 NA, R1, 10/31/2013, E-7018	17.65							
24	C:\CPMH1\METHOD S\Physic.m	Sample	2206	22640	B13-8116 Grab	22640 NA, R1, 10/31/2013, E-7018	17.89							
25	C:\CPMH1\METHOD S\Physic.m	Sample	2207	22641	B13-8108 Grab	22641 NA, R1, 10/31/2013, E-7018	19.97							
26	C:\CPMH1\METHOD S\Physic.m	Sample	2208	22642	B13-8106 Grab	22642 NA, R1, 10/31/2013, E-7018	15.55							
27	C:\CPMH1\METHOD S\Physic.m	Sample	2209	22643	B13-8102 Grab	22643 NA, R1, 10/31/2013, E-7018	28.65							
28	C:\CPMH1\METHOD S\Physic.m	Sample	1	Rinse11			1.000							
29	C:\CPMH1\METHOD S\Physic.m	Sample	2210	22599b1	QAQC Procedural Blank B51	22599 NA, B51, 10/31/2013, E-7018	1.000							
30	C:\CPMH1\METHOD S\Physic.m	Sample	2211	22599b2	QAQC Procedural Blank B52	22599 NA, B52, 10/31/2013, E-7018	1.000							
31	C:\CPMH1\METHOD S\Physic.m	Sample	2210	22628b1	QAQC Procedural Blank B51	22628 NA, B51, 10/31/2013, E-7018	1.000							
32	C:\CPMH1\METHOD S\Physic.m	Sample	2211	22628b2	QAQC Procedural Blank B52	22628 NA, B52, 10/31/2013, E-7018	1.000							
33	C:\CPMH1\METHOD S\Physic.m	Sample	2212	22599ms	B13-8018 Grab MS	22599 NA, MS1, 10/31/2013, E-7018	1.000							
34	C:\CPMH1\METHOD S\Physic.m	Sample	2301	22599msd	B13-8018 Grab MSD	22599 NA, MS2, 10/31/2013, E-7018	1.000							
35	C:\CPMH1\METHOD S\Physic.m	Sample	2302	22628ms	B13-8111 Grab MS	22628 NA, MS1, 10/31/2013, E-7018	1.000							
36	C:\CPMH1\METHOD S\Physic.m	Sample	2303	22628msd	B13-8111 Grab MSD	22628 NA, MS2, 10/31/2013, E-7018	1.000							
37	C:\CPMH1\METHOD S\Physic.m	Sample	1	Rinse12			1.000							
38	C:\CPMH1\METHOD S\Physic.m	Sample	1	Rinse13			1.000							
39	C:\CPMH1\METHOD S\Physic.m	Sample	1201	CCV			1.000E-01							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
40	C:\CPMH\1\METHOD S\Phys6.m	Sample	1	Rinse14			1.000							
41	C:\CPMH\1\METHOD S\Phys6.m	Sample	1	Rinse15			1.000							
42	C:\CPMH\1\METHOD S\Phys6.m	Sample	1	Rinse16			1.000							
43		Keyword		StandBy										



PHYSIS

Initial Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method: EPA 245.7 Mercury
Calibration data 100413

Calib Level Standard Raw Counts

Std01Rep1	0	-98
Std01Rep2	0	-98
Std01Rep3	0	-101
Std02Rep1	1	-72
Std02Rep2	1	-60
Std02Rep3	1	-56
Std03Rep1	10	127
Std03Rep2	10	142
Std03Rep3	10	128
Std04Rep1	100	2213
Std04Rep2	100	2230
Std04Rep3	100	2210
Std05Rep1	1000	23365
Std05Rep2	1000	23386
Std05Rep3	1000	23711
Std06Rep1	10000	239584
Std06Rep2	10000	240381
Std06Rep3	10000	239474

Note: Above calibration data used for the following project:

1307002-002
1307002-004
1307002-006
1307002-008
1307002-010
1307002-012
1307002-014
1307002-016
1307002-018

Continuing Calibration Data / Instrument Run Log

ENVIRONMENTAL LABORATORIES, INC.

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Sequence# 102413 for PID: 1307002-016, 018

Sample ID	Date	Method
ICV	24-Oct-13	2457TST
Ck1Blank	24-Oct-13	2457TST
Blank	24-Oct-13	2457TST
BS1	24-Oct-13	2457TST
BS2	24-Oct-13	2457TST
Ck1Blank	24-Oct-13	2457TST
CRM1	24-Oct-13	2457TST
CRM2	24-Oct-13	2457TST
Ck1Blank	24-Oct-13	2457TST
22599r1	24-Oct-13	2457TST
22599r2	24-Oct-13	2457TST
22599ms1	24-Oct-13	2457TST
22599ms2	24-Oct-13	2457TST
Ck1Blank	24-Oct-13	2457TST
22600	24-Oct-13	2457TST
22628r1	24-Oct-13	2457TST
22628r2	24-Oct-13	2457TST
22628ms1	24-Oct-13	2457TST
22628ms2	24-Oct-13	2457TST
Ck1Blank	24-Oct-13	2457TST
22629	24-Oct-13	2457TST
22630	24-Oct-13	2457TST
22631	24-Oct-13	2457TST
22632	24-Oct-13	2457TST
22633	24-Oct-13	2457TST
CCV1	25-Oct-13	2457TST
Ck1Blank	25-Oct-13	2457TST
Blank	25-Oct-13	2457TST
BS1	25-Oct-13	2457TST
BS2	25-Oct-13	2457TST
Ck1Blank	25-Oct-13	2457TST
CRM1	25-Oct-13	2457TST
CRM2	25-Oct-13	2457TST
Ck1Blank	25-Oct-13	2457TST
22634r1	25-Oct-13	2457TST
22634r2	25-Oct-13	2457TST
22634ms1	25-Oct-13	2457TST
22634ms2	25-Oct-13	2457TST
Ck1Blank	25-Oct-13	2457TST
22635	25-Oct-13	2457TST
22636	25-Oct-13	2457TST
22637	25-Oct-13	2457TST

22638	25-Oct-13	2457TST
22639	25-Oct-13	2457TST
22640	25-Oct-13	2457TST
22641	25-Oct-13	2457TST
22642	25-Oct-13	2457TST
22643	25-Oct-13	2457TST
CCV2	25-Oct-13	2457TST
Ck1Blank	25-Oct-13	2457TST
Ck1Blank	28-Oct-13	2457TST
Blank	25-Oct-13	2457TST
22623r1	25-Oct-13	2457TST
22623r2	25-Oct-13	2457TST
BS1	25-Oct-13	2457TST
BS2	25-Oct-13	2457TST
CCV3	28-Oct-13	2457TST

QAQC	Date	Method	True Value(ppt)	Result (ppt)
ICV	24-Oct-13	2457TST	1000	978
CCV1	25-Oct-13	2457TST	1000	997
CCV2	25-Oct-13	2457TST	1000	939
CCV3	28-Oct-13	2457TST	1000	1070

PHYSIS

Organics –
(EPA 8270C)

TERRA FUSION ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS

Extraction/Preparation Log

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

NOVEMBER 12, 2013

EXTRACTION OF AMEC-RHMP SEDIMENTS FOR FIPRONIL, OCPs, PCBs, AROCLORS, PBDES, PAHs, PYRUTHAZOLES, TOXAPHENE. SAMPLES WERE RUN FOR PVE/PBDE/FIP AND THEN COLUMN CLEANED USING SILICA/ALUMINA ADSORBENTS.

METHOD: EPA 8270 C

PSID	SAMPLE DESCRIPTION	SAMPLE WT(g)	CONCENTRATION	Q/W	MULTIPLIER
BI (22570)	BLANK	—	—	—	1.0
BS1	BLANK SPIKE	—	—	—	1.0
BS2	BLANK SPIKE DUP	—	—	—	1.0
22571 MS1	8058	15.3316	—	.6283	0.1038
22571 MS2	↓	15.5824	—	.6283	0.1021
22576	CRM-SM -1944	0.9913	—	—	1.009
22551	8100	16.3669	—	.4206	0.1453
22552	8099	15.0395	—	.45176	0.1285
22553	8098	15.2679	—	.6756	0.0969
22554	8096	16.0473	—	.6747	0.0924
22555	8095	15.0132	—	.3418	0.1949
22571	8098	15.4139	—	.6283	0.1033
22571 R2	↓	15.7976	—	.6283	0.1061 0.100
22572	8068	15.0055	—	.7049	0.0945
22573	8090	15.7899	—	.3451	0.1835
22574	8045	15.4054	—	.4793	0.1354
22575	8031	15.4765	—	.6575	0.0983
22599	8018	15.1830	—	.7408	0.0889
22600	8053	15.6792	—	.76932	0.0920
22556	8087	15.6922	—	.7429	0.0858
22557	8073	15.9768	—	.6462	0.0912

A) 100ml CHC RS (4000ng/mL, p274)
 100ml PAH RS (1000ng/mL, p244)
 100ml PBDE RS (500ng/mL, p280)
 100ml CHC IS (1500ng/mL, p276)
 100ml PAH IS (200ng/mL, p268)

B) 1.0ml Fipronil Mix (1000ng/mL, p270)
 1.0ml OCP Mix (1000ng/mL, p276)
 100ml PDMU (10000ng/mL, p272)
 200ml PCB MIX (200ng/mL, p255)
 200ml PCB+6 MIX (200ng/mL, p259)
 100ml PBDE MIX (100ng/mL, p262)
 100ml PDMU MIX (1000ng/mL, p263)

Re extraction of AMEC-RHMP sediments for HIRONILS, OCPs, PCBs, AROCLORS, PBDES, PAHs, PYRETHROIDS, & TOXAPHENE.

Method: EPA 8270 C

PSID:	SEDWT(g):	H_2SO_4 (g):	Leftover (g):	Net Sample wt (g):	Comments:	PLU	Multi
B1				A	A	—	10
BS1					B	—	10
BS2					B	—	10
2257MS1	15.059	33.495	1.804	6.7927	B	0.6283	02343
2257MS2	15.315	36.727	.97	7.3106	B	0.6283	02177
CRM				1.083-0.5415			18467
22551	15.138	40.519	1.480	7.1276		0.4206	03335
22552	15.101	39.969	1.467	7.1050		0.5176	02719
22553	15.526	35.963	.592	7.5371		0.6756	01963
22554	15.621	24.537	1.005	6.9301		0.6747	02138
22555	47.14.705	37.058	1.865	6.7390		0.3418	04341
22571	15.484	36.407	3.116	6.5890		0.6283	02415
22571R2	15.163	43.764	1.768	7.1128		0.6283	02237
22572	15.446	29.430	.870	7.2425		0.7044	01958
22573	15.265	53.781	1.297	7.3754		0.3451	03558
22574	15.390	45.150	1.351	7.3456	C	0.4793	02840
22575	15.168	20.613	1.684	5.2384	D, E	0.6575	02903
22599	15.809	27.702	.495	7.5755		0.7581	01788
22400	15.593	30.461	1.409	7.0674		0.6432	02044
22556	14.798	19.581	.861	6.3764		0.7425	02111
22557	15.386	20.184	1.103	5.9244	W, E	0.6862	02459

200 800ng,
A) 100 mL CHC RS (400ng, p. 334)
200 mL PBDE RS (100ng,)
200 mL PAH RS (2000ng, p. 320)

B) 2.0 mL OCP (2000ng, p. 318)
2.0 mL TOX (20,000ng, p. 242)
2.0 mL Hironil (2000ng, p. 294)
2.0 mL PAH (2000ng, p. 331)
2.0 mL Pyrethroids (2000ng, p. 337)
400 mL PCB mix (400ng, p. 332)

e) Dried blowing down

Organics - GC-MS

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Analytical Solutions
(EPA 8270C)

PHYSIS

Instrument Run Log

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

2014 May 30 1739 Sequence Log .LOG
Starting sequence Fri May 30 17:39:40 2014

Instrument Name: GCMS3

Sequence File: D:\MassHunter\GCMS\1\sequence\Q3_140524 EI 0-6004.sequence.xml

Comment:

Operator:

Data Path: D:\MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\

Method Path: D:\MassHunter\GCMS\1\methods\checkout\

Line	Type	Vials	DataFile	Sample Name
Acquisition Method: EI Scan. M				
48)	Sample	111	TOX1000	TOX1000
49)	Sample	112	TOX2500	TOX2500
50)	Sample	113	TOX5000	TOX5000
51)	Sample	114	TOX7500	TOX7500
52)	Sample	115	TOX10000	TOX10000
53)	Sample	121	PYR25	PYR25
54)	Sample	122	PYR50	PYR50
55)	Sample	123	PYR100	PYR100
56)	Sample	124	PYR250	PYR250
57)	Sample	125	PYR500	PYR500
58)	Sample	131	FIP+RES25	FIP+RES25
59)	Sample	132	FIP+RES50	FIP+RES50
60)	Sample	133	FIP+RES100	FIP+RES100
Sequence Table edit performed Sat May 31 16:12:21 2014				
61)	Sample	134	FIP+RES250	FIP+RES250
62)	Sample	135	FIP+RES500	FIP+RES500
Acquisition Method: EI_HEX. M				
63)	Sample	141	HEX6	HEX6
Acquisition Method: EI Scan. M				
64)	Sample	91	OCP_PAH_PCB_SPE..._100	OCP_PAH_PCB_SPEX500_100
Acquisition Method: EI_HEX. M				
65)	Sample	141	HEX7	HEX7
Acquisition Method: EI Scan. M				
66)	Sample	1	B1_6004CC	B1_6004CC
Comment: 22544, NA, B1, 5/16/2014, 0-6004,				
67)	Sample	2	BS1_6004CC	BS1_6004CC
Comment: 22544, NA, BS1, 5/16/2014, 0-6004,				
68)	Sample	3	BS2_6004CC	BS2_6004CC
Comment: 22544, NA, BS2, 5/16/2014, 0-6004,				
69)	Sample	4	22571MS1CC	22571MS1CC
Comment: 22571, NA, MS1, 5/16/2014, 0-6004,				
70)	Sample	5	22571MS2CC	22571MS2CC
Comment: 22571, NA, MS2, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
71)	Sample	141	HEX3CC	HEX3CC
Acquisition Method: EI Scan. M				
72)	Sample	6	22576CC	22576CC
Comment: 22576, NA, CRM1, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
73)	Sample	141	HEX4CC	HEX4CC
Acquisition Method: EI Scan. M				
74)	Sample	7	22551CC	22551CC

2014 May 30 1739 Sequence Log . LOG

75)	Comment:	22551, NA, R1, 5/16/2014, 0-6004,	
	Sample	8	22552CC
	Comment:	22552, NA, R1, 5/16/2014, 0-6004,	22552CC
76)	Sample	9	22553CC
	Comment:	22553, NA, R1, 5/16/2014, 0-6004,	22553CC
77)	Sample	10	22554CC
	Comment:	22554, NA, R1, 5/16/2014, 0-6004,	22554CC
78)	Sample	103	PAH500CCV2
79)	Sample	105	OCP500_PCB100CCV2

Acqui si ti on Method: EI_HEX. M

80)	Sample	141	HEX52	HEX52
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Acqui si ti on Method: EI Scan. M

81)	Sample	11	22555CC	22555CC
	Comment:	22555, NA, R1, 5/16/2014, 0-6004,		
82)	Sample	12	22556CC	22556CC
	Comment:	22556, NA, R1, 5/16/2014, 0-6004,		
83)	Sample	21	22557CC	22557CC
	Comment:	22557, NA, R1, 5/16/2014, 0-6004,		
84)	Sample	13	22571CC	22571CC
	Comment:	22571, NA, R1, 5/16/2014, 0-6004,		
85)	Sample	14	22571R2CC	22571R2CC
	Comment:	22571, NA, R2, 5/16/2014, 0-6004,		
86)	Sample	15	22572CC	22572CC
	Comment:	22572, NA, R1, 5/16/2014, 0-6004,		
87)	Sample	16	22573CC	22573CC
	Comment:	22573, NA, R1, 5/16/2014, 0-6004,		
88)	Sample	17	22574CC	22574CC
	Comment:	22574, NA, R1, 5/16/2014, 0-6004,		
89)	Sample	22	22575CC	22575CC
	Comment:	22575, NA, R1, 5/16/2014, 0-6004,		
90)	Sample	18	22599CC	22599CC
	Comment:	22599, NA, R1, 5/16/2014, 0-6004,		
91)	Sample	19	22600CC	22600CC
	Comment:	22600, NA, R1, 5/16/2014, 0-6004,		
92)	Sample	103	PAH500FCV2	PAH500FCV2
93)	Sample	105	OCP500_PCB100FCV2	OCP500_PCB100FCV2
94)	Sample	61	PYR500CCV	PYR500CCV
95)	Sample	62	RES500CCV	RES500CCV

Acqui si ti on Method: EI_HEX. M

96)	Sample	141	HEX8	HEX8
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Acqui si ti on Method: EI Scan. M

97)	Sample	31	26212	26212
	Comment:	26212, NA, R1, 5/28/2014, 0-6016,		
98)	Sample	32	26213	26213
	Comment:	26213, NA, R1, 5/28/2014, 0-6016,		
99)	Sample	33	26214	26214
	Comment:	26214, NA, R1, 5/28/2014, 0-6016,		
100)	Sample	34	26215	26215
	Comment:	26215, NA, R1, 5/28/2014, 0-6016,		
101)	Sample	35	26781	26781
	Comment:	26781, NA, R1, 5/28/2014, 0-6016,		
102)	Sample	36	26782	26782
	Comment:	26782, NA, R1, 5/28/2014, 0-6016,		
103)	Sample	37	26783	26783
	Comment:	26783, NA, R1, 5/28/2014, 0-6016,		
104)	Sample	38	26784	26784
	Comment:	26784, NA, R1, 5/28/2014, 0-6016,		
105)	Sample	39	26785	26785
	Comment:	26785, NA, R1, 5/28/2014, 0-6016,		

2014 May 30 1739 Sequence Log . LOG
 Sequence Table edit performed Tue Jun 03 10: 46: 33 2014

106)	Sample	40	26786	26786
	Comment: 26786, NA, R1, 5/28/2014, 0-6016,			
107)	Sample	41	26787	26787
	Comment: 26787, NA, R1, 5/28/2014, 0-6016,			
108)	Sample	61	PYR500FCV	PYR500FCV
109)	Sample	62	RES500FCV	RES500FCV
110)	Sample	121	PYR25_POST	PYR25_POST
111)	Sample	122	PYR50_POST	PYR50_POST
112)	Sample	123	PYR100_POST	PYR100_POST
113)	Sample	124	PYR250_POST	PYR250_POST

Sequence completed Tue Jun 03 23: 55: 35 2014

D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 30 1739 Quality Log.
 D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 30 1739 Sequence Log

PHYSIS

Instrument Tune Report

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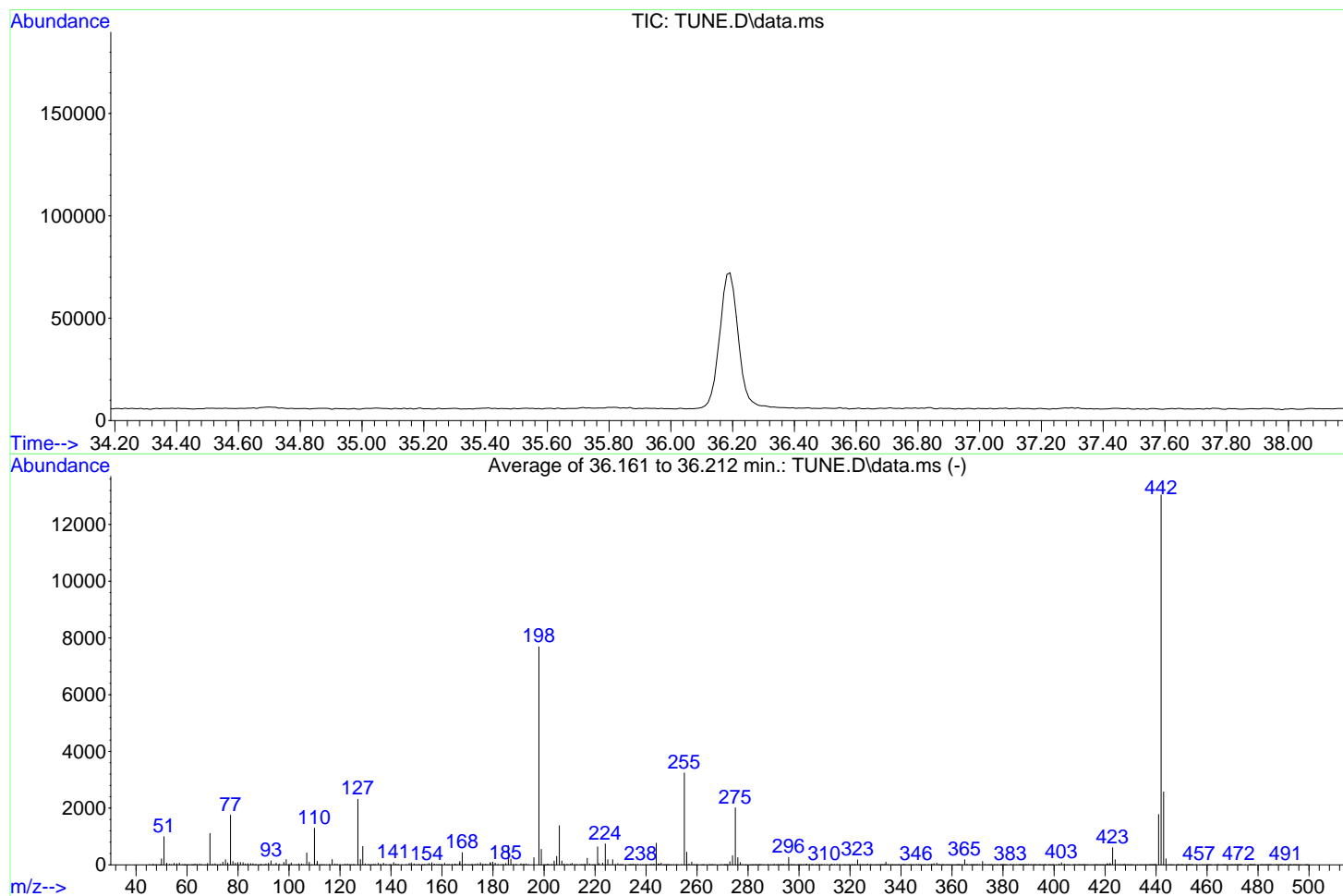
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : TUNE.D
 Acq On : 27 May 2014 11:53 pm
 Operator :
 Sample : TUNE
 Misc :
 ALS Vial : 142 Sample Multiplier: 1

Integration File: events.e

Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_DDMU_140502.M
 Title : CHCs
 Last Update : Fri May 09 07:23:47 2014



Spectrum Information: Average of 36.161 to 36.212 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	30.1	2271	PASS
68	69	0.00	2	1.9	21	PASS
69	198	0.00	100	14.4	1087	PASS
70	69	0.00	2	1.4	15	PASS
127	198	40	60	42.4	3204	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	7551	PASS
199	198	5	9	7.1	536	PASS
275	198	10	30	26.2	1978	PASS
365	198	1	100	2.4	182	PASS
441	443	0.01	100	68.9	1771	PASS
442	198	40	300	171.7	12966	PASS
443	442	17	23	19.8	2572	PASS

Chlorinated Pesticides

TERRA ENVIRONMENTAL SERVICES, INC.
Innovative Solutions for Nature



	4,4'-Dibromobiphenyl		2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time	Response	Retention Time
Spex_500ICV	2139944	39.837	398788	50.837
B_4006	2566879	39.837	484540	50.854
BS1_6004	4210471	39.787	821390	50.829
BS2_6004	3374261	39.8	731522	50.831
22571MS1	3698138	39.787	752403	50.829
22571MS2	3355578	39.787	680281	50.83
22576	3417449	39.791	685000	50.859
22551	4757782	39.786	954041	50.83
22552	3231269	39.792	649342	50.829
22553	3960005	39.789	794491	50.829
22554	4131966	39.794	815763	50.829
22555	4414294	39.791	889837	50.827
22556	8129760	40.407	1682327	51.407
OCP500CCV	2427255	39.822	503919	50.855
22557	3355534	39.805	668147	50.827
22571	3700406	39.817	746576	50.832
22571R2	3018299	39.811	614076	50.831
22572	3029329	39.806	603112	50.831
22573	4417174	39.783	867354	50.826
22574	3042496	39.824	622937	50.831
22575	3534292	39.809	702445	50.829
22599	3090996	39.818	605961	50.828
22600	3374247	39.815	689019	50.83
OCP500FCV	2546636	39.831	465146	50.849

PHYSIS

Initial Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Method File : Q_OCP+3_140502.M
 Title : CHCs
 Last Update : Fri May 09 07:23:47 2014
 Response Via : Initial Calibration

Page 149 of 226

Calibration Files

1000=OCP1000.D 500 =OCP500.D 250 =OCP250.D 100 =OCP100.D 50 =OCP50.D 25 =OCP25.D

Compound		1000	500	250	100	50	25	Avg	%RSD

1) I	4,4'-Dibromobiphenyl	-----ISTD-----							
2) S	(TCMX)	0.391	0.417	0.444	0.425	0.439	0.389	0.417	5.60
3) S	(PCB030)	1.047	1.097	1.125	1.108	1.140	1.028	1.091	4.05
4)	BHC-alpha	0.307	0.296	0.298	0.268	0.272	0.246	0.281	8.17
5)	Hexachlorobenzene	0.861	0.888	0.915	0.892	0.875	0.845	0.879	2.79
6)	BHC-beta	0.075	0.069	0.075	0.082	0.108	0.136	0.091	28.49
7)	BHC-gamma	0.188	0.175	0.173	0.151	0.143	0.131	0.160	13.60
8)	BHC-delta	0.206	0.188	0.173	0.159	0.153	0.154	0.172	12.44
9)	Heptachlor	0.207	0.171	0.152	0.120	0.108	0.094	0.142	30.03
10)	Aldrin	0.215	0.205	0.201	0.198	0.191	0.169	0.196	7.86
11)	DCPA (Dacthal)	0.803	0.770	0.731	0.728	0.681	0.697	0.735	6.17
12)	Heptachlor epo...	0.314	0.292	0.273	0.267	0.255	0.245	0.274	9.27
13)	Oxychlordane	0.152	0.153	0.143	0.158	0.133	0.154	0.149	6.14
14) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
15) S	(PCB112)	4.607	4.679	4.627	4.539	4.519	4.478	4.575	1.65
16) S	(PCB198)	1.327	1.350	1.382	1.374	1.347	1.297	1.346	2.30
17)	Chlordane-gamma	2.205	2.054	1.946	1.784	1.660	1.655	1.884	11.83
18)	2,4'-DDE	5.495	5.396	5.226	4.964	4.646	4.711	5.073	7.00
19)	Endosulfan-I	0.349	0.327	0.323	0.302	0.314	0.396	0.335	9.99
20)	Chlordane-alpha	2.123	2.016	1.876	1.718	1.579	1.642	1.826	11.83
21)	trans-Nonachlor	2.396	2.229	2.068	1.844	1.624	1.643	1.967	16.08
22)	4,4'-DDE	3.951	3.815	3.677	3.497	3.225	3.230	3.566	8.47
23)	Dieldrin	0.511	0.489	0.476	0.448	0.448	0.389	0.460	9.22
24)	2,4'-DDD	6.376	5.884	5.359	5.025	4.669	5.360	5.445	11.18
25)	Perthane	1.068	0.909	0.768	0.638	0.539	0.629	0.758	E1 26.23
26)	Endrin	0.455	0.408	0.380	0.322	0.305	0.340	0.368	15.47
27)	Endosulfan-II	0.292	0.277	0.261	0.258	0.254	0.274	0.269	5.41
28)	4,4'-DDD	6.104	5.401	4.756	4.427	3.568	4.537	4.799	18.14
29)	2,4'-DDT	4.008	3.240	2.634	1.806	1.245	0.678	2.269	55.40
30)	cis-Nonachlor	2.340	2.191	2.025	1.777	1.521	1.626	1.914	16.96
31)	Endrin aldehyde	0.590	0.453	0.411	0.423	0.387	0.238	0.417	27.23
32)	Endosulfan sul...	0.950	0.841	0.768	0.684	0.585	0.700	0.755	17.06
33)	4,4'-DDT	3.280	2.276	1.614	0.863	0.466	0.124	1.437	83.09
34)	Endrin ketone	0.908	0.768	0.663	0.532	0.449	0.465	0.631	28.99
35)	Methoxychlor	5.539	3.649	2.536	1.381	0.752	0.247	2.351	84.66
36)	Dicofol	0.686	0.416	0.226	0.066			0.348	76.55
37)	Mirex	2.720	2.489	2.370	2.095	1.841	1.912	2.238	15.44

(#) = Out of Range

Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
Method File : Q_DDMU_140502.M
Title : CHCs
Last Update : Fri May 09 07:23:47 2014
Response Via : Initial Calibration

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Calibration Files

1000=OCP1000.D 500 =OCP500.D 250 =OCP250.D 100 =OCP100.D 50 =OCP50.D 25 =OCP25.D

	Compound	1000	500	250	100	50	25	Avg	%RSD
1) I	2,2',5,5'-Tetrabro...								
2)	4,4'-DDMU	6.781	6.515	6.177	5.575	5.137	5.179	5.894	11.85

(#) = Out of Range

PHYSIS

Continuing Calibration Data

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Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP_PAH_PCB_SPEX500_100.D
 Acq On : 31 May 2014 07:56 pm
 Operator :
 Sample : OCP_PAH_PCB_SPEX500_100
 Misc :
 ALS Vial : 91 Sample Multiplier: 1

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Quant Time: Jun 04 14:06:16 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_OCP+3_140502.M
 Quant Title : CHCs
 QLast Update : Fri May 09 07:23:47 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	39.837	312	2139944	1000.00		0.03
14) 2,2',5,5'-Tetrabromobi...	50.837	391	398788	1000.00		-0.02
System Monitoring Compounds						
2) (TCMX)	25.526	244	367901	412.05		-0.02
Spiked Amount	400.000		Recovery	=	103.01%	
3) (PCB030)	30.561	256	900731	385.79		-0.02
Spiked Amount	400.000		Recovery	=	96.45%	
15) (PCB112)	45.033	326	821063	450.06		-0.03
Spiked Amount	400.000		Recovery	=	112.52%	
16) (PCB198)	59.181	358	184223m	343.18		-0.01
Spiked Amount	400.000		Recovery	=	85.80%	
Target Compounds						Qvalue
4) BHC-alpha	28.412	219	376506	578.29		97
5) Hexachlorobenzene	29.019	284	1139588	612.84		98
6) BHC-beta	30.584	219	184266	1160.81	#	90
7) BHC-gamma	30.812	219	242338m	614.20		
8) BHC-delta	32.751	219	209884m	489.14		
9) Heptachlor	36.081	272	246109	585.06		99
10) Aldrin	38.582	263	259808	572.59		97
11) DCPA (Dacthal)	39.718	301	975580	575.20		99
12) Heptachlor epoxide	41.562	353	374240	568.49		98
13) Oxychlordane	41.642	115	212252m	654.11		
17) Chlordane-gamma	43.321	373	523818	608.12		96
18) 2,4'-DDE	43.825	246	1312604	603.12		97
19) Endosulfan-I	44.153	241	79187	579.02		95
20) Chlordane-alpha	44.424	373	511438	614.60		97
21) trans-Nonachlor	44.816	409	573316	613.50		97
22) 4,4'-DDE	46.175	246	875991	562.16		97
23) Dieldrin	46.044	263	107616	535.00		97
24) 2,4'-DDD	46.735	235	1468256	591.81		99
25) Perthane	48.042	223	2093110	514.89		99
26) Endrin	47.565	263	90759	516.01	#	90
27) Endosulfan-II	48.268	241	54830	477.75		94
28) 4,4'-DDD	49.184	235	988451	420.84		98
29) 2,4'-DDT	49.316	235	883836m	650.81		
30) cis-Nonachlor	49.297	409	555867	608.37		97
31) Endrin aldehyde	49.635	345	131502	595.40		95
32) Endosulfan sulfate	51.342	272	186995	510.62		95
33) 4,4'-DDT	51.795	235	459534	515.16		96
34) Endrin ketone	54.513	317	170552	493.75		98
35) Methoxychlor	55.962	227	714830	501.80	#	96
36) Dicofol	55.872	139	27810m	265.69		
37) Mirex	58.344	272	572673	541.33		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP500_PCB100CCV.D
 Acq On : 29 May 2014 08:25 am
 Operator :
 Sample : OCP500_PCB100CCV
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Jun 04 14:10:03 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_OCP+3_140502.M
 Quant Title : CHCs
 QLast Update : Fri May 09 07:23:47 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	39.822	312	2427255	1000.00		0.02
14) 2,2',5,5'-Tetrabromobi...	50.855	391	503919	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)	25.542	244	433929	428.47		0.00
Spiked Amount	400.000		Recovery	=	107.12%	
3) (PCB030)	30.576	256	1167665	440.93		0.00
Spiked Amount	400.000		Recovery	=	110.23%	
15) (PCB112)	45.049	326	994864	431.56		-0.01
Spiked Amount	400.000		Recovery	=	107.89%	
16) (PCB198)	59.191	358	244215	360.02		0.00
Spiked Amount	400.000		Recovery	=	90.00%	
Target Compounds						
					Qvalue	
4) BHC-alpha	28.427	219	378199	512.13		98
5) Hexachlorobenzene	29.039	284	1127531	534.58		99
6) BHC-beta	30.599	219	37783m	209.85		
7) BHC-gamma	30.833	219	219865	491.28		95
8) BHC-delta	32.771	219	228708m	469.92		
9) Heptachlor	36.092	272	246204	516.01		98
10) Aldrin	38.604	263	281915	547.77		98
11) DCPA (Dacthal)	39.734	301	1007282	523.59		99
12) Heptachlor epoxide	41.582	353	403336	540.17		99
13) Oxychlorane	41.662	115	223729m	607.87		
17) Chlordane-gamma	43.344	373	555814	510.64		96
18) 2,4'-DDE	43.844	246	1297096	471.65		99
19) Endosulfan-I	44.166	241	84563	489.33		95
20) Chlordane-alpha	44.444	373	533197	507.07		99
21) trans-Nonachlor	44.836	409	604193	511.65		97
22) 4,4'-DDE	46.185	246	970252	492.75		97
23) Dieldrin	46.063	263	126854	499.07		96
24) 2,4'-DDD	46.752	235	1682546	536.70		99
25) Perthane	48.055	223	2713016	528.15		98
26) Endrin	47.585	263	120273	541.15	#	80
27) Endosulfan-II	48.300	241	69518	479.36		95
28) 4,4'-DDD	49.192	235	1410739	475.32		99
29) 2,4'-DDT	49.336	235	876524m	541.34		
30) cis-Nonachlor	49.316	409	565513	489.80		99
31) Endrin aldehyde	49.656	345	148057	530.50		98
32) Endosulfan sulfate	51.368	272	225603	487.52		98
33) 4,4'-DDT	51.812	235	581081	515.40		97
34) Endrin ketone	54.539	317	178378	408.67		94
35) Methoxychlor	55.971	227	1020685	542.50		98
36) Dicofol	55.913	139	46993	318.33	#	70
37) Mirex	58.364	272	639468	478.36		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP500_PCB100FCV.D
 Acq On : 30 May 2014 07:52 am
 Operator :
 Sample : OCP500_PCB100FCV
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Jun 04 14:13:22 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_OCP+3_140502.M
 Quant Title : CHCs
 QLast Update : Fri May 09 07:23:47 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	39.831	312	2546636	1000.00		0.03
14) 2,2',5,5'-Tetrabromobi...	50.849	391	465146	1000.00		-0.01
System Monitoring Compounds						
2) (TCMX)	25.530	244	487893	459.17		-0.02
Spiked Amount	400.000		Recovery	=	114.79%	
3) (PCB030)	30.573	256	1287667	463.45		-0.01
Spiked Amount	400.000		Recovery	=	115.86%	
15) (PCB112)	45.044	326	1033201	485.55		-0.02
Spiked Amount	400.000		Recovery	=	121.39%	
16) (PCB198)	59.181	358	234901m	375.16		-0.01
Spiked Amount	400.000		Recovery	=	93.79%	
Target Compounds						
						Qvalue
4) BHC-alpha	28.418	219	404396	521.94		97
5) Hexachlorobenzene	29.031	284	1255042	567.14		99
6) BHC-beta	30.609	219	35148m	186.06		
7) BHC-gamma	30.824	219	227091	483.64		98
8) BHC-delta	32.761	219	215582m	422.18		
9) Heptachlor	36.084	272	218286	436.05		100
10) Aldrin	38.590	263	299946	555.48		96
11) DCPA (Dacthal)	39.727	301	1068200	529.23		99
12) Heptachlor epoxide	41.569	353	401170	512.08		97
13) Oxychlorane	41.655	115	219729	569.01		92
17) Chlordane-gamma	43.331	373	540343	537.81		96
18) 2,4'-DDE	43.837	246	1343011	529.06		99
19) Endosulfan-I	44.163	241	86683	543.41		92
20) Chlordane-alpha	44.433	373	526703	542.65		99
21) trans-Nonachlor	44.823	409	584733	536.45		97
22) 4,4'-DDE	46.182	246	979538	538.94		97
23) Dieldrin	46.050	263	121214	516.63		92
24) 2,4'-DDD	46.745	235	1660966	573.98		99
25) Perthane	48.049	223	2493110	525.80		98
26) Endrin	47.573	263	101870	496.55	#	81
27) Endosulfan-II	48.284	241	63652	475.50		95
28) 4,4'-DDD	49.192	235	1198802	437.58		99
29) 2,4'-DDT	49.336	235	747083m	508.88		
30) cis-Nonachlor	49.308	409	535005	502.00		96
31) Endrin aldehyde	49.647	345	133240	517.20		90
32) Endosulfan sulfate	51.357	272	194302	454.88		94
33) 4,4'-DDT	51.808	235	389303	414.58		97
34) Endrin ketone	54.530	317	144316	358.19	#	60
35) Methoxychlor	55.973	227	625820	416.20		98
36) Dicofol	55.903	139	17727m	179.35		
37) Mirex	58.350	272	517272	419.20		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	OCP500 ICV			OCP500 CCV			OCP500 FCV		
	5/31/14 7:56 PM			5/29/14 8:25 AM			5/30/14 7:52 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
TCMX	400	412	3	400	428	7	400	459	15
PCB030	400	386	4	400	441	10	400	463	16
PCB112	400	450	13	400	432	8	400	486	21
PCB198	400	343	14	400	360	10	400	375	6
BHC-alpha	500	578	16	500	512	2	500	522	4
Hexachlorobenzene	500	613	23	500	535	7	500	567	13
BHC-beta	500	1161	132	500	210	58	500	186	63
BHC-gamma	500	614	23	500	491	2	500	484	3
BHC-delta	500	489	2	500	470	6	500	422	16
Heptachlor	500	585	17	500	516	3	500	436	13
Aldrin	500	573	15	500	548	10	500	555	11
DCPA (Dacthal)	500	575	15	500	524	5	500	529	6
Heptachlor Epoxide	500	568	14	500	540	8	500	512	2
Oxychlordane	500	654	31	500	608	22	500	569	14
Chlordane-gamma	500	608	22	500	511	2	500	538	8
2,4'-DDE	500	603	21	500	472	6	500	529	6
Endosulfan-I	500	579	16	500	489	2	500	543	9
Chlordane-alpha	500	615	23	500	507	1	500	543	9
trans-Nonachlor	500	614	23	500	512	2	500	536	7
4,4'-DDE	500	562	12	500	493	1	500	539	8
Dieldrin	500	535	7	500	499	0	500	517	3
2,4'-DDD	500	592	18	500	537	7	500	574	15
Perthane	500	515	3	500	528	6	500	526	5
Endrin	500	516	3	500	541	8	500	497	1
Endosulfan-II	500	478	4	500	479	4	500	476	5
4,4'-DDD	500	421	16	500	475	5	500	438	12
2,4'-DDT	500	651	30	500	541	8	500	509	2
cis-Nonachlor	500	608	22	500	490	2	500	502	0
Endrin Aldehyde	500	595	19	500	531	6	500	517	3
Endosulfan Sulfate	500	511	2	500	488	2	500	455	9
4,4'-DDT	500	515	3	500	515	3	500	415	17
Endrin Ketone	500	494	1	500	409	18	500	358	28
Methoxychlor	500	502	0	500	543	9	500	416	17
Dicofol	500	266	47	500	318	36	500	179	64
Mirex	500	541	8	500	478	4	500	419	16
Average	-	-	18	-	-	8	-	-	13

PHYSIS

PCB Congeners

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Initial Calibration Data

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Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Method File : Q_PCB+6_140502.M
 Title : PCBs (Richs Version)
 Last Update : Mon May 05 16:16:27 2014
 Response Via : Initial Calibration

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Calibration Files

10 =PCB10.D 25 =PCB25.D 50 =PCB50.D 75 =PCB75.D 100 =PCB100.D 200 =PCB200.D

Compound	10	25	50	75	100	200	Avg	%RSD

1) I 4,4'-Dibromobiphenyl	-----ISTD-----							
2) PCB003	1.917	1.953	1.867	1.945	1.790	1.724	1.866	4.92
3) PCB008	1.668	1.432	1.493	1.549	1.553	1.327	1.503	7.75
4) PCB018	0.721	0.759	0.724	0.774	0.718	0.657	0.726	5.57
5) I PCB031	1.145	1.125	1.128	1.153	1.121	1.069	1.124	2.61
6) PCB028	1.073	1.144	1.131	1.172	1.139	1.093	1.125	3.22
7) PCB033	1.003	1.075	1.089	1.128	1.084	1.045	1.071	3.96
8) PCB052	0.703	0.777	0.734	0.773	0.751	0.735	0.745	3.68
9) PCB049	0.787	0.807	0.774	0.819	0.782	0.756	0.788	2.88
10) PCB044	0.661	0.678	0.657	0.671	0.692	0.637	0.666	2.88
11) PCB037	1.036	1.043	1.061	1.092	1.110	1.085	1.071	2.73
12) PCB074	0.982	1.022	1.006	1.039	1.096	1.043	1.031	3.77
13) PCB070	0.993	1.040	1.023	1.089	1.114	1.060	1.053	4.19
14) PCB066	1.020	1.070	1.063	1.111	1.104	1.096	1.077	3.15
15) PCB095	0.689	0.708	0.689	0.733	0.691	0.678	0.698	2.83
16) PCB056(060)	0.887	0.909	0.939	0.951	0.992	0.969	0.941	4.07
17) PCB101	0.705	0.693	0.691	0.730	0.749	0.726	0.716	3.26
18) PCB099	0.755	0.730	0.740	0.789	0.812	0.783	0.768	4.13
19) PCB119	0.830	0.871	0.887	0.908	1.020	0.929	0.908	7.12
20) PCB097	0.600	0.595	0.604	0.633	0.668	0.637	0.623	4.52
21) PCB087	0.605	0.656	0.641	0.676	0.701	0.681	0.660	5.17
22) PCB081	0.983	1.020	1.044	1.057	1.135	1.047	1.048	4.82
23) PCB110	0.886	0.898	0.928	0.950	0.974	0.935	0.928	3.51
24) PCB077	0.908	1.006	1.048	1.056	1.084	1.053	1.026	6.14
25) PCB151	0.596	0.574	0.595	0.603	0.630	0.596	0.599	3.00
26) PCB149	0.599	0.640	0.648	0.689	0.693	0.659	0.654	5.31
27) PCB123	0.876	0.896	0.898	0.891	0.978	0.956	0.916	4.47
28) PCB118	0.938	0.925	0.933	0.988	1.049	1.022	0.976	5.32
29) PCB114	0.802	0.838	0.854	0.878	1.009	0.970	0.892	9.06

30) I 2,2',5,5'-Tetrabro...	-----ISTD-----							
31) PCB153	3.291	3.227	3.171	3.252	3.511	3.361	3.302	3.65
32) PCB168+132	3.094	3.058	3.235	3.288	3.281	3.138	3.182	3.11
33) PCB105	4.800	4.778	4.761	5.006	4.963	4.738	4.841	2.35
34) PCB141	3.182	2.978	3.039	3.081	3.068	2.896	3.041	3.20
35) PCB138	2.977	2.910	2.936	2.957	3.157	3.041	2.996	3.02
36) PCB158	3.678	3.792	3.808	3.885	4.206	4.105	3.912	5.17
37) PCB126	3.976	4.047	4.077	4.065	4.548	4.479	4.199	5.90
38) PCB187	2.432	2.515	2.527	2.587	2.753	2.599	2.569	4.22
39) PCB183	2.476	2.560	2.610	2.641	2.961	2.677	2.654	6.25
40) PCB128	2.635	2.324	2.450	2.537	2.674	2.584	2.534	5.10
41) PCB167	3.640	3.781	3.898	3.960	4.331	4.246	3.976	6.71
42) PCB174	2.396	2.434	2.409	2.512	2.529	2.504	2.464	2.34
43) PCB177	2.234	2.205	2.206	2.393	2.432	2.444	2.319	5.00
44) PCB156	3.536	3.531	3.730	3.751	4.294	4.088	3.822	8.06
45) PCB199(200)	2.725	2.934	2.757	2.980	2.911	2.845	2.859	3.55
46) PCB157	4.909	4.750	4.736	4.921	5.047	5.185	4.925	3.51
47) PCB180	2.429	2.302	2.415	2.448	2.740	2.562	2.483	6.07
48) PCB169	3.383	3.589	3.512	3.546	4.135	4.183	3.725	9.23
49) PCB170	2.378	2.159	2.248	2.357	2.475	2.282	2.316	4.78
50) PCB201	1.991	1.936	1.942	2.039		1.834	1.948	3.93
51) PCB189	2.868	3.084	3.004	3.107	3.396	3.543	3.167	7.98
52) PCB195	1.863	1.910	1.924	1.917	1.869	2.033	1.919	3.18
53) PCB194	1.906	2.101	1.974	2.078	1.981	2.175	2.036	4.86
54) PCB206	1.599	1.697	1.669	1.792	1.881	1.808	1.741	5.96
55) PCB209	1.830	1.981	1.831	2.005	1.789	2.044	1.913	5.69

(#) = Out of Range

Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Method File : Q_PCB6NEW_140502.M
 Title : PCBs (Richs Version)
 Last Update : Mon May 05 16:16:27 2014
 Response Via : Initial Calibration

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Calibration Files

10 =PCB10.D 25 =PCB25.D 50 =PCB50.D 75 =PCB75.D 100 =PCB100.D 200 =PCB200.D

Compound		10	25	50	75	100	200	Avg	%RSD

1) I	4,4'-Dibromobiphenyl	-----ISTD-----							
2)	PCB005	1.278	1.363	1.378	1.425	1.309	1.262	1.336	4.74
3)	PCB015	1.567	1.539	1.528	1.532	1.501	1.437	1.517	2.94
4)	PCB027	0.740	0.765	0.733	0.772	0.735	0.693	0.740	3.77
5)	PCB029	1.069	1.049	1.054	1.055	1.065	1.039	1.055	1.03
6) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
7)	PCB137	2.510	2.332	2.429	2.394	2.801	2.550	2.503	6.63
8)	PCB203	2.137	2.074	2.134	2.157	2.154	2.325	2.164	3.91

(#) = Out of Range

PHYSIS

Continuing Calibration Data

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AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP_PAH_PCB_SPEX500_100.D
 Acq On : 31 May 2014 07:56 pm
 Operator :
 Sample : OCP_PAH_PCB_SPEX500_100
 Misc :
 ALS Vial : 91 Sample Multiplier: 1

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Quant Time: Jun 04 18:23:50 2014

Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M

Quant Title : PCBs (Richs Version)

QLast Update : Mon May 05 16:16:27 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	39.837	312	2139944	1000.00		0.03
30) 2,2',5,5'-Tetrabromobi...	50.840	389	412735	1000.00		-0.02
Target Compounds						
2) PCB003	24.014	188	458069	121.24		Qvalue 97
3) PCB008	28.479	222	357325	119.66	#	96
4) PCB018	31.594	256	166318m	113.81		
5) PCB031	35.025	256	184100m	78.98		
6) PCB028	35.126	256	289817m	121.97		
7) PCB033	35.818	256	242213	106.61		95
8) PCB052	37.653	292	143538	90.43		89
9) PCB049	37.975	292	189870	115.54		93
10) PCB044	39.157	292	152840	109.73		96
11) PCB037	39.487	256	218090	93.63	#	93
12) PCB074	41.810	292	202756	90.27		98
13) PCB070	42.081	292	230761	100.78		96
14) PCB066	42.343	292	261254m	111.32		
15) PCB095	42.338	326	141025	95.98		93
16) PCB056(060)	43.545	292	201438	97.12		98
17) PCB101	44.042	326	166728	106.92		93
18) PCB099	44.433	326	179782	106.91		95
19) PCB119	44.904	326	147709	73.44		97
20) PCB097	45.573	326	126051	92.04		93
21) PCB087	45.959	326	134477	92.13	#	78
22) PCB081	46.055	292	241740	106.35		97
23) PCB110	46.671	326	209920	104.09		97
24) PCB077	46.779	292	238462	105.35		99
25) PCB151	47.543	360	131582	102.13		98
26) PCB149	48.387	360	152371	106.79		91
27) PCB123	48.412	326	192418	94.64		97
28) PCB118	48.585	326	232284	106.61		94
29) PCB114	49.360	326	223611	108.67		98
31) PCB153	50.165	360	124534	89.63		92
32) PCB168+132	50.334	360	318168	242.41		98
33) PCB105	50.448	326	222580	112.28		97
34) PCB141	51.035	360	132357	108.70		96
35) PCB138	52.108	360	121032	96.25	#	93
36) PCB158	52.286	360	189664	112.51		90
37) PCB126	52.804	326	180891	98.96		95
38) PCB187	53.263	394	111296	102.93		89
39) PCB183	53.617	394	118294	105.47		98
40) PCB128	53.982	360	99229	92.95		94
41) PCB167	54.121	360	178248	102.53		92
42) PCB174	54.865	394	103448	100.11		94
43) PCB177	55.242	394	118001	117.94		93
44) PCB156	55.680	360	167398	99.68		99
45) PCB199(200)	56.009	430	141297	119.44		98
46) PCB157	56.061	360	228041	108.08		99
47) PCB180	56.825	394	107449	101.22	#	93
48) PCB169	58.370	360	153023	90.91		98
49) PCB170	58.837	394	95298	99.55		96
50) PCB201	59.384	430	82739m	107.52		
51) PCB189	60.820	394	124403	87.44		99
52) PCB195	61.763	430	76520	93.29		96
53) PCB194	63.133	430	82912	94.63		93
54) PCB206	65.567	464	68159	91.17	#	86
55) PCB209	67.516	498	82680	100.82		94

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
Data File : OCP_PAH_PCB_SPEX500_100.D
Acq On : 31 May 2014 07:56 pm
Operator :
Sample : OCP_PAH_PCB_SPEX500_100
Misc :
ALS Vial : 91 Sample Multiplier: 1

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Quant Time: Jun 04 18:23:50 2014
Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M
Quant Title : PCBs (Richs Version)
QLast Update : Mon May 05 16:16:27 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
----------	------	------	----------	------	-------	----------

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP500_PCB100CCV.D
 Acq On : 29 May 2014 08:25 am
 Operator :
 Sample : OCP500_PCB100CCV
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Jun 04 18:25:07 2014

Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M

Quant Title : PCBs (Richs Version)

QLast Update : Mon May 05 16:16:27 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	39.822	312	2427255	1000.00		0.02
30) 2,2',5,5'-Tetrabromobi...	50.855	389	517155	1000.00		0.00
Target Compounds						
2) PCB003	24.033	188	479820	111.97		Qvalue 99
3) PCB008	28.496	222	405069	119.59	#	98
4) PCB018	31.614	256	197231	118.99		97
5) PCB031	35.030	256	237513	89.83		98
6) PCB028	35.116	256	330438m	122.61		
7) PCB033	35.816	256	281207	109.12		98
8) PCB052	37.661	292	186460	103.57		94
9) PCB049	37.989	292	209989	112.65		94
10) PCB044	39.161	292	173293	109.69		98
11) PCB037	39.473	256	260199	98.48		91
12) PCB074	41.816	292	258901	101.63		98
13) PCB070	42.084	292	258256	99.44		98
14) PCB066	42.352	292	255358	95.92		99
15) PCB095	42.353	326	182879	109.73		98
16) PCB056(060)	43.541	292	246900	104.94		96
17) PCB101	44.064	326	190627	107.78		93
18) PCB099	44.444	326	208300	109.21		95
19) PCB119	44.911	326	217685	95.42		96
20) PCB097	45.595	326	161513	103.97		89
21) PCB087	45.956	326	175627m	106.08		
22) PCB081	46.037	292	275232	106.75		96
23) PCB110	46.680	326	244606	106.93		96
24) PCB077	46.755	292	269608	105.01		98
25) PCB151	47.556	360	160538	109.85		98
26) PCB149	48.407	360	173721	107.34		95
27) PCB123	48.408	326	238799	103.55		97
28) PCB118	48.586	326	259319	104.93		95
29) PCB114	49.356	326	252386	108.13		96
31) PCB153	50.179	360	174863	100.44		99
32) PCB168+132	50.351	360	369913	224.93		97
33) PCB105	50.443	326	250681	100.92		94
34) PCB141	51.054	360	169503	111.10		97
35) PCB138	52.104	360	164423	104.35		92
36) PCB158	52.285	360	225614	106.82	#	90
37) PCB126	52.807	326	220765	96.39	#	90
38) PCB187	53.287	394	145703	107.54		87
39) PCB183	53.634	394	137218	97.64		94
40) PCB128	53.998	360	132362	98.95		94
41) PCB167	54.130	360	224349	102.99		92
42) PCB174	54.879	394	138338	106.84		95
43) PCB177	55.252	394	128641	102.62		95
44) PCB156	55.692	360	202291	96.14		98
45) PCB199(200)	56.028	430	171915	115.98		96
46) PCB157	56.073	360	277151	104.83		99
47) PCB180	56.842	394	137769	103.58		96
48) PCB169	58.359	360	197772	93.78		95
49) PCB170	58.825	394	124138	103.50		97
50) PCB201	59.404	430	117796m	122.17		
51) PCB189	60.817	394	172761	96.91		95
52) PCB195	61.765	430	109518	106.55		95
53) PCB194	63.145	430	114159	103.98		89
54) PCB206	65.584	464	96732	103.26	#	87
55) PCB209	67.536	498	112467	109.45	#	94

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
Data File : OCP500_PCB100CCV.D
Acq On : 29 May 2014 08:25 am
Operator :
Sample : OCP500_PCB100CCV
Misc :
ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Jun 04 18:25:07 2014
Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M
Quant Title : PCBs (Richs Version)
QLast Update : Mon May 05 16:16:27 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
----------	------	------	----------	------	-------	----------

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : OCP500_PCB100FCV.D
 Acq On : 30 May 2014 07:52 am
 Operator :
 Sample : OCP500_PCB100FCV
 Misc :
 ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Jun 04 18:29:43 2014

Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M

Quant Title : PCBs (Richs Version)

QLast Update : Mon May 05 16:16:27 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	39.831	312	2546636	1000.00		0.03
30) 2,2',5,5'-Tetrabromobi...	50.853	389	472938	1000.00		0.00
Target Compounds						
					Qvalue	
2) PCB003	24.048	188	570916	126.98		99
3) PCB008	28.506	222	456032	128.33	#	96
4) PCB018	31.610	256	217117	124.85		97
5) PCB031	35.033	256	297682	107.31		98
6) PCB028	35.122	256	341228	120.67		99
7) PCB033	35.818	256	306079	113.20		98
8) PCB052	37.664	292	184049	97.44		96
9) PCB049	37.981	292	218045	111.49		98
10) PCB044	39.161	292	180843	109.10		98
11) PCB037	39.482	256	258619	93.30	#	89
12) PCB074	41.823	292	234706	87.81		96
13) PCB070	42.087	292	274138	100.60		95
14) PCB066	42.356	292	221076	79.15		95
15) PCB095	42.347	326	186958	106.92		95
16) PCB056(060)	43.546	292	255478	103.50		95
17) PCB101	44.054	326	189921	102.35		94
18) PCB099	44.442	326	199093	99.49		99
19) PCB119	44.913	326	196670	82.17		99
20) PCB097	45.584	326	157815	96.83		94
21) PCB087	45.956	326	181520m	104.50		
22) PCB081	46.048	292	276281	102.13		97
23) PCB110	46.680	326	249991	104.16		99
24) PCB077	46.779	292	267704	99.38		98
25) PCB151	47.555	360	151087	98.54		95
26) PCB149	48.404	360	177518	104.55		89
27) PCB123	48.416	326	237097	98.00		99
28) PCB118	48.590	326	260833	100.60		91
29) PCB114	49.360	326	253297	103.44		98
31) PCB153	50.180	360	158256	99.40		96
32) PCB168+132	50.344	360	358660	238.47		96
33) PCB105	50.448	326	246432	108.49		97
34) PCB141	51.053	360	155256	111.28		92
35) PCB138	52.115	360	149363	103.66		92
36) PCB158	52.287	360	210783	109.12		90
37) PCB126	52.836	326	195072	93.13	#	91
38) PCB187	53.274	394	134035m	108.18		
39) PCB183	53.642	394	135319	105.29		100
40) PCB128	54.004	360	113665	92.92		96
41) PCB167	54.142	360	207982	104.41		91
42) PCB174	54.876	394	123083	103.95		98
43) PCB177	55.250	394	117004	102.06		93
44) PCB156	55.704	360	172553	89.67		98
45) PCB199(200)	56.026	430	159157	117.42		97
46) PCB157	56.078	360	242078	100.13		97
47) PCB180	56.842	394	124589	102.42		95
48) PCB169	58.383	360	164212	85.14		95
49) PCB170	58.837	394	110330	100.58	#	91
50) PCB201	59.415	430	111477m	126.43		
51) PCB189	60.831	394	136868	83.95		99
52) PCB195	61.772	430	88110	93.74		95
53) PCB194	63.146	430	92085	91.72	#	88
54) PCB206	65.588	464	76954	89.83	#	87
55) PCB209	67.528	498	86022	91.54		99

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
Data File : OCP500_PCB100FCV.D
Acq On : 30 May 2014 07:52 am
Operator :
Sample : OCP500_PCB100FCV
Misc :
ALS Vial : 105 Sample Multiplier: 1

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Quant Time: Jun 04 18:29:43 2014
Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PCB+6_140502.M
Quant Title : PCBs (Richs Version)
QLast Update : Mon May 05 16:16:27 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
----------	------	------	----------	------	-------	----------

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PCB100 ICV			PCB100 CCV			PCB100 FCV		
	5/31/14 7:56 PM			5/29/14 8:25 AM			5/30/14 7:52 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PCB003	100	121	21	100	112	12	100	127	27
PCB008	100	120	20	100	120	20	100	128	28
PCB018	100	114	14	100	119	19	100	125	25
PCB031	100	79	21	100	90	10	100	107	7
PCB028	100	122	22	100	123	23	100	121	21
PCB033	100	107	7	100	109	9	100	113	13
PCB052	100	90	10	100	104	4	100	97	3
PCB049	100	116	16	100	113	13	100	111	11
PCB044	100	110	10	100	110	10	100	109	9
PCB037	100	94	6	100	98	2	100	93	7
PCB074	100	90	10	100	102	2	100	88	12
PCB070	100	101	1	100	99	1	100	101	1
PCB066	100	111	11	100	96	4	100	79	21
PCB095	100	96	4	100	110	10	100	107	7
PCB056 (060)	100	97	3	100	105	5	100	104	4
PCB101	100	107	7	100	108	8	100	102	2
PCB099	100	107	7	100	109	9	100	99	1
PCB119	100	73	27	100	95	5	100	82	18
PCB097	100	92	8	100	104	4	100	97	3
PCB087	100	92	8	100	106	6	100	105	5
PCB081	100	106	6	100	107	7	100	102	2
PCB110	100	104	4	100	107	7	100	104	4
PCB077	100	105	5	100	105	5	100	99	1
PCB151	100	102	2	100	110	10	100	99	1
PCB149	100	107	7	100	107	7	100	105	5
PCB123	100	95	5	100	104	4	100	98	2
PCB118	100	107	7	100	105	5	100	101	1
PCB114	100	109	9	100	108	8	100	103	3
PCB153	100	90	10	100	100	0	100	99	1
PCB168+132	200	242	21	200	225	12	200	238	19
PCB105	100	112	12	100	101	1	100	108	8
PCB141	100	109	9	100	111	11	100	111	11
PCB138	100	96	4	100	104	4	100	104	4
PCB158	100	113	13	100	107	7	100	109	9
PCB126	100	99	1	100	96	4	100	93	7
PCB187	100	103	3	100	108	8	100	108	8
PCB183	100	105	5	100	98	2	100	105	5
PCB128	100	93	7	100	99	1	100	93	7
PCB167	100	103	3	100	103	3	100	104	4
PCB174	100	100	0	100	107	7	100	104	4
PCB177	100	118	18	100	103	3	100	102	2
PCB156	100	100	0	100	96	4	100	90	10
PCB199 (200)	100	119	19	100	116	16	100	117	17
PCB157	100	108	8	100	105	5	100	100	0
PCB180	100	101	1	100	104	4	100	102	2
PCB169	100	91	9	100	94	6	100	85	15
PCB170	100	100	0	100	104	4	100	101	1
PCB201	100	108	8	100	122	22	100	126	26
PCB189	100	87	13	100	97	3	100	84	16
PCB195	100	93	7	100	107	7	100	94	6
PCB194	100	95	5	100	104	4	100	92	8
PCB206	100	91	9	100	103	3	100	90	10
PCB209	100	101	1	100	109	9	100	92	8
Average	-	-	9	-	-	7	-	-	9

Polynuclear

Aromatic

Hydrocarbons

(PAHs)

PHYSIS

Summary of Internal Standards

TERRA FACTORY AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

	D10-Anthracene		D-12 Perylene	
	Response	Retention Time	Response	Retention Time
Spex_500ICV	8518860	31.776	6676846	76.304
B_4006	18797637	31.763	4879235	76.339
BS1_6004	31034611	31.746	11881540	76.279
BS2_6004	22460040	31.754	12298059	76.287
22571MS1	22559348	31.745	8852006	76.272
22571MS2	24322752	31.744	11158657	76.266
22576	22582235	31.746	7689117	76.283
22551	33341759	31.747	13965349	76.263
22552	22210350	31.749	10257717	76.261
22553	25818801	31.749	12463985	76.266
22554	28158917	31.747	11730646	76.274
22555	29573722	31.745	13259406	76.268
22556	23414489	31.75	9935255	76.287
PAH500CCV	15646537	31.785	13145490	76.301
22557	25592442	31.749	7234553	76.305
22571	24936917	31.754	10580983	76.282
22571R2	19644983	31.752	9093758	76.283
22572	21823474	31.749	8802667	76.296
22573	29033002	31.743	10270644	76.258
22574	21236974	31.756	9740521	76.28
22575	26494227	31.749	8608615	76.305
22599	21764890	31.75	8032114	76.275
22600	23906778	31.753	10682688	76.271
PAH500FCV	17294450	31.783	12336687	76.306

PHYSIS

Initial Calibration Data

TERRA

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\

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Method File : Q_PAH140411.M

Title : PAH

Last Update : Tue Jun 03 11:29:59 2014

Response Via : Initial Calibration

Calibration Files

500 =SPEXMIX500_100ICV.D 250 =PAH250.D 1000=PAH1000.D 100 =PAH100.D 50 =PAH50.D 25 =PAH25.D

Compound		500	250	1000	100	50	25	Avg	%RSD

1) I	d10-Anthracene	-----ISTD-----							
2) S	(d8-Naphthalene)	1.213	1.007	0.376	0.923	0.870	0.885	0.879	31.49
3) S	(d10-Acenaphth...	0.671	0.606	0.519	0.573	0.548	0.553	0.578	9.29
4) S	(d10-Phenanthr...	1.058	1.054	1.045	1.054	1.034	1.037	1.047	0.93
5) S	(d12-Chrysene)	1.109	1.189	1.230	1.170	1.241	1.224	1.194	4.16
6) S	(d12-Perylene)	1.082	1.162	1.202	1.129	1.244	1.208	1.171	5.04
7)	Naphthalene	1.169	0.977		0.883	0.839	0.851	0.944	14.52
8)	2-Methylnaphth...	0.823	0.707		0.655	0.622	0.625	0.686	12.20
9)	1-Methylnaphth...	0.729	0.631		0.582	0.553	0.558	0.611	11.95
10)	Biphenyl	1.013	0.888		0.831	0.781	0.787	0.860	11.12
11)	2,6-Dimethylna...	0.737	0.656		0.608	0.572	0.577	0.630	10.88
12)	Acenaphthylene	1.089	0.960		0.919	0.872	0.886	0.945	9.21
13)	Acenaphthene	0.704	0.630		0.602	0.570	0.570	0.615	9.09
14)	2,3,5-Trimethy...	0.673	0.625	0.577	0.596	0.564	0.587	0.604	6.60
15)	Fluorene	0.787	0.732	0.694	0.709	0.706	0.726	0.726	4.59
16)	Dibenzothiophene	1.022	1.009	0.985	1.001	0.981	0.990	0.998	1.59
17)	Phenanthrene	1.081	1.065	1.060	1.053	1.026	1.012	1.050	2.46
18)	Anthracene	1.047	1.043	1.059	1.031	1.010	1.018	1.035	1.79
19)	1-Methylphenan...	0.750	0.775	0.822	0.774	0.753	0.795	0.778	3.51
20)	Fluoranthene	1.105	1.146	1.215	1.137	1.143	1.151	1.149	3.13
21)	Pyrene	1.127	1.179	1.220	1.178	1.174	1.176	1.176	2.52
22)	Benz[a]anthracene	1.067	1.125	1.177	1.117	1.192	1.205	1.147	4.62
23)	Chrysene	1.045	1.107	1.157	1.096	1.155	1.141	1.117	3.87
24)	Benzo[b]fluora...	1.144	1.217	1.232	1.158	1.216	1.209	1.196	3.01
25)	Benzo[k]fluora...	1.250	1.322	1.339	1.259	1.421	1.312	1.317	4.71
26)	Benzo[e]pyrene	1.142	1.221	1.198	1.176	1.244	1.279	1.210	4.04
27)	Benzo[a]pyrene	1.122	1.198	1.196	1.123	1.235	1.198	1.179	3.90
28)	Perylene	1.136	1.220	1.212	1.164	1.271	1.283	1.214	4.75

29) I	d12-Benzo[g,h,i]pe...	-----ISTD-----							
30)	Indeno[1,2,3-c...	1.359	1.351	1.394	1.332	1.320	1.250	1.334	3.64
31)	Dibenz[a,h]ant...	1.340	1.322	1.355	1.310	1.308	1.376	1.335	2.04
32)	Benzo[g,h,i]pe...	1.417	1.451	1.416	1.450	1.419	1.448	1.434	1.25

(#)= Out of Range

PHYSIS

Continuing Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : SPEXMIX500_100ICV.D
 Acq On : 27 May 2014 06:56 pm
 Operator :
 Sample : SPEXMIX500_100ICV
 Misc :
 ALS Vial : 106 Sample Multiplier: 1

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Quant Time: Jun 03 11:29:21 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Mon Apr 21 14:15:24 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	31.776	188	8518860m	2000.00		-0.48
29) d12-Benzo[g,h,i]perylene	76.304	288	6676846m	2000.00		-0.51
System Monitoring Compounds						
2) (d8-Naphthalene)	12.764	136	4957453	1324.16		-0.44
3) (d10-Acenaphthene)	20.622	164	2588207m	1050.57		-0.73
4) (d10-Phenanthrene)	31.370	188	4056019m	909.48		-0.50
5) (d12-Chrysene)	55.037	240	4012162	788.93		0.27
6) (d12-Perylene)	67.179	264	3927635m	787.24		0.73
Target Compounds						
					Qvalue	
7) Naphthalene	12.817	128	2781091m	582.81		
8) 2-Methylnaphthalene	15.212	142	1754255m	518.84		
9) 1-Methylnaphthalene	15.648	142	1829316m	609.92		
10) Biphenyl	17.435	154	2098982m	502.06		
11) 2,6-Dimethylnaphthalene	18.226	156	1476545m	484.14		
12) Acenaphthylene	19.678	152	2180190m	484.29		
13) Acenaphthene	20.815	153	1537162m	526.33		
14) 2,3,5-Trimethylnaphtha...	23.504	170	1209169m	475.04		
15) Fluorene	24.225	166	1697983m	558.93		
16) Dibenzothiophene	30.528	184	2201167m	520.47		
17) Phenanthrene	31.543	178	2420888m	534.07		
18) Anthracene	31.919	178	1815946m	403.85		
19) 1-Methylphenanthrene	36.984	192	1593101	464.03		98
20) Fluoranthene	41.906	202	2356823	465.05		100
21) Pyrene	43.758	202	2495067	488.08		100
22) Benz[a]anthracene	54.925	228	2007156	408.45		100
23) Chrysene	55.253	228	2240664m	464.10		
24) Benzo[b]fluoranthene	64.266	252	2335100m	451.58		
25) Benzo[k]fluoranthene	64.459	252	2355938m	418.62		
26) Benzo[e]pyrene	66.337	252	2186566m	431.96		
27) Benzo[a]pyrene	66.702	252	2160880m	429.20		
28) Perylene	67.362	252	2060656m	403.93		
30) Indeno[1,2,3-c,d]pyrene	74.873	276	2197250m	475.43		
31) Dibenz[a,h]anthracene	75.167	278	2213477m	490.96		
32) Benzo[g,h,i]perylene	76.456	276	2517025m	531.61		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : PAH500CCV.D
 Acq On : 29 May 2014 05:07 am
 Operator :
 Sample : PAH500CCV
 Misc :
 ALS Vial : 103 Sample Multiplier: 1

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Quant Time: Jun 03 11:31:30 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Tue Jun 03 11:29:59 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	31.785	188	15646537	2000.00		0.00
29) d12-Benzo[g,h,i]perylene	76.301	288	13145490	2000.00		0.00
System Monitoring Compounds						
2) (d8-Naphthalene)	12.757	136	7810003	1135.78		0.00
3) (d10-Acenaphthene)	20.615	164	4607840	1018.33		0.00
4) (d10-Phenanthrene)	31.376	188	7494227	914.92		0.00
5) (d12-Chrysene)	55.053	240	8040594	860.82		0.02
6) (d12-Perylene)	67.185	264	8087048	882.53		0.00
Target Compounds						Qvalue
7) Naphthalene	12.814	128	3705517	422.79		100
8) 2-Methylnaphthalene	15.204	142	2567847	413.50		99
9) 1-Methylnaphthalene	15.637	142	2334673	423.81		98
10) Biphenyl	17.438	154	3222929	419.72		100
11) 2,6-Dimethylnaphthalene	18.229	156	2424066	432.75		99
12) Acenaphthylene	19.669	152	3643391	440.64		100
13) Acenaphthene	20.804	153	2388287	445.23		97
14) 2,3,5-Trimethylnaphtha...	23.506	170	2335638	499.58		98
15) Fluorene	24.237	166	2669326	478.40		99
16) Dibenzothiophene	30.533	184	3518093	452.91		100
17) Phenanthrene	31.552	178	3814244	458.14		100
18) Anthracene	31.929	178	3794476	459.44		100
19) 1-Methylphenanthrene	37.005	192	2784998	441.66		98
20) Fluoranthene	41.932	202	3976449	427.20		100
21) Pyrene	43.779	202	4114157	438.18		100
22) Benz[a]anthracene	54.939	228	3645588	403.91		100
23) Chrysene	55.274	228	3770149	425.16		100
24) Benzo[b]fluoranthene	64.273	252	3807436	400.89		100
25) Benzo[k]fluoranthene	64.473	252	4191122	405.46		100
26) Benzo[e]pyrene	66.338	252	3834161	412.40		100
27) Benzo[a]pyrene	66.714	252	3819835	413.08		100
28) Perylene	67.376	252	3977279	424.47		100
30) Indeno[1,2,3-c,d]pyrene	74.876	276	3886134	427.09		100
31) Dibenz[a,h]anthracene	75.177	278	3894567	438.76		100
32) Benzo[g,h,i]perylene	76.465	276	4275013	458.60		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : PAH500FCV.D
 Acq On : 30 May 2014 04:35 am
 Operator :
 Sample : PAH500FCV
 Misc :
 ALS Vial : 103 Sample Multiplier: 1

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Quant Time: Jun 03 11:33:54 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PAH140411.M
 Quant Title : PAH
 QLast Update : Tue Jun 03 11:29:59 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	31.783	188	17294450	2000.00		0.00
29) d12-Benzo[g,h,i]perylene	76.306	288	12336687	2000.00		0.00
System Monitoring Compounds						
2) (d8-Naphthalene)	12.755	136	8382739	1102.92		0.00
3) (d10-Acenaphthene)	20.615	164	4977593	995.22		0.00
4) (d10-Phenanthrene)	31.374	188	8153550	900.57		0.00
5) (d12-Chrysene)	55.056	240	8719891	844.59		0.02
6) (d12-Perylene)	67.191	264	8293354	818.81		0.01
Target Compounds						Qvalue
7) Naphthalene	12.813	128	3987124	411.57		100
8) 2-Methylnaphthalene	15.210	142	2773251	404.02		98
9) 1-Methylnaphthalene	15.639	142	2481032	407.47		99
10) Biphenyl	17.443	154	3469986	408.84		100
11) 2,6-Dimethylnaphthalene	18.239	156	2606601	420.99		99
12) Acenaphthylene	19.670	152	3943309	431.47		100
13) Acenaphthene	20.809	153	2583556	435.74		98
14) 2,3,5-Trimethylnaphtha...	23.505	170	2480681	480.05		98
15) Fluorene	24.240	166	2915245	472.69		97
16) Dibenzothiophene	30.531	184	3861933	449.80		100
17) Phenanthrene	31.551	178	4158243	451.87		100
18) Anthracene	31.927	178	4194729	459.51		100
19) 1-Methylphenanthrene	37.019	192	2987880	428.68		98
20) Fluoranthene	41.951	202	4194723	407.71		100
21) Pyrene	43.795	202	4349973	419.15		100
22) Benz[a]anthracene	54.947	228	3767813	377.68		100
23) Chrysene	55.278	228	4089631	417.25		100
24) Benzo[b]fluoranthene	64.281	252	3834927	365.31		100
25) Benzo[k]fluoranthene	64.477	252	4321996	378.28		100
26) Benzo[e]pyrene	66.340	252	3863132	375.92		100
27) Benzo[a]pyrene	66.723	252	3843950	376.08		100
28) Perylene	67.379	252	4024005	388.54		100
30) Indeno[1,2,3-c,d]pyrene	74.886	276	3434400	402.19		100
31) Dibenz[a,h]anthracene	75.193	278	3566536	428.14		100
32) Benzo[g,h,i]perylene	76.470	276	3970276	453.83		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PAH500 ICV			PAH500 CCV			PAH500 FCV		
	5/27/14 6:56 PM			5/29/14 5:07 AM			5/30/14 4:35 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
d8-Naphthalene	1000	1324	32	1000	1136	14	1000	1103	10
d10-Acenaphthene	1000	1051	5	1000	1018	2	1000	995	0
d10-Phenanthrene	1000	909	9	1000	915	9	1000	901	10
d10-Chrysene	1000	789	21	1000	861	14	1000	845	16
d12-Perylene	1000	787	21	1000	883	12	1000	819	18
Naphthalene	500	583	17	500	423	15	500	412	18
2-Methylnaphthalene	500	519	4	500	414	17	500	404	19
1-Methylnaphthalene	500	610	22	500	424	15	500	407	19
Biphenyl	500	502	0	500	420	16	500	409	18
2,6-Dimethylnaphthalene	500	484	3	500	433	13	500	421	16
Acenaphthylene	500	484	3	500	441	12	500	431	14
Acenaphthene	500	526	5	500	445	11	500	436	13
2,3,5-Trimethylnaphthalene	500	475	5	500	500	0	500	480	4
Fluorene	500	559	12	500	478	4	500	473	5
Dibenzothiophene	500	520	4	500	453	9	500	450	10
Phenanthrene	500	534	7	500	458	8	500	452	10
Anthracene	500	404	19	500	459	8	500	460	8
1-Methylphenanthrene	500	464	7	500	442	12	500	429	14
Fluoranthene	500	465	7	500	427	15	500	408	18
Pyrene	500	488	2	500	438	12	500	419	16
Benz[a]anthracene	500	408	18	500	404	19	500	378	24
Chrysene	500	464	7	500	425	15	500	417	17
Benzo[b]fluoranthene	500	452	10	500	401	20	500	365	27
Benzo[k]fluoranthene	500	419	16	500	405	19	500	378	24
Benzo[e]pyrene	500	432	14	500	412	18	500	376	25
Benzo[a]pyrene	500	429	14	500	413	17	500	376	25
Perylene	500	404	19	500	424	15	500	389	22
Indeno[1,2,3-c,d]pyrene	500	475	5	500	427	15	500	402	20
Dibenz[a,h]anthracene	500	491	2	500	439	12	500	428	14
Benzo[g,h,i]perylene	500	532	6	500	459	8	500	454	9
Average	-	-	11	-	-	13	-	-	15

Organics - GC-MS-NCI

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Innovative Analytical Solutions
(EPA 8270C)

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Instrument Run Log

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

2013 Nov 14 1434 Sequence Log .LOG
Starting sequence Thu Nov 14 14:34:14 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MASSHUNTER\GCMS\1\SEQUENCE\131113 NCI . sequence. xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131114 NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX	HEX_NCI	HEX
2)	Sample	121	FIP25	PYR_NCI	FIP25
3)	Sample	122	FIP50	PYR_NCI	FIP50
4)	Sample	123	FIP100	PYR_NCI	FIP100
5)	Sample	124	FIP250	PYR_NCI	FIP250
6)	Sample	125	FIP500	PYR_NCI	FIP500
7)	Sample	126	FIP1000	PYR_NCI	FIP1000
8)	Sample	131	PYR25	PYR_NCI	PYR25
9)	Sample	132	PYR50	PYR_NCI	PYR50
10)	Sample	133	PYR100	PYR_NCI	PYR100
11)	Sample	134	PYR250	PYR_NCI	PYR250
12)	Sample	135	PYR500	PYR_NCI	PYR500
13)	Sample	136	PYR1000	PYR_NCI	PYR1000
14)	Sample	138	TRAL01000I CV		
	Datafile		TRAL01000I CV		
	Method		PYR_NCI		
15)	Sample	101	TOX10000I CV		
	Datafile		TOX10000I CV		
	Method		PYR_NCI		
16)	Sample	137	PYR1000SPEX		
	Datafile		PYR1000SPEX		
	Method		PYR_NCI		
17)	Sample	141	HEX2	HEX_NCI	HEX2
18)	Sample	1	B_5039	PYR_NCI	B_5039
19)	Sample	2	BS1_5039	PYR_NCI	BS1_5039
20)	Sample	3	BS2_5039	PYR_NCI	BS2_5039
21)	Sample	4	22571MS1	PYR_NCI	22571MS1
22)	Sample	5	22571MS2	PYR_NCI	22571MS2
23)	Sample	141	HEX3	HEX_NCI	HEX3
24)	Sample	6	22576	PYR_NCI	22576
25)	Sample	7	22551	PYR_NCI	22551
26)	Sample	31	22551RE	PYR_NCI	22551RE
27)	Sample	8	22552	PYR_NCI	22552
28)	Sample	9	22553	PYR_NCI	22553
29)	Sample	10	22554	PYR_NCI	22554
30)	Sample	11	22555	PYR_NCI	22555
31)	Sample	12	22556	PYR_NCI	22556
32)	Sample	13	22557	PYR_NCI	22557
33)	Sample	126	FIP1000CCV		
	Datafile		FIP1000CCV		
	Method		PYR_NCI		
34)	Sample	136	PYR1000CCV		
	Datafile		PYR1000CCV		
	Method		PYR_NCI		
35)	Sample	101	TOX10000CCV		
	Datafile		TOX10000CCV		
	Method		PYR_NCI		
36)	Sample	141	HEX4	HEX_NCI	HEX4
37)	Sample	14	22571	PYR_NCI	22571
38)	Sample	15	22571R2	PYR_NCI	22571R2
39)	Sample	16	22572	PYR_NCI	22572

2013 Nov 14 1434 Sequence Log .LOG

Sat Nov 16 07:01:04 2013

Fatal sequence error detected.

MS is in fault state: QqQ fault detected: 2.5 Emission current controller cannot regulate the requested setting after a fixed amount of time.

D: \MassHunter\GCMS\1\data\131114 NCI\2013 Nov 14 1434 Sequence Log .LOG

2013 Nov 17 1108 Sequence Log .LOG
Starting sequence Sat Nov 16 21:56:01 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MASSHUNTER\GCMS\1\SEQUENCE\131113 NCI . sequence. xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131116 NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
33)	Sample	126	FIP1000CCV		
	Datafile		FIP1000CCV		
	Method		PYR_NCI		
34)	Sample	136	PYR1000CCV		
	Datafile		PYR1000CCV		
	Method		PYR_NCI		
35)	Sample	101	TOX10000CCV		
	Datafile		TOX10000CCV		
	Method		PYR_NCI		
36)	Sample	141	HEX4	HEX_NCI	HEX4

Sun Nov 17 01:43:14 2013
Fatal sequence error detected.
There was no bottle in the gripper.

D:\MassHunter\GCMS\1\data\131116 NCI\2013 Nov 16 2156 Sequence Log .LOG

Resuming sequence Sun Nov 17 11:08:57 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MASSHUNTER\GCMS\1\SEQUENCE\131113 NCI . sequence. xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131116 NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
38)	Sample	14	22571RR	PYR_NCI	22571RR
39)	Sample	15	22571R2	PYR_NCI	22571R2
40)	Sample	16	22572	PYR_NCI	22572
41)	Sample	17	22573	PYR_NCI	22573
42)	Sample	17	22573RR	PYR_NCI	22573RR
43)	Sample	18	22574	PYR_NCI	22574
44)	Sample	19	22575	PYR_NCI	22575
45)	Sample	20	22599	PYR_NCI	22599
46)	Sample	21	22600	PYR_NCI	22600
47)	Sample	126	FIP1000FCV		
	Datafile		FIP1000FCV		
	Method		PYR_NCI		
48)	Sample	136	PYR1000FCV		
	Datafile		PYR1000FCV		
	Method		PYR_NCI		
49)	Sample	101	TOX10000FCV		
	Datafile		TOX10000FCV		
	Method		PYR_NCI		

Sequence completed Sun Nov 17 23:52:45 2013

D:\MassHunter\GCMS\1\data\131116 NCI\2013 Nov 17 1108 Sequence Log .LOG

2013 Nov 22 0828 Sequence Log .LOG
Starting sequence Thu Nov 21 19:07:49 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MassHunter\GCMS\1\sequence\131121 PBDE NCI . sequence.xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131121 PBDE NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX	HEX_NCI	HEX

Thu Nov 21 19:41:43 2013
Fatal sequence error detected.
There was no bottle in the gripper.

D:\MassHunter\GCMS\1\data\131121 PBDE NCI\2013 Nov 21 1907 Sequence Log .LOG

Resuming sequence Fri Nov 22 08:28:46 2013

Instrument Name: GCMSQQQ
Sequence File: D:\MassHunter\GCMS\1\sequence\131121 PBDE NCI . sequence.xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\131121 PBDE NCI\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
3)	Sample	121	PBDE10RR		
	Datafile		PBDE10RR		
	Method		NCI -15m PBDE		
4)	Sample	122	PBDE25		
	Datafile		PBDE25		
	Method		NCI -15m PBDE		
5)	Sample	123	PBDE50		
	Datafile		PBDE50		
	Method		NCI -15m PBDE		
6)	Sample	124	PBDE75		
	Datafile		PBDE75		
	Method		NCI -15m PBDE		
7)	Sample	125	PBDE100		
	Datafile		PBDE100		
	Method		NCI -15m PBDE		
8)	Sample	126	PBDE200		
	Datafile		PBDE200		
	Method		NCI -15m PBDE		
9)	Sample	141	HEX2	HEX_NCI	HEX2
10)	Sample	1	B_5039		
	Datafile		B_5039		
	Method		NCI -15m PBDE		
11)	Sample	2	BS1_5039		
	Datafile		BS1_5039		
	Method		NCI -15m PBDE		
12)	Sample	3	BS2_5039		
	Datafile		BS2_5039		
	Method		NCI -15m PBDE		
13)	Sample	4	22571MS1		
	Datafile		22571MS1		
	Method		NCI -15m PBDE		
14)	Sample	5	22571MS2		

2013 Nov 22 0828 Sequence Log .LOG

	Datafile		22571MS2		
	Method		NCI -15m PBDE		
15)	Sample	141	HEX3	HEX_NCI	HEX3
16)	Sample	6	22576		
	Datafile		22576		
	Method		NCI -15m PBDE		
17)	Sample	7	22551RE		
	Datafile		22551RE		
	Method		NCI -15m PBDE		
18)	Sample	8	22552		
	Datafile		22552		
	Method		NCI -15m PBDE		
19)	Sample	9	22553		
	Datafile		22553		
	Method		NCI -15m PBDE		
20)	Sample	10	22554		
	Datafile		22554		
	Method		NCI -15m PBDE		
21)	Sample	11	22555		
	Datafile		22555		
	Method		NCI -15m PBDE		
22)	Sample	126	PBDE200CCV		
	Datafile		PBDE200CCV		
	Method		NCI -15m PBDE		
23)	Sample	141	HEX4	HEX_NCI	HEX4
24)	Sample	12	22556		
	Datafile		22556		
	Method		NCI -15m PBDE		
25)	Sample	13	22557		
	Datafile		22557		
	Method		NCI -15m PBDE		
26)	Sample	14	22571		
	Datafile		22571		
	Method		NCI -15m PBDE		
27)	Sample	15	22571R2		
	Datafile		22571R2		
	Method		NCI -15m PBDE		
28)	Sample	16	22572		
	Datafile		22572		
	Method		NCI -15m PBDE		
29)	Sample	17	22573		
	Datafile		22573		
	Method		NCI -15m PBDE		
30)	Sample	18	22574		
	Datafile		22574		
	Method		NCI -15m PBDE		
31)	Sample	19	22575		
	Datafile		22575		
	Method		NCI -15m PBDE		
32)	Sample	20	22599		
	Datafile		22599		
	Method		NCI -15m PBDE		
33)	Sample	21	22600		
	Datafile		22600		
	Method		NCI -15m PBDE		
34)	Sample	7	22551		
	Datafile		22551		
	Method		NCI -15m PBDE		
35)	Sample	126	PBDE200FCV		
	Datafile		PBDE200FCV		
	Method		NCI -15m PBDE		

Sequence completed Sat Nov 23 05:29:53 2013

2013 Nov 22 0828 Sequence Log .LOG

D:\MassHunter\GCMS\1\data\131121 PBDE NCI\2013 Nov 22 0828 Sequence Log .LOG

2014 May 30 1739 Sequence Log .LOG
Starting sequence Fri May 30 17:39:40 2014

Instrument Name: GCMS3

Sequence File: D:\MassHunter\GCMS\1\sequence\Q3_140524 EI 0-6004. sequence. x
ml

Comment:

Operator:

Data Path: D:\MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\

Method Path: D:\MassHunter\GCMS\1\methods\checkout\

Line	Type	Vials	DataFile	Sample Name
Acquisition Method: EI Scan. M				
48)	Sample	111	TOX1000	TOX1000
49)	Sample	112	TOX2500	TOX2500
50)	Sample	113	TOX5000	TOX5000
51)	Sample	114	TOX7500	TOX7500
52)	Sample	115	TOX10000	TOX10000
53)	Sample	121	PYR25	PYR25
54)	Sample	122	PYR50	PYR50
55)	Sample	123	PYR100	PYR100
56)	Sample	124	PYR250	PYR250
57)	Sample	125	PYR500	PYR500
58)	Sample	131	FIP+RES25	FIP+RES25
59)	Sample	132	FIP+RES50	FIP+RES50
60)	Sample	133	FIP+RES100	FIP+RES100
Sequence Table edit performed Sat May 31 16:12:21 2014				
61)	Sample	134	FIP+RES250	FIP+RES250
62)	Sample	135	FIP+RES500	FIP+RES500
Acquisition Method: EI_HEX. M				
63)	Sample	141	HEX6	HEX6
Acquisition Method: EI Scan. M				
64)	Sample	91	OCP_PAH_PCB_SPE. . . _100	OCP_PAH_PCB_SPEX500_100
Acquisition Method: EI_HEX. M				
65)	Sample	141	HEX7	HEX7
Acquisition Method: EI Scan. M				
66)	Sample	1	B1_6004CC	B1_6004CC
Comment: 22544, NA, B1, 5/16/2014, 0-6004,				
67)	Sample	2	BS1_6004CC	BS1_6004CC
Comment: 22544, NA, BS1, 5/16/2014, 0-6004,				
68)	Sample	3	BS2_6004CC	BS2_6004CC
Comment: 22544, NA, BS2, 5/16/2014, 0-6004,				
69)	Sample	4	22571MS1CC	22571MS1CC
Comment: 22571, NA, MS1, 5/16/2014, 0-6004,				
70)	Sample	5	22571MS2CC	22571MS2CC
Comment: 22571, NA, MS2, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
71)	Sample	141	HEX3CC	HEX3CC
Acquisition Method: EI Scan. M				
72)	Sample	6	22576CC	22576CC
Comment: 22576, NA, CRM1, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
73)	Sample	141	HEX4CC	HEX4CC
Acquisition Method: EI Scan. M				
74)	Sample	7	22551CC	22551CC

2014 May 30 1739 Sequence Log . LOG

75)	Comment:	22551, NA, R1, 5/16/2014, 0-6004,	
	Sample	8	22552CC
	Comment:	22552, NA, R1, 5/16/2014, 0-6004,	22552CC
76)	Sample	9	22553CC
	Comment:	22553, NA, R1, 5/16/2014, 0-6004,	22553CC
77)	Sample	10	22554CC
	Comment:	22554, NA, R1, 5/16/2014, 0-6004,	22554CC
78)	Sample	103	PAH500CCV2
79)	Sample	105	OCP500_PCB100CCV2

Acqui si ti on Method: EI_HEX. M

80)	Sample	141	HEX52	HEX52
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Acqui si ti on Method: EI Scan. M

81)	Sample	11	22555CC	22555CC
	Comment:	22555, NA, R1, 5/16/2014, 0-6004,		
82)	Sample	12	22556CC	22556CC
	Comment:	22556, NA, R1, 5/16/2014, 0-6004,		
83)	Sample	21	22557CC	22557CC
	Comment:	22557, NA, R1, 5/16/2014, 0-6004,		
84)	Sample	13	22571CC	22571CC
	Comment:	22571, NA, R1, 5/16/2014, 0-6004,		
85)	Sample	14	22571R2CC	22571R2CC
	Comment:	22571, NA, R2, 5/16/2014, 0-6004,		
86)	Sample	15	22572CC	22572CC
	Comment:	22572, NA, R1, 5/16/2014, 0-6004,		
87)	Sample	16	22573CC	22573CC
	Comment:	22573, NA, R1, 5/16/2014, 0-6004,		
88)	Sample	17	22574CC	22574CC
	Comment:	22574, NA, R1, 5/16/2014, 0-6004,		
89)	Sample	22	22575CC	22575CC
	Comment:	22575, NA, R1, 5/16/2014, 0-6004,		
90)	Sample	18	22599CC	22599CC
	Comment:	22599, NA, R1, 5/16/2014, 0-6004,		
91)	Sample	19	22600CC	22600CC
	Comment:	22600, NA, R1, 5/16/2014, 0-6004,		
92)	Sample	103	PAH500FCV2	PAH500FCV2
93)	Sample	105	OCP500_PCB100FCV2	OCP500_PCB100FCV2
94)	Sample	61	PYR500CCV	PYR500CCV
95)	Sample	62	RES500CCV	RES500CCV

Acqui si ti on Method: EI_HEX. M

96)	Sample	141	HEX8	HEX8
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Acqui si ti on Method: EI Scan. M

97)	Sample	31	26212	26212
	Comment:	26212, NA, R1, 5/28/2014, 0-6016,		
98)	Sample	32	26213	26213
	Comment:	26213, NA, R1, 5/28/2014, 0-6016,		
99)	Sample	33	26214	26214
	Comment:	26214, NA, R1, 5/28/2014, 0-6016,		
100)	Sample	34	26215	26215
	Comment:	26215, NA, R1, 5/28/2014, 0-6016,		
101)	Sample	35	26781	26781
	Comment:	26781, NA, R1, 5/28/2014, 0-6016,		
102)	Sample	36	26782	26782
	Comment:	26782, NA, R1, 5/28/2014, 0-6016,		
103)	Sample	37	26783	26783
	Comment:	26783, NA, R1, 5/28/2014, 0-6016,		
104)	Sample	38	26784	26784
	Comment:	26784, NA, R1, 5/28/2014, 0-6016,		
105)	Sample	39	26785	26785
	Comment:	26785, NA, R1, 5/28/2014, 0-6016,		

2014 May 30 1739 Sequence Log .LOG
 Sequence Table edit performed Tue Jun 03 10: 46: 33 2014

106)	Sample	40	26786	26786
	Comment: 26786, NA, R1, 5/28/2014, 0-6016,			
107)	Sample	41	26787	26787
	Comment: 26787, NA, R1, 5/28/2014, 0-6016,			
108)	Sample	61	PYR500FCV	PYR500FCV
109)	Sample	62	RES500FCV	RES500FCV
110)	Sample	121	PYR25_POST	PYR25_POST
111)	Sample	122	PYR50_POST	PYR50_POST
112)	Sample	123	PYR100_POST	PYR100_POST
113)	Sample	124	PYR250_POST	PYR250_POST

Sequence completed Tue Jun 03 23: 55: 35 2014

D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 30 1739 Quality Log.
 D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 30 1739 Sequence Log

2014 May 27 1040 Sequence Log .LOG
Starting sequence Tue May 27 10:40:05 2014

Instrument Name: GCMS3

Sequence File: D:\MassHunter\GCMS\1\sequence\Q3_140524 EI 0-6004.sequence.xml

Comment:

Operator:

Data Path: D:\MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\

Method Path: D:\MassHunter\GCMS\1\methods\checkout\

Line	Type	Vials	DataFile	Sample Name
Acquisition Method: EI Scan. M				
2)	Sample	101	PYR_RES1000	PYR_RES1000
3)	Sample	102	TRAL0500	TRAL0500
4)	Sample	103	PAH500	PAH500
5)	Sample	104	FIP500	FIP500
6)	Sample	105	OCP500_PCB100	OCP500_PCB100
7)	Sample	106	SPEXMI X500_100I CV	SPEXMI X500_100I CV
8)	Sample	51	OXY1000I CV	OXY1000I CV
9)	Sample	51	OCY1000I CV_2	OCY1000I CV_2
10)	Sample	142	TUNE	TUNE
Acquisition Method: EI_HEX. M				
11)	Sample	141	HEX2	HEX2
Acquisition Method: EI Scan. M				
12)	Sample	1	B1_6004	B1_6004
Comment: 22544, NA, B1, 5/16/2014, 0-6004,				
13)	Sample	2	BS1_6004	BS1_6004
Comment: 22544, NA, BS1, 5/16/2014, 0-6004,				
14)	Sample	3	BS2_6004	BS2_6004
Comment: 22544, NA, BS2, 5/16/2014, 0-6004,				
15)	Sample	4	22571MS1	22571MS1
Comment: 22571, NA, MS1, 5/16/2014, 0-6004,				
16)	Sample	5	22571MS2	22571MS2
Comment: 22571, NA, MS2, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
17)	Sample	141	HEX3	HEX3
Acquisition Method: EI Scan. M				
18)	Sample	6	22576	22576
Comment: 22576, NA, CRM1, 5/16/2014, 0-6004,				
Acquisition Method: EI_HEX. M				
19)	Sample	141	HEX4	HEX4
Acquisition Method: EI Scan. M				
20)	Sample	7	22551	22551
Comment: 22551, NA, R1, 5/16/2014, 0-6004,				
21)	Sample	8	22552	22552
Comment: 22552, NA, R1, 5/16/2014, 0-6004,				
22)	Sample	9	22553	22553
Comment: 22553, NA, R1, 5/16/2014, 0-6004,				
23)	Sample	10	22554	22554
Comment: 22554, NA, R1, 5/16/2014, 0-6004,				
24)	Sample	11	22555	22555
Comment: 22555, NA, R1, 5/16/2014, 0-6004,				
25)	Sample	12	22556	22556
Comment: 22556, NA, R1, 5/16/2014, 0-6004,				
26)	Sample	41	22492_RR_CC	22492_RR_CC
Comment: 22492, NA, CRM1, 4/22/2014, 0-5136,				

2014 May 27 1040 Sequence Log . LOG

27) Sample	42	22492_RR	22492_RR
Comment:	22492, NA, CRM1, 4/22/2014, 0-5136,		
28) Sample	101	PYR_RES1000CCV	PYR_RES1000CCV
29) Sample	102	TRAL0500CCV	TRAL0500CCV
30) Sample	103	PAH500CCV	PAH500CCV
31) Sample	104	FI P500CCV	FI P500CCV
32) Sample	105	OCP500_PCB100CCV	OCP500_PCB100CCV

Acquisition Method: EI_HEX.M

33) Sample	141	HEX5	HEX5
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Acquisition Method: EI Scan.M

34) Sample	13	22557	22557
Comment:	22557, NA, R1, 5/16/2014, 0-6004,		
35) Sample	14	22571	22571
Comment:	22571, NA, R1, 5/16/2014, 0-6004,		
36) Sample	15	22571R2	22571R2
Comment:	22571, NA, R2, 5/16/2014, 0-6004,		
37) Sample	16	22572	22572
Comment:	22572, NA, R1, 5/16/2014, 0-6004,		
38) Sample	17	22573	22573
Comment:	22573, NA, R1, 5/16/2014, 0-6004,		
39) Sample	18	22574	22574
Comment:	22574, NA, R1, 5/16/2014, 0-6004,		
40) Sample	19	22575	22575
Comment:	22575, NA, R1, 5/16/2014, 0-6004,		
41) Sample	20	22599	22599
Comment:	22599, NA, R1, 5/16/2014, 0-6004,		
42) Sample	21	22600	22600
Comment:	22600, NA, R1, 5/16/2014, 0-6004,		
43) Sample	101	PYR_RES1000FCV	PYR_RES1000FCV
44) Sample	102	TRAL0500FCV	TRAL0500FCV
45) Sample	103	PAH500FCV	PAH500FCV
46) Sample	104	FI P500FCV	FI P500FCV
47) Sample	105	OCP500_PCB100FCV	OCP500_PCB100FCV

Sequence completed Fri May 30 09: 24: 46 2014

D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 27 1040 Quality Log.
D: \MassHunter\GCMS\1\data\Q3_140524 EI 0-6004\2014 May 27 1040 Sequence Log

Fipronil & Degradates

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PHYSIS

Initial Calibration Data

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Quantitative Analysis Calibration Report

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Batch Info

Batch Data Path	C:\msdchem\1\DATA\O-5039 NCI\QuantResults\O-5039 FIP.batch.bin	Analyst Name	
Analysis Time	11/14/2013 3:05 PM	Reporter Name	
Report Time	6/16/2014 7:23 AM	Batch State	
Last Calib Update	1/13/2014 11:16 AM		

Calibration Information

Fipronil Desulfinyl

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5039 NCI\FIP100.D	Calibration	4	80845	100.0000	4.4977
C:\msdchem\1\DATA\O-5039 NCI\FIP1000.D	Calibration	1	832430	1000.0000	4.5463
C:\msdchem\1\DATA\O-5039 NCI\FIP25.D	Calibration	6	22929	25.0000	5.1616
C:\msdchem\1\DATA\O-5039 NCI\FIP250.D	Calibration	3	187380	250.0000	4.2810
C:\msdchem\1\DATA\O-5039 NCI\FIP50.D	Calibration	5	45531	50.0000	4.7371
C:\msdchem\1\DATA\O-5039 NCI\FIP500.D	Calibration	2	330895	500.0000	3.8127

Fipronil Sulfide

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5039 NCI\FIP100.D	Calibration	4	76569	100.0000	4.2598
C:\msdchem\1\DATA\O-5039 NCI\FIP1000.D	Calibration	1	831487	1000.0000	4.5412
C:\msdchem\1\DATA\O-5039 NCI\FIP25.D	Calibration	6	21021	25.0000	4.7321
C:\msdchem\1\DATA\O-5039 NCI\FIP250.D	Calibration	3	179673	250.0000	4.1050
C:\msdchem\1\DATA\O-5039 NCI\FIP50.D	Calibration	5	43599	50.0000	4.5361
C:\msdchem\1\DATA\O-5039 NCI\FIP500.D	Calibration	2	332052	500.0000	3.8260

Fipronil

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5039 NCI\FIP100.D	Calibration	4	14445	100.0000	0.8036
C:\msdchem\1\DATA\O-5039 NCI\FIP1000.D	Calibration	1	155768	1000.0000	0.8507
C:\msdchem\1\DATA\O-5039 NCI\FIP25.D	Calibration	6	3318	25.0000	0.7469
C:\msdchem\1\DATA\O-5039 NCI\FIP250.D	Calibration	3	30413	250.0000	0.6948
C:\msdchem\1\DATA\O-5039 NCI\FIP50.D	Calibration	5	7258	50.0000	0.7551
C:\msdchem\1\DATA\O-5039 NCI\FIP500.D	Calibration	2	62781	500.0000	0.7234

Fipronil Sulfone

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5039 NCI\FIP100.D	Calibration	4	25580	100.0000	1.4231
C:\msdchem\1\DATA\O-5039 NCI\FIP1000.D	Calibration	1	257902	1000.0000	1.4085
C:\msdchem\1\DATA\O-5039 NCI\FIP25.D	Calibration	6	5980	25.0000	1.3462
C:\msdchem\1\DATA\O-5039 NCI\FIP250.D	Calibration	3	49544	250.0000	1.1319
C:\msdchem\1\DATA\O-5039 NCI\FIP50.D	Calibration	5	12242	50.0000	1.2737

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\O-5030 NCI\FIP500.D	Calibration	2	128500	500.0000	1.4806
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2,2',5,5'-Tetrabromobiphenyl

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5030 NCI\FIP100.D	Calibration	4	179747	1000.0000	179.7466
C:\msdchem\1\DATA\O-5030 NCI\FIP1000.D	Calibration	1	183100	1000.0000	183.1003
C:\msdchem\1\DATA\O-5030 NCI\FIP25.D	Calibration	6	177686	1000.0000	177.6864
C:\msdchem\1\DATA\O-5030 NCI\FIP250.D	Calibration	3	175079	1000.0000	175.0794
C:\msdchem\1\DATA\O-5030 NCI\FIP50.D	Calibration	5	192230	1000.0000	192.2303
C:\msdchem\1\DATA\O-5030 NCI\FIP500.D	Calibration	2	173577	1000.0000	173.5766

PHYSIS

Continuing Calibration Data

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\msdchem\1\DATA\O-5039 NCI\QuantResults\O-5039 FIP.batch.bin		
Analysis Time	11/15/2013 11:07 PM	Analyst Name	eugenechae
Report Time	6/16/2014 7:23 AM	Reporter Name	eugenechae
Last Calib Update	1/13/2014 11:16 AM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	FIP1000CCV
Level		Data File	FIP1000CCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
Fipronil Desulfinyl	2,2',5,5'-Tetrabromobiphenyl	17.022	2294014	548187	4.1847	951.9987	ng
Fipronil Sulfide	2,2',5,5'-Tetrabromobiphenyl	18.916	2126501	548187	3.8792	884.9074	ng
Fipronil	2,2',5,5'-Tetrabromobiphenyl	19.186	501580	548187	0.9150	1117.4980	ng
Fipronil Sulfone	2,2',5,5'-Tetrabromobiphenyl	21.274	799613	548187	1.4586	1035.3055	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\msdchem\1\DATA\O-5057 NCI\QuantResults\O-5057 FIP.batch.bin		
Analysis Time	11/17/2014 8:40 PM	Analyst Name	eugenechae
Report Time	6/12/2014 9:46 AM	Reporter Name	eugenechae
Last Calib Update	1/16/2014 12:54 PM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	FIP1000FCV
Level		Data File	FIP1000FCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD 2,2',5,5'-	RT	Response	ISTD Resp	RR	Final Conc	
Fipronil Desulfinyl	Tetrabromobiphenyl	16.489	624430	105535	5.9168	1597.1992	ng
Fipronil Sulfide	Tetrabromobiphenyl	18.265	982262	105535	9.3074	1744.2241	ng
Fipronil	Tetrabromobiphenyl	18.510	298877	105535	2.8320	1962.2487	ng
Fipronil Sulfone	Tetrabromobiphenyl	20.480	255377	105535	2.4198	1424.1564	ng

	FIP1000 CCV			FIP1000 FCV		
	11/15/13 11:07 PM			11/17/13 8:40 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Fipronil Desulfinyl	1000	952	5	1000	1597	60
Fipronil Sulfide	1000	885	12	1000	1744	74
Fipronil	1000	1117	12	1000	1962	96
Fipronil Sulfone	1000	1035	4	1000	1424	42
Average	-	-	8	-	-	69

PolyBrominated Diphenyl Ethers (PBDEs)

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	2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time
PBDE200ICV	953570.5306	16.67921667
B_5039	4676807.647	16.67448333
BS1_5039	3591351.281	16.66951667
BS2_5039	2944555.961	16.67436667
22571MS1	4851583.649	16.67436667
22571MS2	2720244.22	16.67436667
22576	4130593.455	16.72775
22551	3111871.999	16.67436667
22552	7524644.433	16.68405
22553	4933763.836	16.67921667
22554	5950076.989	16.67921667
22555	5027026.001	16.67436667
PBDE200CCV	870708.9844	16.67436667
22556	5562542.72	16.67448333
22557	2412738.031	16.67436667
22571	5859813.944	16.67921667
22571R2	2042794.64	16.67436667
22572	3868828.156	16.67436667
22573	2191636.493	16.66951667
22574	1206.566939	16.66951667
22575	4950954.606	16.66951667
22599	4074408.09	16.67436667
22600	5634492.763	16.67921667
22551	2855057.357	16.67436667
PBDE200FCV	840166.3222	16.66951667

PHYSIS

Initial Calibration Data

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Batch Info

Batch Data Path C:\msdchem\1\DATA\O-5039 PBDE\QuantResults\O-5039 PBDE.batch.bin
Analysis Time 1/8/2014 1:31 PM **Analyst Name**
Report Time 6/11/2014 1:13 PM **Reporter Name**
Last Calib Update 1/8/2014 9:56 AM **Batch State**

Calibration Information

(FTBDE)

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	362466	50.0000	0.8609	9.33923862
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	337714	50.0000	0.8698	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	607995	50.0000	1.0693	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	307831	50.0000	0.8625	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	296957	50.0000	0.8792	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	282764	50.0000	0.8521	

PBDE017

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	52253	10.0000	0.6205	6.238080774
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	528996	100.0000	0.6812	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1704812	200.0000	0.7496	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	123267	25.0000	0.6908	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	223360	50.0000	0.6613	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	332929	75.0000	0.6688	

PBDE028

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	58500	10.0000	0.6947	9.320306201
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	566816	100.0000	0.7300	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1874211	200.0000	0.8241	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	117608	25.0000	0.6590	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	216999	50.0000	0.6425	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	338205	75.0000	0.6794	

2,2',5,5'-Tetrabromobiphenyl

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	8420757	1000.0000	8420.7572	22.14354227
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	7765091	1000.0000	7765.0915	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	11371385	1000.0000	11371.3849	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	7138104	1000.0000	7138.1044	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	6755020	1000.0000	6755.0195	

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D Calibration 3 6636959 1000.0000 6636.9590

PBDE049

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	61371	10.0000	0.7288	5.217898315
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	585232	100.0000	0.7537	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1850487	200.0000	0.8137	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	133638	25.0000	0.7489	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	238360	50.0000	0.7057	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	355624	75.0000	0.7144	

PBDE071

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	54217	10.0000	0.6438	8.935920972
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	493999	100.0000	0.6362	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1680098	200.0000	0.7387	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	110183	25.0000	0.6174	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	192682	50.0000	0.5705	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	301875	75.0000	0.6065	

PBDE047

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	54571	10.0000	0.6481	11.4127573
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	454915	100.0000	0.5858	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1606336	200.0000	0.7063	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	103036	25.0000	0.5774	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	173451	50.0000	0.5135	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	279045	75.0000	0.5606	

PBDE066

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	76790	10.0000	0.9119	17.54376011
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	505778	100.0000	0.6513	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1657219	200.0000	0.7287	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	120178	25.0000	0.6734	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	194152	50.0000	0.5748	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	300050	75.0000	0.6028	

PBDE100

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
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C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	47004	10.0000	0.5582	9.077650409
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	424904	100.0000	0.5472	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1356524	200.0000	0.5965	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	92995	25.0000	0.5211	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	155825	50.0000	0.4614	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	246104	75.0000	0.4944	

(DFPBDE)

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	255002	50.0000	0.6057	13.11949559
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	271392	50.0000	0.6990	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	448005	50.0000	0.7880	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	211378	50.0000	0.5923	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	189019	50.0000	0.5596	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	205194	50.0000	0.6183	

PBDE099

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	50407	10.0000	0.5986	11.90445015
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	442583	100.0000	0.5700	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1386670	200.0000	0.6097	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	92620	25.0000	0.5190	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	148404	50.0000	0.4394	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	253216	75.0000	0.5087	

PBDE085

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	39462	10.0000	0.4686	10.83932623
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	360304	100.0000	0.4640	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1060242	200.0000	0.4662	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	72504	25.0000	0.4063	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	120379	50.0000	0.3564	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	199688	75.0000	0.4012	

PBDE154

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	44515	10.0000	0.5286	9.07372955
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	412441	100.0000	0.5311	

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1209803	200.0000	0.5320
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	83023	25.0000	0.4652
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	142484	50.0000	0.4219
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	243445	75.0000	0.4891

PBDE153

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	39939	10.0000	0.4743	9.209985408
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	390618	100.0000	0.5030	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1095420	200.0000	0.4817	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	80633	25.0000	0.4518	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	129283	50.0000	0.3828	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	219510	75.0000	0.4410	

PBDE138

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	33029	10.0000	0.3922	13.43955488
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	358264	100.0000	0.4614	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	993361	200.0000	0.4368	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	72370	25.0000	0.4055	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	102656	50.0000	0.3039	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	198720	75.0000	0.3992	

PBDE183

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	38071	10.0000	0.4521	13.07345306
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	311176	100.0000	0.4007	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	846727	200.0000	0.3723	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	66367	25.0000	0.3719	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	101259	50.0000	0.2998	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	185387	75.0000	0.3724	

PBDE190

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	13841	10.0000	0.1644	15.49968796
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	154666	100.0000	0.1992	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	367277	200.0000	0.1615	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	32494	25.0000	0.1821	

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	41375	50.0000	0.1225
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	88271	75.0000	0.1773

PBDE209

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	1273	50.0000	0.0030	27.1696364
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	7426	500.0000	0.0019	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	19867	1000.0000	0.0017	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	2479	125.0000	0.0028	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	2622	250.0000	0.0016	
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	5048	375.0000	0.0020	

PHYSIS

Continuing Calibration Data

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path C:\msdchem\1\DATA\O-5039 PBDE\QuantResults\O-5039 PBDE.batch.bin
Analysis Time 11/22/2013 8:30 PM **Analyst Name** eugenechae
Report Time 6/11/2014 1:13 PM **Reporter Name** eugenechae
Last Calib Update 1/8/2014 9:56 AM **Batch State** Processed

Analysis Info

Acq Time
Level
Position
Sample Type Sample
Dilution 1

Sample Name PBDE200CCV
Data File PBDE200CCV.D
Acq Method File NCI-15m PBDE.M
Sample Info
Comment

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphe nyl	15.139	38127	870709	0.0438	48.7096	ng
PBDE017	2,2',5,5'Tetrabromobiphe nyl	15.691	118381	870709	0.1360	187.3549	ng
PBDE028	2,2',5,5'Tetrabromobiphe nyl	16.040	130828	870709	0.1503	191.5094	ng
PBDE049	2,2',5,5'Tetrabromobiphe nyl	18.016	84922	870709	0.0975	123.6829	ng
PBDE071	2,2',5,5'Tetrabromobiphe nyl	18.103	113970	870709	0.1309	186.9713	ng
PBDE047	2,2',5,5'Tetrabromobiphe nyl	18.408	98726	870709	0.1134	171.2123	ng
PBDE066	2,2',5,5'Tetrabromobiphe nyl	18.742	104620	870709	0.1202	172.4642	ng
PBDE100	2,2',5,5'Tetrabromobiphe nyl	20.234	89194	870709	0.1024	179.1719	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphe nyl	20.568	26375	870709	0.0303	47.0501	ng
PBDE099	2,2',5,5'Tetrabromobiphe nyl	20.738	89502	870709	0.1028	175.6851	ng
PBDE085	2,2',5,5'Tetrabromobiphe nyl	21.605	71874	870709	0.0825	181.6977	ng
PBDE154	2,2',5,5'Tetrabromobiphe nyl	22.191	87719	870709	0.1007	192.8758	ng
PBDE153	2,2',5,5'Tetrabromobiphe nyl	22.908	84622	870709	0.0972	203.8003	ng
PBDE138	2,2',5,5'Tetrabromobiphe nyl	23.770	68580	870709	0.0788	182.6102	ng
PBDE183	2,2',5,5'Tetrabromobiphe nyl	24.913	63064	870709	0.0724	193.5536	ng
PBDE190	2,2',5,5'Tetrabromobiphe nyl	26.061	29393	870709	0.0338	200.9639	ng
PBDE209	2,2',5,5'Tetrabromobiphe nyl	30.003	436	870709		276.8817	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path C:\msdchem\1\DATA\O-5039 PBDE\QuantResults\O-5039 PBDE.batch.bin
Analysis Time 11/23/2013 4:50 AM **Analyst Name** eugenechae
Report Time 6/11/2014 1:13 PM **Reporter Name** eugenechae
Last Calib Update 1/8/2014 9:56 AM **Batch State** Processed

Analysis Info

Acq Time
Level
Position
Sample Type Sample
Dilution 1

Sample Name PBDE200FCV
Data File PBDE200FCV.D
Acq Method File NCI-15m PBDE.M
Sample Info
Comment

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphe nyl	15.134	32710	840166	0.0389	43.3077	ng
PBDE017	2,2',5,5'Tetrabromobiphe nyl	15.686	110038	840166	0.1310	180.4817	ng
PBDE028	2,2',5,5'Tetrabromobiphe nyl	16.040	123617	840166	0.1471	187.5326	ng
PBDE049	2,2',5,5'Tetrabromobiphe nyl	18.011	77217	840166	0.0919	116.5489	ng
PBDE071	2,2',5,5'Tetrabromobiphe nyl	18.098	108670	840166	0.1293	184.7579	ng
PBDE047	2,2',5,5'Tetrabromobiphe nyl	18.408	92260	840166	0.1098	165.8156	ng
PBDE066	2,2',5,5'Tetrabromobiphe nyl	18.742	99400	840166	0.1183	169.8153	ng
PBDE100	2,2',5,5'Tetrabromobiphe nyl	20.229	85130	840166	0.1013	177.2247	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphe nyl	20.563	27670	840166	0.0329	51.1558	ng
PBDE099	2,2',5,5'Tetrabromobiphe nyl	20.738	83976	840166	0.1000	170.8304	ng
PBDE085	2,2',5,5'Tetrabromobiphe nyl	21.600	69447	840166	0.0827	181.9452	ng
PBDE154	2,2',5,5'Tetrabromobiphe nyl	22.191	84177	840166	0.1002	191.8171	ng
PBDE153	2,2',5,5'Tetrabromobiphe nyl	22.908	78534	840166	0.0935	196.0160	ng
PBDE138	2,2',5,5'Tetrabromobiphe nyl	23.760	68440	840166	0.0815	188.8638	ng
PBDE183	2,2',5,5'Tetrabromobiphe nyl	24.908	63417	840166	0.0755	201.7147	ng
PBDE190	2,2',5,5'Tetrabromobiphe nyl	26.056	25957	840166	0.0309	183.9223	ng
PBDE209	2,2',5,5'Tetrabromobiphe nyl	29.925	825	840166		543.3356	ng

	PBDE200 CCV			PBDE200 FCV		
	11/22/13 8:30 PM			11/23/13 4:50 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
FTBDE	50	49	3	50	43	13
DFTBDE	50	47	6	50	51	2
PBDE017	200	187	6	200	180	10
PBDE028	200	192	4	200	188	6
PBDE049	200	124	38	200	117	42
PBDE071	200	187	7	200	185	8
PBDE047	200	171	14	200	166	17
PBDE066	200	172	14	200	170	15
PBDE100	200	179	10	200	177	11
PBDE099	200	176	12	200	171	15
PBDE085	200	182	9	200	182	9
PBDE154	200	193	4	200	192	4
PBDE153	200	204	2	200	196	2
PBDE138	200	183	9	200	189	6
PBDE183	200	194	3	200	202	1
PBDE190	200	201	0	200	184	8
PBDE209	1000	277	72	1000	543	46
Average	-	-	13	-	-	13

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Pyrethroids

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	2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time
Spex_500ICV	236069	50.862
B_6004	865025	50.859
BS1_6004	1054479	50.855
BS2_6004	1090869	50.853
22571MS1	751887	50.829
22571MS2	685069	50.83
22576	853512	50.887
22551	908562	50.855
22552	1025891	50.857
22553	936527	50.86
22554	968541	50.856
22555	851572	50.854
22556	1086888	50.851
PYR1000CCV	311662	50.863
22557	1001001	50.851
22571	1224777	50.85
22571R2	1147905	50.85
22572	1046552	50.85
22573	908979	50.854
22574	1021303	50.847
22575	826008	50.85
22599	805724	50.848
22600	936840	50.847
PYR1000FCV	347568	50.865

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Initial Calibration Data

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Method Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Method File : Q_PYR_EI_140528.M
 Title : Pyrethroids
 Last Update : Mon Jun 02 09:29:20 2014
 Response Via : Initial Calibration

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Calibration Files

1000=PYR1000.D 500 =PYR500.D 250 =PYR250.D 100 =PYR100.D 50 =PYR50.D 25 =PYR25.D

	Compound	1000	500	250	100	50	25	Avg	%RSD
1) I	4,4'-Dibromobiphenyl	-----ISTD-----							
2) S	(TCMX)-PYR	0.478	0.416	0.468	0.447	0.469	0.461	0.456	4.90
3) s	(PCB030)-PYR	1.264	1.137	1.239	1.222	1.237	1.263	1.227	3.82
4)	Allethrin	1.021	0.960	0.808	0.663	0.642	0.666	0.793	20.75
5)	Prallethrin	0.894	0.866	0.600	0.476	0.441	0.428	0.618	34.40
6)	Resmethrin	0.443						0.443	0.00
7) I	2,2',5,5'-Tetrabro...	-----ISTD-----							
8) s	(PCB112)-PYR	4.555	4.269	4.481	4.685	4.608	4.648	4.541	3.33
9) s	(PCB198)-PYR	1.471	1.406	1.410	1.450	1.410	1.427	1.429	1.85
10)	Bifenthrin	9.881	9.548	8.406	7.814	7.001	7.556	8.368	13.64
11)	Danitol (Fenpr...	2.748	2.662	2.281	2.151	1.909	1.635	2.231	19.24
12)	Cyhalothrin-la...	2.032	1.983	1.552	1.346	1.229	1.339	1.580	22.00
13)	Permethrin-cis	5.612	5.669	4.597	4.799	4.244	5.159	5.013	11.36
14)	Permethrin-trans	4.772	4.860	3.976	3.881	3.637	4.211	4.223	11.74
15)	Cyfluthrin-1	0.388	0.396	0.330	0.288	0.258	0.467	0.355	21.77
16)	Cyfluthrin-2	0.528	0.549	0.401	0.372	0.334	0.538	0.454	21.00
17)	Cyfluthrin-3	0.294	0.305	0.255	0.285	0.262	0.243	0.274	8.84
18)	Cyfluthrin-4	0.250	0.266	0.216	0.245	0.299	0.334	0.269	15.67
19)	Cypermethrin-1	0.426	0.450	0.371	0.248	0.438	0.355	0.381	19.84
20)	Cypermethrin-2	0.375	0.410	0.324	0.281	0.243	0.303	0.323	18.94
21)	Cypermethrin-3	0.376	0.393	0.293	0.265	0.314	0.400	0.340	16.77
22)	Cypermethrin-4	0.294	0.303	0.244	0.193	0.261	0.214	0.251	17.16
23)	Fenvalerate	1.623	1.689	1.232	1.142	1.285	1.371	1.390	15.82
24)	Esfenvalerate	1.758	1.850	1.460	1.254	1.245	1.627	1.532	16.65
25)	Fluvalinate	1.446	1.541	1.051	0.835	0.911	0.795	1.097	29.28
26)	Deltamethrin/T...	0.433	0.460	0.206	0.247	0.179		0.305	43.11

(#) = Out of Range

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Continuing Calibration Data

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Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : SPEXMIX500_100ICV.D
 Acq On : 27 May 2014 06:56 pm
 Operator :
 Sample : SPEXMIX500_100ICV
 Misc :
 ALS Vial : 106 Sample Multiplier: 1

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Quant Time: Jun 13 14:38:32 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PYR_EI_140528.M
 Quant Title : Pyrethroids
 QLast Update : Mon Jun 02 09:29:20 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	39.810	312	1216332	1000.00		-0.07
7) 2,2',5,5'-Tetrabromobi...	50.862	391	236069	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)-PYR	25.543	244	233211	420.01		0.00
3) (PCB030)-PYR	30.578	256	587048	393.36		-0.02
8) (PCB112)-PYR	45.059	326	459245	428.40		0.01
9) (PCB198)-PYR	59.203	358	128068	379.69		0.03
Target Compounds						
					Qvalue	
4) Allethrin	42.708	123	767380m	633.79		
5) Prallethrin	43.713	123	440741m	416.16		
6) Resmethrin	0.000		0	N.D.		
10) Bifenthrin	55.857	181	2814174	1225.61		99
11) Danitol (Fenpropathrin)	56.235	97	503398	788.85		95
12) Cyhalothrin-lambda	59.732	181	231104	491.19		90
13) Permethrin-cis	62.329	183	255605	194.53		97
14) Permethrin-trans	62.836	183	1084524	968.75		98
15) Cyfluthrin-1	64.685	163	63065	692.92	#	83
16) Cyfluthrin-2	65.064	163	79020	638.14	#	70
17) Cyfluthrin-3	65.332	163	58092m	836.51		
18) Cyfluthrin-4	65.509	163	80624	1355.57	#	85
19) Cypermethrin-1	65.829	163	97603m	969.88		
20) Cypermethrin-2	66.227	163	97625	1094.11		92
21) Cypermethrin-3	66.495	163	94053	1064.56		95
22) Cypermethrin-4	66.658	163	88056	1275.70	#	90
23) Fenvalerate	69.247	125	483373	1269.58	#	80
24) Esfenvalerate	70.037	125	474394	1144.29	#	88
25) Fluvalinate	70.371	250	360871	1062.18	#	42
26) Deltamethrin/Tralomethrin	72.039	253	79254	789.69	#	26

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : PYR_RES1000CCV.D
 Acq On : 29 May 2014 01:49 am
 Operator :
 Sample : PYR_RES1000CCV
 Misc :
 ALS Vial : 101 Sample Multiplier: 1

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Quant Time: Jun 13 14:40:21 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PYR_EI_140528.M
 Quant Title : Pyrethroids
 QLast Update : Mon Jun 02 09:29:20 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	39.841	312	1512225	1000.00		-0.04
7) 2,2',5,5'-Tetrabromobi...	50.863	391	311662	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)-PYR	25.550	244	264296	382.85		0.01
3) (PCB030)-PYR	30.588	256	715384	385.56		0.00
8) (PCB112)-PYR	45.058	326	593413	419.30		0.00
9) (PCB198)-PYR	59.194	358	180681	405.75		0.02
Target Compounds						
					Qvalue	
4) Allethrin	42.698	123	1106015m	734.74		
5) Prallethrin	43.703	123	942697m	715.95		
6) Resmethrin	53.832	123	875513m	1307.59		
10) Bifenthrin	55.849	181	3838889	1266.38		99
11) Danitol (Fenpropathrin)	56.231	97	715825	849.66		94
12) Cyhalothrin-lambda	59.727	181	672876	1083.26		93
13) Permethrin-cis	62.327	183	706014	406.99		99
14) Permethrin-trans	62.838	183	1531225	1036.02		99
15) Cyfluthrin-1	64.672	163	153541m	1277.84		
16) Cyfluthrin-2	65.048	163	212177m	1297.87		
17) Cyfluthrin-3	65.332	163	110225m	1202.25		
18) Cyfluthrin-4	65.506	163	102084	1300.08	#	69
19) Cypermethrin-1	65.830	163	190582m	1434.47		
20) Cypermethrin-2	66.215	163	164931m	1400.09		
21) Cypermethrin-3	66.493	163	157592	1351.10		93
22) Cypermethrin-4	66.652	163	129170m	1417.44		
23) Fenvalerate	69.246	125	675043	1342.97	#	77
24) Esfenvalerate	70.034	125	791910	1446.87	#	87
25) Fluvalinate	70.364	250	704695	1571.10	#	44
26) Deltamethrin/Tralomethrin	72.041	253	181220	1367.72	#	26

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\Q3_140524 EI O-6004\
 Data File : PYR_RES1000FCV.D
 Acq On : 30 May 2014 01:17 am
 Operator :
 Sample : PYR_RES1000FCV
 Misc :
 ALS Vial : 101 Sample Multiplier: 1

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Quant Time: Jun 13 14:41:28 2014
 Quant Method : C:\msdchem\1\DATA\Q3_140524 EI O-6004\Q_PYR_EI_140528.M
 Quant Title : Pyrethroids
 QLast Update : Mon Jun 02 09:29:20 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	39.855	312	1663011	1000.00		-0.03
7) 2,2',5,5'-Tetrabromobi...	50.865	391	347568	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)-PYR	25.549	244	289319	381.10		0.00
3) (PCB030)-PYR	30.586	256	786808	385.61		0.00
8) (PCB112)-PYR	45.053	326	650979	412.45		0.00
9) (PCB198)-PYR	59.184	358	189168	380.92		0.01
Target Compounds						
					Qvalue	
4) Allethrin	42.688	123	1118864m	675.88		
5) Prallethrin	43.693	123	823642m	568.81		
6) Resmethrin	53.842	123	892369m	1211.92		
10) Bifenthrin	55.843	181	3919800	1159.48		99
11) Danitol (Fenpropathrin)	56.228	97	747624	795.73		91
12) Cyhalothrin-lambda	59.722	181	616857	890.48		91
13) Permethrin-cis	62.324	183	659863	341.09		98
14) Permethrin-trans	62.836	183	1490339	904.19		99
15) Cyfluthrin-1	64.672	163	151008m	1126.92		
16) Cyfluthrin-2	65.054	163	203065	1113.81		94
17) Cyfluthrin-3	65.333	163	112349	1098.82		88
18) Cyfluthrin-4	65.506	163	108916	1243.78	#	85
19) Cypermethrin-1	65.819	163	188866m	1274.69		
20) Cypermethrin-2	66.226	163	164059	1248.82		94
21) Cypermethrin-3	66.494	163	154833	1190.31		95
22) Cypermethrin-4	66.641	163	122111m	1201.55		
23) Fenvalerate	69.242	125	661585	1180.22	#	79
24) Esfenvalerate	70.033	125	785473	1286.85	#	88
25) Fluvalinate	70.366	250	616941m	1233.36		
26) Deltamethrin/Tralomethrin	72.031	253	185878m	1257.95		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PYR500 ICV			PYR1000 CCV			PYR1000 FCV		
	5/27/14 6:56 PM			5/29/14 1:49 AM			5/30/14 1:17 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PCB112	400	428	7	400	419	5	400	412	3
PCB198	400	380	5	400	406	1	400	381	5
Allethrin	500	634	27	1000	735	27	1000	676	32
Prallethrin	500	416	17	1000	716	28	1000	569	43
Resmethrin	500	0	100	1000	1308	31	1000	1212	21
Bifenthrin	500	1226	145	1000	1266	27	1000	1159	16
Danitol (Fenpropathrin)	500	789	58	1000	850	15	1000	796	20
Cyhalothrin-lambda	500	491	2	1000	1083	8	1000	890	11
Permethrin-cis	134	195	46	267	407	52	267	341	28
Permethrin-trans	358	969	171	716	1036	45	716	904	26
Cyfluthrin-1	500	693	39	1000	1278	28	1000	1127	13
Cyfluthrin-2	500	638	28	1000	1298	30	1000	1114	11
Cyfluthrin-3	500	837	67	1000	1202	20	1000	1099	10
Cyfluthrin-4	500	1356	171	1000	1300	30	1000	1244	24
Cypermethrin-1	500	970	94	1000	1434	43	1000	1275	27
Cypermethrin-2	500	1094	119	1000	1400	40	1000	1249	25
Cypermethrin-3	500	1065	113	1000	1351	35	1000	1190	19
Cypermethrin-4	500	1276	155	1000	1417	42	1000	1202	20
Fenvalerate	500	1270	154	1000	1343	34	1000	1180	18
Esfenvalerate	500	1144	129	1000	1447	45	1000	1287	29
Fluvalinate	500	1062	112	1000	1571	57	1000	1233	23
Deltamethrin-Tralomethrin	500	790	58	1000	1368	37	1000	1258	26
Average	-	-	95	-	-	35	-	-	21

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Toxaphene

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Summary of Internal Standards

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	2,2',5,5' - Tetrabromobiphenyl	
	Response	Retention Time
TOX10000ICV.D	152352	23.8695
B_5039.D	672198	23.8611
BS1_5039.D	1112139	23.8526
BS2_5039.D	1047777	23.8526
22571MS1.D	1272375	23.8611
22571MS2.D	625402	23.8526
22576.D	1386168	23.9203
22551.D	1750861	23.8611
22552.D	1137549	23.8611
22553.D	1189231	23.8611
22554.D	1298852	23.8611
22555.D	1569409	23.8611
22556.D	903377	23.8526
22557.D	1548665	23.8611
TOX10000CCV.D	335962	23.8611
22571.D	1123100	23.8611
22571R2.D	1066262	23.8611
22572.D	1359567	23.8526
22573.D	229761	23.0411
22574.D	279473	23.0411
22575.D	211653	23.0411
22599.D	202846	23.0411
22600.D	196349	23.0411
TOX10000FCV.D	174532	23.8530

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Continuing Calibration Data

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	TOX10000 CCV			TOX10000 FCV		
	11/15/13 5:03 AM			11/16/13 1:16 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Toxaphene	10000	12789	28	10000	8585	14

June 0 , 2014

Chris Stransky
 AMEC
 9210 Sky Park Court
 Suite 200
 San Diego, CA 92123-

Project Name: RHMP Bight '13
 Physis Project ID: 1307002-018

Dear Chris,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 9/10/2013. A total of 17 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventional
Nitrate as N by SM 4500-NO ₃ E
Acid Volatile Sulfides (AVS) by Plumb, 1981 and TERL
Ammonia as N by SM 4500-NH ₃ D
Nitrite as N by SM 4500-NO ₂ B
Total Suspended Solids by SM 2540 D
Percent Solids by SM 2540B
Elements
Trace Metals by EPA 6020
Total Mercury by EPA 245.7
Simultaneously Extracted Metals Analysis (AVS-SEM) by EPA 200.8
Total Phosphorus by EPA 200.8
Total Phosphorus by EPA 6020
Total Trace Metals by EPA 200.8
Trace Mercury by EPA 245.7
Organics
Organochlorine Pesticides & PCB Congeners/Aroclors by EPA 625
Fipronil & Degradates by EPA 625-NCI
Organochlorine Pesticides & PCB Congeners/Aroclors by EPA 8270C
PBDE Congeners by EPA 625-NCI
Fipronil & Degradates by EPA 8270C-NCI
PBDE Congeners by EPA 8270C-NCI

Polynuclear Aromatic Hydrocarbons by EPA 625
Synthetic Pyrethroid Pesticides by EPA 625-NCI
Synthetic Pyrethroid Pesticides by EPA 8270C-NCI
Toxaphene w/ OCPs by EPA 625-NCI
Toxaphene w/ OCPs by EPA 8270C-NCI
Polynuclear Aromatic Hydrocarbons by EPA 8270C
Subcontract
Total Kjeldahl Nitrogen by EPA 351.2
Total Nitrogen by SM 4500-N
Total Organic Carbon by SM 5310 B

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

Misty Mercier
Extension 202
714-335-5918 cell
mistymercier@physislabs.com

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and are used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use was assessed through the analysis of procedural blanks at a minimum frequency of one per batch. Physis' QM requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the procedural blanks be flagged in the project sample results with a B qualifier.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS1/MS2, BS1/BS2, LCS1/LCS2, LCM1/LCM2, CRM1/CRM2, surrogate spikes and/or replicate project sample analysis (R1/R2) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

MATRIX SPIKES: MS samples were employed to assess the effect a particular project sample matrix has on the accuracy of a measurement. It is prepared by adding a known amount of the target analyte(s) to an aliquot of the project sample. Matrix spikes indicate the bias of analytical measurements due to chemical interferences inherent in the sample matrix. If the matrix spike recovery does not fall within the specified acceptance limits, it may be an indication of sample matrix interference in the specific project sample used for the MS. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

BLANK SPIKES: BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

CERTIFIED REFERENCE MATERIALS: CRMs are pre-homogenized materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of a preparation and analytical method. CRMs are analyzed to provide evidence that the laboratory method produces results that are comparable to those obtained by an independent organization.

SURROGATES: Where CRMs are unavailable, target analyte recovery can be assessed by monitoring added surrogate compounds/elements. A surrogate is a pure analyte unlikely to be found in any project sample and most often used with organic analytical procedures. Percent recovery is calculated for each surrogate and is used to monitor method performance within each discrete sample and is indicative of the procedure's ability to recover the actual analytes of interest.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored

under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes. Physis' QM requires that all samples analyzed beyond the method recommended holding time be flagged in the sample results with an H qualifier.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
*	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified recovery and/or RPD acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore MS recovery and/or RPD acceptance limits do not apply
SL	analyte results for R1 and/or R2 were lower than 10 times the MDL, therefore RPD acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore MS recovery and/or RPD were outside the specified acceptance limits
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples



CASE NARRATIVE

QUALIFIER NOTES

In addition to the use of analyte specific Physis Qualifier Codes where applicable, the following were also noted.

ELEMENTS: Several elements, Aluminum (Al), Arsenic (As), Antimony (Sb), Beryllium (Be), Chromium (Cr), Iron (Fe) and Nickel (Ni) were above the specified acceptance limits in one or more CRM - RTC 016-050 and/or CRM - ERA 540. This occurred as a result of a more rigorous digestion employed by Physis, which causes a higher yield for some lithogenous elements. These values are in agreement with past internal results for CRM - RTC 016-050 and CRM - ERA 540.

Run Log: The run log file for the Equipment Blank analysis (EPA 200.8) was lost due to a computer software failure and could not be recreated.

ORGANICS: Blank spikes (BS1/BS2) for Endosulfan-I, Endosulfan-II, Endrin Aldehyde and Resmethrin fell outside of the acceptance range required by the associated project QAPP (70% – 130%), but passed PHYSIS' internal acceptance range for this analysis (50%-150% for Endosulfan-II, 0%-125% for Endrin Aldehyde, 0%-130% for Resmethrin).

Organophosphorus Pesticides: One surrogate (TCMX) was below the specified acceptance limits in one or more project sample as a result of excessive vacuum of the rotovap during sample concentration prior to analysis. All other surrogate recoveries in QC and other project samples were within acceptance limits and were therefore not affected.

Fipronil & Degradates: At the time of analysis for the Equipment Blank (EPA 625 NCI), the standards had not yet arrived and a calibration was not completed. The samples were analyzed because the holding time was about to expire. This sample was an equipment blank sample and no fipronil & degradates were detected in the sample and based on the sensitivity we observed for the other internal standards, recovery surrogates and calibration data we conclude that if there were fipronil & degradates present in the sample, we would have detected them.

ORGANICS TUNE: Physis uses the software supplied with its Agilent GCMS systems to tune its instruments. Moreover, with today's technology software algorithms provided by the instrument manufacturer provide a more stable system across a wider mass range than manual tuning to achieve specific tuning targets such as DFTPP. The following quote is from EPA Method 8270D Section 11.3.1.



“The analyst is always free to choose criteria that are tighter than those included in this method or to use other documented criteria provided they are used consistently throughout the initial calibration, calibration verification, and sample analyses.”

The key here is that the instrument is tuned and that those tune settings are used for the subsequent analysis of the calibration curve, calibration verification, and samples. Moreover, another key reason for tuning to specific criteria is to insure that the GCMS is generating spectra that match the spectra in the NIST Library for confirming the identification of the target analyte. Physis can provide library search results for our calibration standards indicating a very high match quality with the NIST library spectra.

Physis did analyze the DFTPP tune solution with each batch (except for the first batch where the tune solution was mis-injected) and the passing tune reports have been provided indicating that using the instrument tuning software is closely matched to DFTPP tune requirements.

ORGANICS CALIBRATION: A calibration point in the middle of the curve (250 ng) for DCPA (Dacthal) and Dicofol were not used for the calibration of the instrument. This was an error of the analyst that has since been corrected.

ORGANICS CCVS: CCVs for Fipronils, Pyrethroids, PAHs and Chlorinated Pesticides were done at 1000 ng, while the CCVs for PCBs were done at 500 ng. These values are either at or above the high point of the calibration. This was an error of the analyst that has since been corrected.

Revisions 6/20/2014-

- Aroclors:
 - Updated Aroclor MDLs/RLs from 10/20 to 1/2
 - Added Aroclor 1262 and Aroclor 1268
 - After review of the data, the Technical Director made a decision to revise the data for the Aroclors
- RPDs:
 - Reviewed and updated all RPDs to 25%, per the RHMP QAPP. Revised Passes to Fails and added QA Qualifiers, where needed due to update.
- Acceptance Ranges
 - Reviewed and updated all Acceptance ranges per the RHMP QAPP. Revised Passes to Fails and added QA Qualifier, where needed due to update.
- CRM
 - After review of the data, the Technical Director made a decision to revise the Organics data for the CRM (SRM 1944).

Revisions 8/20/2014-



- Analytical Report:
 - Added Time Analyzed to all analysis.
- Level 3 reports:
 - Revised tune report.
 - Added level 3 report pages for the Equipment Blank sample

Performance-Based Chemistry-

The chemistry results provided in this report are derived from “performance-based” chemistry rather than the use of specific EPA published laboratory methods. This does not eliminate our responsibility to use Good Laboratory Practices. It does allow for incorporation of improvements in technology or the use of laboratory preferences for techniques that improve the efficiency and sensitivity of the laboratory and maintain or enhance the quality of the data.

“The Environmental Protection Agency (EPA) is actively working to implement the President’s program for reinventing government and reforming regulatory policy. As part of this program, EPA has been working at breaking down barriers to using new monitoring techniques. One barrier is the requirement to use specific measurement methods or technologies in complying with some of the Agency’s regulations. EPA’s Environmental Monitoring Management Council (EMMC), members of the regulated community, and Congress agree that EPA needs to change the way it specifies monitoring requirements in regulations and permits. There is broad acceptance for Agency-wide use of a nonprescriptive performance-based measurement system (PBMS)”. PBMS conveys "what" needs to be accomplished, but not prescriptively "how" to do it. EPA defines PBMS as a set of processes wherein the data needs, mandates, or limitations of a program or project are specified, and serve as criteria for selecting appropriate methods to meet those needs in a cost-effective manner. The criteria may be published in regulations, technical guidance documents, permits, work plans, or enforcement orders. Under a performance-based approach, EPA would specify:

- Questions to be answered by monitoring.
- Decisions to be supported by the data.
- Level of uncertainty acceptable for making decisions.
- Documentation to be generated to support this approach in the RCRA monitoring program.

(Taken from OSWER PBMS Implementation Plan, October 9, 1998, A Cooperative Effort Among: OSW, OERR, OUST, TIO, FFROL and CEPPPO).”



The US EPA has included references to being “performance-based” in many of their newer methods. The use of performance-based methods is even more critical for programs like this study in order to allow the laboratory to adapt methods that optimize the goal of the project in terms of achieving ultra-low sensitivity and analysis of new chemicals of concern. I would also like to quote US EPA Method 8270-

“In addition, SW-846 methods, with the exception of required method use for the analysis of method-defined parameters, are intended to be guidance methods which contain general information on how to perform an analytical procedure or technique which a laboratory can use as a basic starting point for generating its own detailed Standard Operating Procedure (SOP), either for its own general use or for a specific project application.”

Performance-based chemistry was first used for NOAA’s National Status and Trends Program in the early 1980’s which is now operated under the US EPA as the National Coastal Condition Assessment Program (NCCA). The NS&T program included 3 large well-established laboratories for the analysis of samples from each of 3 regions of the United States. It was concluded at the beginning of this program that a significant improvement in the quality and comparability of the results would be achieved by allowing the participating laboratories to optimize their own individual methods. The key to this approach and any subsequent performance-based chemistry programs is the successful inclusion of an interlaboratory comparison as well as the clear detailed specification of data quality objectives (DQOs) for the project. All the Bight Survey projects from 1994 to 2013 have been performance-based and each of the surveys included interlaboratory comparisons as a key component for ensuring high quality data that is comparable between laboratories over time.

The one area that has not evolved along with the advent of performance-based chemistry is the data validation process. Today’s data validation process still relies upon collecting and evaluating laboratory analytical information and comparing it to the details of a specific EPA analytical method such as EPA 8270 for GCMS analysis or EPA 6020 for ICPMS analysis. This can occur even when the requirement in the method is out-dated and based on old technology. Data validation procedures need to be adapted to performance-based chemistry allowing for any individual laboratory to use or not use any method or any part of a method they choose as long as they can demonstrate their ability to successfully pass interlaboratory comparisons, performance evaluation samples, and meet the data quality objectives of the project QA Plan.

EPA Method Modifications-

With reference to performance-based methods, the following information is provided as a basis of comparison between the Physis methods used for this study and the associated EPA Method. Its purpose is solely to provide information and is not intended to highlight errors. Physis has



successfully participated in several interlaboratory comparison studies including the Bight 13 Project demonstrating the viability of our analytical process. Physis has included the QAQC data in this report necessary to show that the results comply with the project QA Plan and indicate acceptable accuracy and precision.

1. Internal Laboratory QAQC Frequency for GCMS Analyses- Physis uses GC columns that are longer and narrower and the GC oven is programmed at a very slow rate of 2.5°C per minute both of which are not typically used by most laboratories. The purpose for this is to maximize separation of the 100's to 1000's of compounds present in environmental samples reducing co-elution with interfering compounds, reducing background noise, and enhancing the accuracy of quantitation. At the same time this process extends the run-time for each sample to ca. 90 minutes as compared to the 15-30 minutes with typical conditions. At 90 minutes per run, the maximum number of runs for any 12-hour period is 8. Each batch of samples typically includes the DFTPP tune solution and the initial calibration verification of from 1 to 4 solutions (Depending on the target parameters) for a total of 2-5 runs leaving an opening for 3-6 samples before having to redo the QA samples if the 12-hour constraint is applied. At this rate it's not economically viable to follow the 12-hour rule and complete the analyses of the samples.

Since the 12-hour criteria was established when the state-of-the-art was GCs equipped with packed columns and GCMS systems were not anywhere near as stable as the electronics of today. Physis does follow the criteria's intent by analyzing the calibration verification standards at the beginning, middle, and end of each batch of no more than 20 samples rather than every 12 hours.

2. Calibration and Quantitation- Physis bases its calibration curve on the mass of each compound rather than concentration. Using the internal standard method of quantitation, use of mass rather than concentration eliminates the extract or digestate volume term from the formula used to calculate concentrations in the samples. Therefore there is no need to measure the precise volume of the extract or digestate. For GCMS analysis, extract volumes can be quite low and small volume changes will be reflected in increased variation of the internal standard response from sample to sample due to differences in the extract volume and not due to the instability of the GCMS. Through long-term experience, Physis chemists are trained to take into consideration this change in volume when evaluating whether a change in the internal standard response is caused by a change in the GCMS sensitivity or extract volume.



The “recovery” of the Internal Standard and its variability is reported in Form VII SV-1 for reporting IS peak areas. For the sample IS compared to the ICV/CCV IS peak area, this form has a wide acceptance range at 50-200% which is considerably larger than the variation in the nominal estimate made of our extract volumes. Therefore significant deviations from expected IS responses are clearly obvious to the analyst and would require corrective action and re-analysis. The difficulty is the fact that Form VII SV-1 does not accommodate volumes and therefore does not allow for evaluation of the sample IS as it compares to the ICV/CCV on an even basis.

3. Negative Chemical Ionization- Some target analytes are analyzed using the GCMS in the Negative Chemical Ionization Mode (NCI). This results in non-standard mass spectra that cannot be compared to the EI spectra in the NIST library.
4. Aroclor PCBs- Physis analyzes PCBs using a congener-based calibration standard composed of 52 or more different congeners representing ca. 75-80% of the PCBs discharged into the environment. Physis uses the results from the congener analysis to estimate Aroclor concentrations. To do this, Physis determines the Aroclor mixture present in the sample, sums the results for the congeners present in that Aroclor mixture then corrects the result to account for the missing mass based on a previous comparison of an Aroclor calibration standard to the congener mixture. Physis does not perform blank or matrix spikes using Aroclor mixtures since PCB spiking is done via the congener solution. Aroclor-based quantitation is inherently inaccurate and imprecise and results based on our process are as accurate if not more accurate than the Aroclor-based process since the quantitation is based on individual peaks rather than summing peaks.
5. Pyrethroid/Fipronil Surrogates- Physis spikes all samples with a surrogate solution containing TCMX, PCB030, PCB112, and PCB198 for the Chlorinated Pesticides, Congener PCBs, Pyrethroids, and Fipronils; d8-Naphthalene, d10-Acenaphthene, d10-Phenanthrene, d12-Chrysene, and d12-Perylene for the PAHs; and FBDE-3002, FBDE-5004, and FBDE-8001 for the PBDEs. Since Pyrethroids and Fipronils are quantified using NCI, only the PCB112 and PCB198 surrogates are used as surrogates for these compounds.
6. Sample Preservation - According to the Standard Operating Procedure for Sample Logistics, sediment and tissue samples were placed in a freezer maintained at $-20 \pm 4^{\circ}\text{C}$ until preserved or processed.

ANALYTICAL

REPORT

PHYSICS

TERRA **AMERICA** **AURORA**

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CA ELAP #2769

Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22623-R1		B13-VWEB Grab		Matrix: Liquid		Sampled: 10-Sep-13 18:00
Method: EPA 625		Batch ID: O-5005		Prepared: 13-Sep-13		Received: 10-Sep-13
						Analyzed: 22-Oct-13 0:00
Aroclor 1016	Total	ND	1	2	ng/L	
Aroclor 1221	Total	ND	1	2	ng/L	
Aroclor 1232	Total	ND	1	2	ng/L	
Aroclor 1242	Total	ND	1	2	ng/L	
Aroclor 1248	Total	ND	1	2	ng/L	
Aroclor 1254	Total	ND	1	2	ng/L	
Aroclor 1260	Total	ND	1	2	ng/L	
Aroclor 1262	Total	ND	1	2	ng/L	
Aroclor 1268	Total	ND	1	2	ng/L	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22623-R1</div> <div>B13-VVEB Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-5005</div> </div> <div> <div>Sampled: 10-Sep-13 18:00</div> <div>Prepared: 13-Sep-13</div> </div> <div> <div>Received: 10-Sep-13</div> <div>Analyzed: 03-Nov-13 11:32</div> </div>						
(PCB030)	Total	102			% Recovery	
(PCB112)	Total	102			% Recovery	
(PCB198)	Total	96			% Recovery	
(TCMX)	Total	99			% Recovery	
2,4'-DDD	Total	ND	1	5	ng/L	
2,4'-DDE	Total	ND	1	5	ng/L	
2,4'-DDT	Total	ND	1	5	ng/L	
4,4'-DDD	Total	ND	1	5	ng/L	
4,4'-DDE	Total	ND	1	5	ng/L	
4,4'-DDMU	Total	ND	1	5	ng/L	
4,4'-DDT	Total	ND	1	5	ng/L	
Aldrin	Total	ND	1	5	ng/L	
BHC-alpha	Total	ND	1	5	ng/L	
BHC-beta	Total	ND	1	5	ng/L	
BHC-delta	Total	ND	1	5	ng/L	
BHC-gamma	Total	ND	1	5	ng/L	
Chlordane-alpha	Total	ND	1	5	ng/L	
Chlordane-gamma	Total	ND	1	5	ng/L	
cis-Nonachlor	Total	ND	1	5	ng/L	
DCPA (Dacthal)	Total	ND	5	10	ng/L	
Dicofol	Total	ND	50	100	ng/L	
Dieldrin	Total	ND	1	5	ng/L	
Endosulfan sulfate	Total	ND	1	5	ng/L	
Endosulfan-I	Total	ND	1	5	ng/L	
Endosulfan-II	Total	ND	1	5	ng/L	
Endrin	Total	ND	1	5	ng/L	
Endrin aldehyde	Total	ND	1	5	ng/L	
Endrin ketone	Total	ND	1	5	ng/L	
Heptachlor	Total	ND	1	5	ng/L	
Heptachlor epoxide	Total	ND	1	5	ng/L	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Hexachlorobenzene	Total	ND	1	5	ng/L	
Methoxychlor	Total	ND	1	5	ng/L	
Mirex	Total	ND	1	5	ng/L	
Oxychlordane	Total	ND	1	5	ng/L	
Perthane	Total	ND	5	10	ng/L	
trans-Nonachlor	Total	ND	1	5	ng/L	
Method: EPA 625-NCI		Batch ID: O-5005		Prepared: 13-Sep-13		Analyzed: 18-Oct-13 7:14
Toxaphene	Total	ND	10	50	ng/L	



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Conventionals

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22623-R1		B13-VWEB Grab	Matrix: Liquid	Sampled: 10-Sep-13 18:00	Received: 10-Sep-13	
	Method: SM 2540 D	Batch ID: C-13153		Prepared: 16-Sep-13	Analyzed: 16-Sep-13 0:00	
Total Suspended Solids	NA	ND	0.5	0.5	mg/L	
	Method: SM 4500-NO ₂ B	Batch ID: C-14003		Prepared: 11-Sep-13	Analyzed: 11-Sep-13 0:00	
Nitrite as N	NA	ND	0.01	0.05	mg/L	
	Method: SM 4500-NH ₃ D	Batch ID: C-14052		Prepared: 07-Oct-13	Analyzed: 07-Oct-13 0:00	
Ammonia as N	NA	ND	0.02	0.05	mg/L	
	Method: SM 4500-NO ₃ E	Batch ID: C-14053		Prepared: 11-Sep-13	Analyzed: 08-Oct-13 0:00	
Nitrate as N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 200.8	Batch ID: E-7013		Prepared: 08-Oct-13	Analyzed: 30-Oct-13 16:50	
Total Phosphorus	Total	ND	0.016	0.05	mg/L	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22623-R1 B13-VWEB Grab Matrix: Liquid Sampled: 10-Sep-13 18:00 Received: 10-Sep-13 Method: EPA 245.7 Batch ID: E-6039 Prepared: 24-Oct-13 Analyzed: 24-Oct-13 0:00						
Mercury (Hg)	Total	ND	0.01	0.02	µg/L	
Method: EPA 200.8 Batch ID: E-7013 Prepared: 23-Oct-13 Analyzed: 30-Oct-13 16:50						
Aluminum (Al)	Total	33.57	1.65	8.25	µg/L	
Antimony (Sb)	Total	0.03	0.03	0.15	µg/L	J
Arsenic (As)	Total	0.28	0.09	0.3	µg/L	J
Barium (Ba)	Total	1.02	0.25	0.5	µg/L	
Beryllium (Be)	Total	ND	0.02	0.1	µg/L	
Cadmium (Cd)	Total	ND	0.005	0.01	µg/L	
Chromium (Cr)	Total	0.17	0.01	0.05	µg/L	
Copper (Cu)	Total	0.008	0.005	0.01	µg/L	J
Iron (Fe)	Total	3.91	1.13	5.65	µg/L	J
Lead (Pb)	Total	ND	0.005	0.01	µg/L	
Nickel (Ni)	Total	0.13	0.01	0.02	µg/L	
Selenium (Se)	Total	ND	0.02	0.1	µg/L	
Silver (Ag)	Total	0.04	0.01	0.02	µg/L	
Zinc (Zn)	Total	0.88	0.02	0.1	µg/L	



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Fipronil & Degradates

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22623-R1		B13-VWEB Grab		Matrix: Liquid		Sampled: 10-Sep-13 18:00
Method: EPA 625-NCI		Batch ID: O-5005		Prepared: 13-Sep-13		Received: 10-Sep-13
						Analyzed: 18-Oct-13 7:14
Fipronil	Total	ND	5	10	ng/L	
Fipronil Desulfinyl	Total	ND	5	10	ng/L	
Fipronil Sulfide	Total	ND	5	10	ng/L	
Fipronil Sulfone	Total	ND	5	10	ng/L	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22623-R1</div> <div>B13-VVEB Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-5005</div> </div> <div> <div>Sampled: 10-Sep-13 18:00</div> <div>Prepared: 13-Sep-13</div> </div> <div> <div>Received: 10-Sep-13</div> <div>Analyzed: 22-Oct-13</div> </div>						
PCB003	Total	ND	0.05	0.1	ng/L	
PCB005	Total	ND	0.05	0.1	ng/L	
PCB008	Total	ND	0.05	0.1	ng/L	
PCB015	Total	ND	0.05	0.1	ng/L	
PCB018	Total	ND	0.05	0.1	ng/L	
PCB027	Total	ND	0.05	0.1	ng/L	
PCB028	Total	ND	0.05	0.1	ng/L	
PCB029	Total	ND	0.05	0.1	ng/L	
PCB031	Total	ND	0.05	0.1	ng/L	
PCB033	Total	ND	0.05	0.1	ng/L	
PCB037	Total	ND	0.05	0.1	ng/L	
PCB044	Total	ND	0.05	0.1	ng/L	
PCB049	Total	ND	0.05	0.1	ng/L	
PCB052	Total	ND	0.05	0.1	ng/L	
PCB056(060)	Total	ND	0.1	0.2	ng/L	
PCB066	Total	ND	0.05	0.1	ng/L	
PCB070	Total	ND	0.05	0.1	ng/L	
PCB074	Total	ND	0.05	0.1	ng/L	
PCB077	Total	ND	0.05	0.1	ng/L	
PCB081	Total	ND	0.05	0.1	ng/L	
PCB087	Total	ND	0.05	0.1	ng/L	
PCB095	Total	ND	0.05	0.1	ng/L	
PCB097	Total	ND	0.05	0.1	ng/L	
PCB099	Total	ND	0.05	0.1	ng/L	
PCB101	Total	ND	0.05	0.1	ng/L	
PCB105	Total	ND	0.05	0.1	ng/L	
PCB110	Total	ND	0.05	0.1	ng/L	
PCB114	Total	ND	0.05	0.1	ng/L	
PCB118	Total	ND	0.05	0.1	ng/L	
PCB119	Total	ND	0.05	0.1	ng/L	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB123	Total	ND	0.05	0.1	ng/L	
PCB126	Total	ND	0.05	0.1	ng/L	
PCB128	Total	ND	0.05	0.1	ng/L	
PCB137	Total	ND	0.05	0.1	ng/L	
PCB138	Total	ND	0.05	0.1	ng/L	
PCB141	Total	ND	0.05	0.1	ng/L	
PCB149	Total	ND	0.05	0.1	ng/L	
PCB151	Total	ND	0.05	0.1	ng/L	
PCB153	Total	ND	0.05	0.1	ng/L	
PCB156	Total	ND	0.05	0.1	ng/L	
PCB157	Total	ND	0.05	0.1	ng/L	
PCB158	Total	ND	0.05	0.1	ng/L	
PCB167	Total	ND	0.05	0.1	ng/L	
PCB168+132	Total	ND	0.1	0.2	ng/L	
PCB169	Total	ND	0.05	0.1	ng/L	
PCB170	Total	ND	0.05	0.1	ng/L	
PCB174	Total	ND	0.05	0.1	ng/L	
PCB177	Total	ND	0.05	0.1	ng/L	
PCB180	Total	ND	0.05	0.1	ng/L	
PCB183	Total	ND	0.05	0.1	ng/L	
PCB187	Total	ND	0.05	0.1	ng/L	
PCB189	Total	ND	0.05	0.1	ng/L	
PCB194	Total	ND	0.05	0.1	ng/L	
PCB195	Total	ND	0.05	0.1	ng/L	
PCB199(200)	Total	ND	0.1	0.2	ng/L	
PCB201	Total	ND	0.05	0.1	ng/L	
PCB203	Total	ND	0.05	0.1	ng/L	
PCB206	Total	ND	0.05	0.1	ng/L	
PCB209	Total	ND	0.05	0.1	ng/L	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22623-R1</div> <div>B13-VWEB Grab</div> <div>Method: EPA 625-NCI</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-5005</div> </div> <div> <div>Sampled: 10-Sep-13 18:00</div> <div>Prepared: 13-Sep-13</div> </div> <div> <div>Received: 10-Sep-13</div> <div>Analyzed: 18-Nov-13 18:35</div> </div>						
(DFPBDE)	Total	96			% Recovery	
(FTBDE)	Total	88			% Recovery	
PBDE017	Total	ND	1	5	ng/L	
PBDE028	Total	ND	1	5	ng/L	
PBDE047	Total	ND	1	5	ng/L	
PBDE049	Total	ND	1	5	ng/L	
PBDE066	Total	ND	1	5	ng/L	
PBDE071	Total	ND	1	5	ng/L	
PBDE085	Total	ND	1	5	ng/L	
PBDE099	Total	ND	1	5	ng/L	
PBDE100	Total	ND	1	5	ng/L	
PBDE138	Total	ND	1	5	ng/L	
PBDE153	Total	ND	1	5	ng/L	
PBDE154	Total	ND	1	5	ng/L	
PBDE183	Total	ND	1	5	ng/L	
PBDE190	Total	ND	1	5	ng/L	
PBDE209	Total	ND	1	5	ng/L	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22623-R1</div> <div>B13-VVEB Grab</div> <div>Method: EPA 625</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-5005</div> </div> <div> <div>Sampled: 10-Sep-13 18:00</div> <div>Prepared: 13-Sep-13</div> </div> <div> <div>Received: 10-Sep-13</div> <div>Analyzed: 03-Nov-13 11:32</div> </div>						
(d10-Acenaphthene)	Total	81			% Recovery	
(d10-Phenanthrene)	Total	86			% Recovery	
(d12-Chrysene)	Total	84			% Recovery	
(d8-Naphthalene)	Total	80			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	1.8	1	5	ng/L	J
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	ND	1	5	ng/L	
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	2.5	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	ND	1	5	ng/L	
Pyrene	Total	ND	1	5	ng/L	



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Pyrethroids**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22623-R1</div> <div>B13-VWEB Grab</div> <div>Method: EPA 625-NCI</div> </div> <div> <div>Matrix: Liquid</div> <div>Batch ID: O-5005</div> </div> <div> <div>Sampled: 10-Sep-13 18:00</div> <div>Prepared: 13-Sep-13</div> </div> <div> <div>Received: 10-Sep-13</div> <div>Analyzed: 18-Oct-13 7:14</div> </div>						
Allethrin	Total	ND	0.5	2	ng/L	
Bifenthrin	Total	ND	0.5	2	ng/L	
Cyfluthrin	Total	ND	0.5	2	ng/L	
Cyhalothrin, Total Lambda	Total	ND	0.5	2	ng/L	
Cypermethrin	Total	ND	0.5	2	ng/L	
Danitol (Fenpropathrin)	Total	ND	0.5	2	ng/L	
Deltamethrin/Tralomethrin	Total	ND	0.5	2	ng/L	
Esfenvalerate	Total	ND	0.5	2	ng/L	
Fenvalerate	Total	ND	0.5	2	ng/L	
Fluvalinate	Total	ND	0.5	2	ng/L	
Permethrin, cis-	Total	ND	5	10	ng/L	
Permethrin, trans-	Total	ND	5	10	ng/L	
Prallethrin	Total	ND	0.5	2	ng/L	
Resmethrin	Total	ND	5	10	ng/L	



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CA ELAP #2769

Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22628-R1 B13-8111 Grab Matrix: Sediment Sampled: 09-Sep-13 8:53 Received: 10-Sep-13 Method: EPA 8270C Batch ID: O-5102 Prepared: 28-Feb-14 Analyzed: 07-Apr-14 0:00						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	117.3	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	
Sample ID: 22629-R1 B13-8112 Grab Matrix: Sediment Sampled: 09-Sep-13 9:58 Received: 10-Sep-13 Method: EPA 8270C Batch ID: O-5102 Prepared: 28-Feb-14 Analyzed: 07-Apr-14 0:00						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	16	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	
Sample ID: 22630-R1 B13-8500 Grab Matrix: Sediment Sampled: 09-Sep-13 11:04 Received: 10-Sep-13 Method: EPA 8270C Batch ID: O-5102 Prepared: 28-Feb-14 Analyzed: 07-Apr-14 0:00						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	



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Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1260	NA	162.7	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22631-R1**B13-8123 Grab****Matrix: Sediment****Sampled: 09-Sep-13 12:03****Received: 10-Sep-13**

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 07-Apr-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	11.6	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22632-R1**B13-8124 Grab****Matrix: Sediment****Sampled: 09-Sep-13 13:30****Received: 10-Sep-13**

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 07-Apr-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	19	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22633-R1**B13-8128 Grab****Matrix: Sediment****Sampled: 09-Sep-13 14:31****Received: 10-Sep-13**

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 07-Apr-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	



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Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	61.5	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22634-R1**B13-8127 Grab****Matrix: Sediment****Sampled: 09-Sep-13 16:07****Received: 10-Sep-13**

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 07-Apr-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	31.9	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22635-R1**B13-8121 Grab****Matrix: Sediment****Sampled: 09-Sep-13 17:20****Received: 10-Sep-13**

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 07-Apr-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	490.8	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22636-R1**B13-8085 Grab****Matrix: Sediment****Sampled: 10-Sep-13 8:38****Received: 10-Sep-13**

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 08-Apr-14 0:00



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Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	10.7	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22637-R1**B13-8105 Grab****Matrix: Sediment****Sampled: 10-Sep-13 9:46****Received: 10-Sep-13**

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 08-Apr-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	122.9	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22638-R1**B13-8117 Grab****Matrix: Sediment****Sampled: 10-Sep-13 11:07****Received: 10-Sep-13**

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 08-Apr-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	20.3	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	



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Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22639-R1 B13-8113 Grab Matrix: Sediment Sampled: 10-Sep-13 12:10 Received: 10-Sep-13 Method: EPA 8270C Batch ID: O-5102 Prepared: 28-Feb-14 Analyzed: 08-Apr-14 0:00						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	16.8	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	
Sample ID: 22640-R1 B13-8116 Grab Matrix: Sediment Sampled: 10-Sep-13 13:51 Received: 10-Sep-13 Method: EPA 8270C Batch ID: O-5102 Prepared: 28-Feb-14 Analyzed: 08-Apr-14 0:00						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	40.2	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	
Sample ID: 22641-R1 B13-8108 Grab Matrix: Sediment Sampled: 10-Sep-13 14:46 Received: 10-Sep-13 Method: EPA 8270C Batch ID: O-5102 Prepared: 28-Feb-14 Analyzed: 08-Apr-14 0:00						
Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	



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Aroclor PCBs**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Aroclor 1260	NA	9.7	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22642-R1**B13-8106 Grab****Matrix: Sediment****Sampled: 10-Sep-13 15:49****Received: 10-Sep-13**

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 08-Apr-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	16.9	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	

Sample ID: 22643-R1**B13-8102 Grab****Matrix: Sediment****Sampled: 10-Sep-13 16:50****Received: 10-Sep-13**

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 08-Apr-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g	
Aroclor 1221	NA	ND	1	2	ng/dry g	
Aroclor 1232	NA	ND	1	2	ng/dry g	
Aroclor 1242	NA	ND	1	2	ng/dry g	
Aroclor 1248	NA	ND	1	2	ng/dry g	
Aroclor 1254	NA	ND	1	2	ng/dry g	
Aroclor 1260	NA	18.7	1	2	ng/dry g	
Aroclor 1262	NA	ND	1	2	ng/dry g	
Aroclor 1268	NA	ND	1	2	ng/dry g	



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CA ELAP #2769

Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22628-R1 B13-8111 Grab Matrix: Sediment Sampled: 09-Sep-13 8:53 Received: 10-Sep-13 Method: EPA 8270C-NCI Batch ID: O-5057 Prepared: 02-Dec-13 Analyzed: 07-Jan-14 17:32						
Toxaphene	NA	ND	0.1	0.2	ng/dry g	
Method: EPA 8270C Batch ID: O-5102 Prepared: 28-Feb-14 Analyzed: 07-Apr-14 7:07						
(PCB030)	NA	90			% Recovery	
(PCB112)	NA	90			% Recovery	
(PCB198)	NA	86			% Recovery	
(TCMX)	NA	86			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22629-R1

B13-8112 Grab

Matrix: Sediment

Sampled: 09-Sep-13 9:58

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 07-Jan-14 19:40

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5102	Prepared: 28-Feb-14	Analyzed: 07-Apr-14 12:17		
(PCB030)	NA	77			% Recovery	
(PCB112)	NA	80			% Recovery	
(PCB198)	NA	81			% Recovery	
(TCMX)	NA	74			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22630-R1

B13-8500 Grab

Matrix: Sediment

Sampled: 09-Sep-13 11:04

Received: 10-Sep-13

Method: EPA 8270C-NCl

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 07-Jan-14 20:44

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5102	Prepared: 28-Feb-14	Analyzed: 07-Apr-14 13:58		
(PCB030)	NA	106			% Recovery	
(PCB112)	NA	101			% Recovery	
(PCB198)	NA	87			% Recovery	
(TCMX)	NA	105			% Recovery	
2,4'-DDD	NA	7.4	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	33.36	0.05	0.1	ng/dry g	
4,4'-DDE	NA	5.52	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	16.04	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	18.06	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	5.91	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	12.46	0.05	0.1	ng/dry g	

Sample ID: 22631-R1

B13-8123 Grab

Matrix: Sediment

Sampled: 09-Sep-13 12:03

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 07-Jan-14 21:48

Toxaphene

NA

ND

0.1

0.2

ng/dry g

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 07-Apr-14 15:38

(PCB030)

NA

84

% Recovery

(PCB112)

NA

95

% Recovery

(PCB198)

NA

88

% Recovery

(TCMX)

NA

83

% Recovery



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22632-R1 B13-8124 Grab Matrix: Sediment Sampled: 09-Sep-13 13:30 Received: 10-Sep-13 Method: EPA 8270C-NCI Batch ID: O-5057 Prepared: 02-Dec-13 Analyzed: 07-Jan-14 22:52						
Toxaphene	NA	ND	0.1	0.2	ng/dry g	
Method: EPA 8270C Batch ID: O-5102 Prepared: 28-Feb-14 Analyzed: 07-Apr-14 17:18						
(PCB030)	NA	81			% Recovery	
(PCB112)	NA	85			% Recovery	
(PCB198)	NA	77			% Recovery	
(TCMX)	NA	82			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22633-R1

B13-8128 Grab

Matrix: Sediment

Sampled: 09-Sep-13 14:31

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 07-Jan-14 23:55

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5102	Prepared: 28-Feb-14	Analyzed: 07-Apr-14 18:59		
(PCB030)	NA	80			% Recovery	
(PCB112)	NA	78			% Recovery	
(PCB198)	NA	66			% Recovery	
(TCMX)	NA	77			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22634-R1

B13-8127 Grab

Matrix: Sediment

Sampled: 09-Sep-13 16:07

Received: 10-Sep-13

Method: EPA 8270C-NCl

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 08-Jan-14 0:59

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5102	Prepared: 28-Feb-14	Analyzed: 07-Apr-14 20:39		
(PCB030)	NA	81			% Recovery	
(PCB112)	NA	84			% Recovery	
(PCB198)	NA	80			% Recovery	
(TCMX)	NA	77			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22635-R1

B13-8121 Grab

Matrix: Sediment

Sampled: 09-Sep-13 17:20

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 08-Jan-14 5:44

Toxaphene

NA

ND

0.1

0.2

ng/dry g

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 07-Apr-14 22:20

(PCB030)

NA

90

% Recovery

(PCB112)

NA

84

% Recovery

(PCB198)

NA

71

% Recovery

(TCMX)

NA

86

% Recovery



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	1.13	0.05	0.1	ng/dry g	
4,4'-DDD	NA	2.62	0.05	0.1	ng/dry g	
4,4'-DDE	NA	5	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22636-R1 B13-8085 Grab Matrix: Sediment Sampled: 10-Sep-13 8:38 Received: 10-Sep-13 Method: EPA 8270C-NCI Batch ID: O-5057 Prepared: 02-Dec-13 Analyzed: 08-Jan-14 6:48						
Toxaphene	NA	ND	0.1	0.2	ng/dry g	
Method: EPA 8270C Batch ID: O-5102 Prepared: 28-Feb-14 Analyzed: 08-Apr-14 5:28						
(PCB030)	NA	66			% Recovery	
(PCB112)	NA	60			% Recovery	
(PCB198)	NA	58			% Recovery	
(TCMX)	NA	62			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22637-R1

B13-8105 Grab

Matrix: Sediment

Sampled: 10-Sep-13 9:46

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 08-Jan-14 7:51

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5102	Prepared: 28-Feb-14	Analyzed: 08-Apr-14 7:08		
(PCB030)	NA	86			% Recovery	
(PCB112)	NA	89			% Recovery	
(PCB198)	NA	91			% Recovery	
(TCMX)	NA	82			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22638-R1

B13-8117 Grab

Matrix: Sediment

Sampled: 10-Sep-13 11:07

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 08-Jan-14 8:55

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5102	Prepared: 28-Feb-14	Analyzed: 08-Apr-14 8:48		
(PCB030)	NA	78			% Recovery	
(PCB112)	NA	79			% Recovery	
(PCB198)	NA	78			% Recovery	
(TCMX)	NA	71			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22639-R1

B13-8113 Grab

Matrix: Sediment

Sampled: 10-Sep-13 12:10

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 08-Jan-14 9:59

Toxaphene

NA

ND

0.1

0.2

ng/dry g

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 08-Apr-14 10:29

(PCB030)

NA

62

% Recovery

(PCB112)

NA

53

% Recovery

(PCB198)

NA

50

% Recovery

(TCMX)

NA

60

% Recovery



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22640-R1 B13-8116 Grab Matrix: Sediment Sampled: 10-Sep-13 13:51 Received: 10-Sep-13 Method: EPA 8270C-NCI Batch ID: O-5057 Prepared: 02-Dec-13 Analyzed: 08-Jan-14 11:02						
Toxaphene	NA	ND	0.1	0.2	ng/dry g	
Method: EPA 8270C Batch ID: O-5102 Prepared: 28-Feb-14 Analyzed: 08-Apr-14 12:09						
(PCB030)	NA	104			% Recovery	
(PCB112)	NA	103			% Recovery	
(PCB198)	NA	92			% Recovery	
(TCMX)	NA	104			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	2.06	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	1.41	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	2.6	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	1.14	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	1.29	0.05	0.1	ng/dry g	

Sample ID: 22641-R1**B13-8108 Grab****Matrix: Sediment****Sampled: 10-Sep-13 14:46****Received: 10-Sep-13**

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 08-Jan-14 12:06

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5102	Prepared: 28-Feb-14	Analyzed: 08-Apr-14 13:49		
(PCB030)	NA	82			% Recovery	
(PCB112)	NA	85			% Recovery	
(PCB198)	NA	83			% Recovery	
(TCMX)	NA	80			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22642-R1

B13-8106 Grab

Matrix: Sediment

Sampled: 10-Sep-13 15:49

Received: 10-Sep-13

Method: EPA 8270C-NCl

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 08-Jan-14 13:10

Toxaphene	NA	ND	0.1	0.2	ng/dry g	
	Method: EPA 8270C	Batch ID: O-5102	Prepared: 28-Feb-14	Analyzed: 08-Apr-14 15:30		
(PCB030)	NA	75			% Recovery	
(PCB112)	NA	82			% Recovery	
(PCB198)	NA	80			% Recovery	
(TCMX)	NA	71			% Recovery	
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22643-R1

B13-8102 Grab

Matrix: Sediment

Sampled: 10-Sep-13 16:50

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 08-Jan-14 14:14

Toxaphene

NA

ND

0.1

0.2

ng/dry g

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 08-Apr-14 17:10

(PCB030)

NA

74

% Recovery

(PCB112)

NA

74

% Recovery

(PCB198)

NA

72

% Recovery

(TCMX)

NA

72

% Recovery



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Chlorinated Pesticides

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g	
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g	
Aldrin	NA	ND	0.05	0.1	ng/dry g	
BHC-alpha	NA	ND	0.05	0.1	ng/dry g	
BHC-beta	NA	ND	0.05	0.1	ng/dry g	
BHC-delta	NA	ND	0.05	0.1	ng/dry g	
BHC-gamma	NA	ND	0.05	0.1	ng/dry g	
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g	
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g	
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g	
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g	
Dicofol	NA	ND	0.05	0.1	ng/dry g	
Dieldrin	NA	ND	0.05	0.1	ng/dry g	
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g	
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g	
Endrin	NA	ND	0.05	0.1	ng/dry g	
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g	
Endrin ketone	NA	ND	0.05	0.1	ng/dry g	
Heptachlor	NA	ND	0.05	0.1	ng/dry g	
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g	
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g	
Methoxychlor	NA	ND	0.05	0.1	ng/dry g	
Mirex	NA	ND	0.05	0.1	ng/dry g	
Oxychlordane	NA	ND	0.05	0.1	ng/dry g	
Perthane	NA	ND	0.05	0.1	ng/dry g	
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g	



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Conventionals

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22628-R1		B13-8111 Grab	Matrix: Sediment	Sampled: 09-Sep-13 8:53	Received: 10-Sep-13	
	Method: SM 2540 B	Batch ID: C-14074		Prepared: 22-Oct-13	Analyzed: 22-Oct-13 0:00	
Percent Solids	NA	42.8	0.1	0.1	% Dry Weight	
	Method: SM 4500-NH ₃ D	Batch ID: C-14075		Prepared: 23-Oct-13	Analyzed: 23-Oct-13 0:00	
Ammonia as N	NA	3.12	0.02	0.03	mg/dry kg	
	Method: Plumb, 1981 and TER	Batch ID: C-14076		Prepared: 23-Oct-13	Analyzed: 23-Oct-13 0:00	
Acid Volatile Sulfides	NA	7.42	0.05	0.1	mg/dry kg	
	Method: EPA 6020	Batch ID: E-7012		Prepared: 23-Oct-13	Analyzed: 01-Nov-13 14:42	
Total Phosphorus	NA	837.175	0.016	0.05	µg/dry g	
Sample ID: 22629-R1		B13-8112 Grab	Matrix: Sediment	Sampled: 09-Sep-13 9:58	Received: 10-Sep-13	
	Method: SM 2540 B	Batch ID: C-14074		Prepared: 22-Oct-13	Analyzed: 22-Oct-13 0:00	
Percent Solids	NA	53.8	0.1	0.1	% Dry Weight	
	Method: SM 4500-NH ₃ D	Batch ID: C-14075		Prepared: 23-Oct-13	Analyzed: 23-Oct-13 0:00	
Ammonia as N	NA	5.2	0.02	0.03	mg/dry kg	
	Method: Plumb, 1981 and TER	Batch ID: C-14076		Prepared: 23-Oct-13	Analyzed: 23-Oct-13 0:00	
Acid Volatile Sulfides	NA	19.44	0.05	0.1	mg/dry kg	
	Method: EPA 6020	Batch ID: E-7012		Prepared: 23-Oct-13	Analyzed: 01-Nov-13 14:51	
Total Phosphorus	NA	473.629	0.016	0.05	µg/dry g	
Sample ID: 22630-R1		B13-8500 Grab	Matrix: Sediment	Sampled: 09-Sep-13 11:04	Received: 10-Sep-13	
	Method: SM 2540 B	Batch ID: C-14074		Prepared: 22-Oct-13	Analyzed: 22-Oct-13 0:00	
Percent Solids	NA	61.8	0.1	0.1	% Dry Weight	
	Method: SM 4500-NH ₃ D	Batch ID: C-14075		Prepared: 23-Oct-13	Analyzed: 23-Oct-13 0:00	
Ammonia as N	NA	2.32	0.02	0.03	mg/dry kg	
	Method: Plumb, 1981 and TER	Batch ID: C-14076		Prepared: 23-Oct-13	Analyzed: 23-Oct-13 0:00	
Acid Volatile Sulfides	NA	32.27	0.05	0.1	mg/dry kg	
	Method: EPA 6020	Batch ID: E-7012		Prepared: 23-Oct-13	Analyzed: 01-Nov-13 14:56	
Total Phosphorus	NA	471.086	0.016	0.05	µg/dry g	
Sample ID: 22631-R1		B13-8123 Grab	Matrix: Sediment	Sampled: 09-Sep-13 12:03	Received: 10-Sep-13	
	Method: SM 2540 B	Batch ID: C-14074		Prepared: 22-Oct-13	Analyzed: 22-Oct-13 0:00	
Percent Solids	NA	67.8	0.1	0.1	% Dry Weight	



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Conventionals

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14075		Prepared: 23-Oct-13		Analyzed: 23-Oct-13 0:00
	NA	1.62	0.02	0.03	mg/dry kg	
Acid Volatile Sulfides	Method: Plumb, 1981 and TER	Batch ID: C-14076		Prepared: 23-Oct-13		Analyzed: 23-Oct-13 0:00
	NA	2.71	0.05	0.1	mg/dry kg	
Total Phosphorus	Method: EPA 6020	Batch ID: E-7012		Prepared: 23-Oct-13		Analyzed: 01-Nov-13 15:00
	NA	384.299	0.016	0.05	µg/dry g	
Sample ID: 22632-R1		B13-8124 Grab	Matrix: Sediment	Sampled: 09-Sep-13 13:30	Received: 10-Sep-13	
Percent Solids	Method: SM 2540 B	Batch ID: C-14074		Prepared: 22-Oct-13		Analyzed: 22-Oct-13 0:00
	NA	64.7	0.1	0.1	% Dry Weight	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14075		Prepared: 23-Oct-13		Analyzed: 23-Oct-13 0:00
	NA	1.62	0.02	0.03	mg/dry kg	
Acid Volatile Sulfides	Method: Plumb, 1981 and TER	Batch ID: C-14076		Prepared: 23-Oct-13		Analyzed: 23-Oct-13 0:00
	NA	5.7	0.05	0.1	mg/dry kg	
Total Phosphorus	Method: EPA 6020	Batch ID: E-7012		Prepared: 23-Oct-13		Analyzed: 01-Nov-13 15:05
	NA	383.122	0.016	0.05	µg/dry g	
Sample ID: 22633-R1		B13-8128 Grab	Matrix: Sediment	Sampled: 09-Sep-13 14:31	Received: 10-Sep-13	
Percent Solids	Method: SM 2540 B	Batch ID: C-14074		Prepared: 22-Oct-13		Analyzed: 22-Oct-13 0:00
	NA	52	0.1	0.1	% Dry Weight	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14075		Prepared: 23-Oct-13		Analyzed: 23-Oct-13 0:00
	NA	1.56	0.02	0.03	mg/dry kg	
Acid Volatile Sulfides	Method: Plumb, 1981 and TER	Batch ID: C-14076		Prepared: 23-Oct-13		Analyzed: 23-Oct-13 0:00
	NA	10.05	0.05	0.1	mg/dry kg	
Total Phosphorus	Method: EPA 6020	Batch ID: E-7012		Prepared: 23-Oct-13		Analyzed: 01-Nov-13 15:09
	NA	565.016	0.016	0.05	µg/dry g	
Sample ID: 22634-R1		B13-8127 Grab	Matrix: Sediment	Sampled: 09-Sep-13 16:07	Received: 10-Sep-13	
Percent Solids	Method: SM 2540 B	Batch ID: C-14074		Prepared: 22-Oct-13		Analyzed: 22-Oct-13 0:00
	NA	37.4	0.1	0.1	% Dry Weight	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14075		Prepared: 23-Oct-13		Analyzed: 23-Oct-13 0:00
	NA	6.16	0.02	0.03	mg/dry kg	
	Method: Plumb, 1981 and TER	Batch ID: C-14076		Prepared: 23-Oct-13		Analyzed: 23-Oct-13 0:00



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Acid Volatile Sulfides	NA	87.43	0.05	0.1	mg/dry kg	
	Method: EPA 6020	Batch ID: E-7013		Prepared: 23-Oct-13		Analyzed: 01-Nov-13 16:49
Total Phosphorus	NA	986.319	0.016	0.05	µg/dry g	
Sample ID: 22635-R1	B13-8121 Grab	Matrix: Sediment		Sampled: 09-Sep-13 17:20		Received: 10-Sep-13
	Method: SM 2540 B	Batch ID: C-14074		Prepared: 22-Oct-13		Analyzed: 22-Oct-13 0:00
Percent Solids	NA	49.7	0.1	0.1	% Dry Weight	
	Method: SM 4500-NH3 D	Batch ID: C-14075		Prepared: 23-Oct-13		Analyzed: 23-Oct-13 0:00
Ammonia as N	NA	1.64	0.02	0.03	mg/dry kg	
	Method: Plumb, 1981 and TER	Batch ID: C-14076		Prepared: 23-Oct-13		Analyzed: 23-Oct-13 0:00
Acid Volatile Sulfides	NA	3.8	0.05	0.1	mg/dry kg	
	Method: EPA 6020	Batch ID: E-7013		Prepared: 23-Oct-13		Analyzed: 01-Nov-13 16:58
Total Phosphorus	NA	705.285	0.016	0.05	µg/dry g	
Sample ID: 22636-R1	B13-8085 Grab	Matrix: Sediment		Sampled: 10-Sep-13 8:38		Received: 10-Sep-13
	Method: SM 2540 B	Batch ID: C-14074		Prepared: 22-Oct-13		Analyzed: 22-Oct-13 0:00
Percent Solids	NA	42.2	0.1	0.1	% Dry Weight	
	Method: SM 4500-NH3 D	Batch ID: C-14075		Prepared: 23-Oct-13		Analyzed: 23-Oct-13 0:00
Ammonia as N	NA	9.07	0.02	0.03	mg/dry kg	
	Method: Plumb, 1981 and TER	Batch ID: C-14076		Prepared: 23-Oct-13		Analyzed: 23-Oct-13 0:00
Acid Volatile Sulfides	NA	569.61	0.05	0.1	mg/dry kg	
	Method: EPA 6020	Batch ID: E-7013		Prepared: 23-Oct-13		Analyzed: 01-Nov-13 17:03
Total Phosphorus	NA	788.423	0.016	0.05	µg/dry g	
Sample ID: 22637-R1	B13-8105 Grab	Matrix: Sediment		Sampled: 10-Sep-13 9:46		Received: 10-Sep-13
	Method: SM 2540 B	Batch ID: C-14074		Prepared: 22-Oct-13		Analyzed: 22-Oct-13 0:00
Percent Solids	NA	68.7	0.1	0.1	% Dry Weight	
	Method: SM 4500-NH3 D	Batch ID: C-14075		Prepared: 23-Oct-13		Analyzed: 23-Oct-13 0:00
Ammonia as N	NA	2.66	0.02	0.03	mg/dry kg	
	Method: Plumb, 1981 and TER	Batch ID: C-14076		Prepared: 23-Oct-13		Analyzed: 23-Oct-13 0:00
Acid Volatile Sulfides	NA	22.34	0.05	0.1	mg/dry kg	
	Method: EPA 6020	Batch ID: E-7013		Prepared: 23-Oct-13		Analyzed: 01-Nov-13 17:07
Total Phosphorus	NA	297.307	0.016	0.05	µg/dry g	



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Conventionals

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22638-R1		B13-8117 Grab	Matrix: Sediment	Sampled: 10-Sep-13 11:07	Received: 10-Sep-13	
	Method: SM 2540 B	Batch ID: C-14074		Prepared: 22-Oct-13	Analyzed: 22-Oct-13 0:00	
Percent Solids	NA	43.5	0.1	0.1	% Dry Weight	
	Method: SM 4500-NH ₃ D	Batch ID: C-14075		Prepared: 23-Oct-13	Analyzed: 23-Oct-13 0:00	
Ammonia as N	NA	1.26	0.02	0.03	mg/dry kg	
	Method: Plumb, 1981 and TER	Batch ID: C-14076		Prepared: 23-Oct-13	Analyzed: 23-Oct-13 0:00	
Acid Volatile Sulfides	NA	1.27	0.05	0.1	mg/dry kg	
	Method: EPA 6020	Batch ID: E-7013		Prepared: 23-Oct-13	Analyzed: 01-Nov-13 17:12	
Total Phosphorus	NA	827.216	0.016	0.05	µg/dry g	
Sample ID: 22639-R1		B13-8113 Grab	Matrix: Sediment	Sampled: 10-Sep-13 12:10	Received: 10-Sep-13	
	Method: SM 2540 B	Batch ID: C-14074		Prepared: 22-Oct-13	Analyzed: 22-Oct-13 0:00	
Percent Solids	NA	51.8	0.1	0.1	% Dry Weight	
	Method: SM 4500-NH ₃ D	Batch ID: C-14075		Prepared: 23-Oct-13	Analyzed: 23-Oct-13 0:00	
Ammonia as N	NA	1.31	0.02	0.03	mg/dry kg	
	Method: Plumb, 1981 and TER	Batch ID: C-14076		Prepared: 23-Oct-13	Analyzed: 23-Oct-13 0:00	
Acid Volatile Sulfides	NA	1.46	0.05	0.1	mg/dry kg	
	Method: EPA 6020	Batch ID: E-7013		Prepared: 23-Oct-13	Analyzed: 01-Nov-13 17:17	
Total Phosphorus	NA	536.977	0.016	0.05	µg/dry g	
Sample ID: 22640-R1		B13-8116 Grab	Matrix: Sediment	Sampled: 10-Sep-13 13:51	Received: 10-Sep-13	
	Method: SM 2540 B	Batch ID: C-14074		Prepared: 22-Oct-13	Analyzed: 22-Oct-13 0:00	
Percent Solids	NA	67.6	0.1	0.1	% Dry Weight	
	Method: SM 4500-NH ₃ D	Batch ID: C-14075		Prepared: 23-Oct-13	Analyzed: 23-Oct-13 0:00	
Ammonia as N	NA	1.55	0.02	0.03	mg/dry kg	
	Method: Plumb, 1981 and TER	Batch ID: C-14076		Prepared: 23-Oct-13	Analyzed: 23-Oct-13 0:00	
Acid Volatile Sulfides	NA	2.87	0.05	0.1	mg/dry kg	
	Method: EPA 6020	Batch ID: E-7013		Prepared: 23-Oct-13	Analyzed: 01-Nov-13 17:21	
Total Phosphorus	NA	268.842	0.016	0.05	µg/dry g	
Sample ID: 22641-R1		B13-8108 Grab	Matrix: Sediment	Sampled: 10-Sep-13 14:46	Received: 10-Sep-13	
	Method: SM 2540 B	Batch ID: C-14074		Prepared: 22-Oct-13	Analyzed: 22-Oct-13 0:00	
Percent Solids	NA	65.6	0.1	0.1	% Dry Weight	



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Conventionals

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14075		Prepared: 23-Oct-13		Analyzed: 23-Oct-13 0:00
	NA	1.57	0.02	0.03	mg/dry kg	
Acid Volatile Sulfides	Method: Plumb, 1981 and TER	Batch ID: C-14076		Prepared: 23-Oct-13		Analyzed: 23-Oct-13 0:00
	NA	5.16	0.05	0.1	mg/dry kg	
Total Phosphorus	Method: EPA 6020	Batch ID: E-7013		Prepared: 23-Oct-13		Analyzed: 01-Nov-13 17:26
	NA	337.09	0.016	0.05	µg/dry g	
Sample ID: 22642-R1		B13-8106 Grab	Matrix: Sediment	Sampled: 10-Sep-13 15:49	Received: 10-Sep-13	
Percent Solids	Method: SM 2540 B	Batch ID: C-14074		Prepared: 22-Oct-13		Analyzed: 22-Oct-13 0:00
	NA	60.5	0.1	0.1	% Dry Weight	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14075		Prepared: 23-Oct-13		Analyzed: 23-Oct-13 0:00
	NA	2.89	0.02	0.03	mg/dry kg	
Acid Volatile Sulfides	Method: Plumb, 1981 and TER	Batch ID: C-14076		Prepared: 23-Oct-13		Analyzed: 23-Oct-13 0:00
	NA	12.01	0.05	0.1	mg/dry kg	
Total Phosphorus	Method: EPA 6020	Batch ID: E-7013		Prepared: 23-Oct-13		Analyzed: 01-Nov-13 17:31
	NA	446.917	0.016	0.05	µg/dry g	
Sample ID: 22643-R1		B13-8102 Grab	Matrix: Sediment	Sampled: 10-Sep-13 16:50	Received: 10-Sep-13	
Percent Solids	Method: SM 2540 B	Batch ID: C-14074		Prepared: 22-Oct-13		Analyzed: 22-Oct-13 0:00
	NA	44.9	0.1	0.1	% Dry Weight	
Ammonia as N	Method: SM 4500-NH ₃ D	Batch ID: C-14075		Prepared: 23-Oct-13		Analyzed: 23-Oct-13 0:00
	NA	5.56	0.02	0.03	mg/dry kg	
Acid Volatile Sulfides	Method: Plumb, 1981 and TER	Batch ID: C-14076		Prepared: 23-Oct-13		Analyzed: 23-Oct-13 0:00
	NA	24.1	0.05	0.1	mg/dry kg	
Total Phosphorus	Method: EPA 6020	Batch ID: E-7013		Prepared: 23-Oct-13		Analyzed: 01-Nov-13 17:35
	NA	746.211	0.016	0.05	µg/dry g	



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22628-R1 B13-8111 Grab Matrix: Sediment Sampled: 09-Sep-13 8:53 Received: 10-Sep-13 Method: EPA 245.7 Batch ID: E-6040 Prepared: 23-Oct-13 Analyzed: 24-Oct-13 0:00						
Mercury (Hg)	NA	1.1948	0.00001	0.00002	µg/dry g	
Method: EPA 6020 Batch ID: E-7012 Prepared: 23-Oct-13 Analyzed: 02-Nov-13 14:16						
Aluminum (Al)	NA	44067.6	1	5	µg/dry g	
Antimony (Sb)	NA	0.436	0.025	0.05	µg/dry g	
Arsenic (As)	NA	14.745	0.025	0.05	µg/dry g	
Barium (Ba)	NA	135.005	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.804	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2637	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	77.8874	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	147.1139	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	40012.2	1	5	µg/dry g	
Lead (Pb)	NA	49.1963	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	20.48	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.431	0.025	0.05	µg/dry g	
Silver (Ag)	NA	1.02	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	240.096	0.025	0.05	µg/dry g	
Sample ID: 22629-R1 B13-8112 Grab Matrix: Sediment Sampled: 09-Sep-13 9:58 Received: 10-Sep-13 Method: EPA 245.7 Batch ID: E-6040 Prepared: 23-Oct-13 Analyzed: 24-Oct-13 0:00						
Mercury (Hg)	NA	0.3629	0.00001	0.00002	µg/dry g	
Method: EPA 6020 Batch ID: E-7012 Prepared: 23-Oct-13 Analyzed: 02-Nov-13 14:25						
Aluminum (Al)	NA	27653.9	1	5	µg/dry g	
Antimony (Sb)	NA	0.325	0.025	0.05	µg/dry g	
Arsenic (As)	NA	7.777	0.025	0.05	µg/dry g	
Barium (Ba)	NA	103.171	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.468	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1401	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	42.5268	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	72.5666	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	24583.2	1	5	µg/dry g	



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Elements

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Lead (Pb)	NA	24.8336	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	11.9	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.224	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.61	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	132.229	0.025	0.05	µg/dry g	

Sample ID: 22630-R1

B13-8500 Grab

Matrix: Sediment

Sampled: 09-Sep-13 11:04

Received: 10-Sep-13

Method: EPA 245.7

Batch ID: E-6040

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	0.2106	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7012		Prepared: 23-Oct-13		Analyzed: 02-Nov-13 14:30
Aluminum (Al)	NA	17403.3	1	5	µg/dry g	
Antimony (Sb)	NA	0.409	0.025	0.05	µg/dry g	
Arsenic (As)	NA	6.095	0.025	0.05	µg/dry g	
Barium (Ba)	NA	60.913	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.346	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.4343	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	36.5939	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	62.7	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	16508.7	1	5	µg/dry g	
Lead (Pb)	NA	50.3598	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	10.42	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.199	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.73	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	181.724	0.025	0.05	µg/dry g	

Sample ID: 22631-R1

B13-8123 Grab

Matrix: Sediment

Sampled: 09-Sep-13 12:03

Received: 10-Sep-13

Method: EPA 245.7

Batch ID: E-6040

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	0.2443	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7012		Prepared: 23-Oct-13		Analyzed: 02-Nov-13 14:35
Aluminum (Al)	NA	17781.4	1	5	µg/dry g	
Antimony (Sb)	NA	0.165	0.025	0.05	µg/dry g	
Arsenic (As)	NA	5.819	0.025	0.05	µg/dry g	
Barium (Ba)	NA	70.302	0.025	0.05	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Beryllium (Be)	NA	0.254	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1299	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	34.0857	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	42.7447	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	16825.3	1	5	µg/dry g	
Lead (Pb)	NA	18.8822	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	7.26	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.137	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.42	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	95.004	0.025	0.05	µg/dry g	

Sample ID: 22632-R1**B13-8124 Grab****Matrix: Sediment****Sampled: 09-Sep-13 13:30****Received: 10-Sep-13**

Method: EPA 245.7

Batch ID: E-6040

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	0.2359	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7012	Prepared: 23-Oct-13	Analyzed: 02-Nov-13 14:40		
Aluminum (Al)	NA	18915.7	1	5	µg/dry g	
Antimony (Sb)	NA	0.186	0.025	0.05	µg/dry g	
Arsenic (As)	NA	5.592	0.025	0.05	µg/dry g	
Barium (Ba)	NA	80.286	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.274	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1569	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	38.0138	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	48.1041	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	17805.9	1	5	µg/dry g	
Lead (Pb)	NA	18.7284	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	8.02	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.11	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.45	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	106.039	0.025	0.05	µg/dry g	

Sample ID: 22633-R1**B13-8128 Grab****Matrix: Sediment****Sampled: 09-Sep-13 14:31****Received: 10-Sep-13**

Method: EPA 245.7

Batch ID: E-6040

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	0.5023	0.00001	0.00002	µg/dry g	
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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Method: EPA 6020		Batch ID: E-7012		Prepared: 23-Oct-13		Analyzed: 02-Nov-13 14:44
Aluminum (Al)	NA	36031	1	5	µg/dry g	
Antimony (Sb)	NA	0.265	0.025	0.05	µg/dry g	
Arsenic (As)	NA	9.846	0.025	0.05	µg/dry g	
Barium (Ba)	NA	145.346	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.559	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1663	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	88.4202	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	133.8786	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	33074.9	1	5	µg/dry g	
Lead (Pb)	NA	37.2439	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	15.47	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.22	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.67	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	225.9	0.025	0.05	µg/dry g	

Sample ID: 22634-R1**B13-8127 Grab****Matrix: Sediment****Sampled: 09-Sep-13 16:07****Received: 10-Sep-13**

Method: EPA 245.7

Batch ID: E-6041

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	0.7729	0.00001	0.00002	µg/dry g	
Method: EPA 6020		Batch ID: E-7013		Prepared: 23-Oct-13		Analyzed: 02-Nov-13 15:56
Aluminum (Al)	NA	62748.8	1	5	µg/dry g	
Antimony (Sb)	NA	0.425	0.025	0.05	µg/dry g	
Arsenic (As)	NA	18.256	0.025	0.05	µg/dry g	
Barium (Ba)	NA	165.157	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	1.077	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2928	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	121.3146	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	381.8874	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	57535	1	5	µg/dry g	
Lead (Pb)	NA	69.5653	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	27.19	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.482	0.025	0.05	µg/dry g	
Silver (Ag)	NA	1.11	0.01	0.02	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Zinc (Zn)	NA	430.561	0.025	0.05	µg/dry g	
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Sample ID: 22635-R1**B13-8121 Grab****Matrix: Sediment****Sampled: 09-Sep-13 17:20****Received: 10-Sep-13**

Method: EPA 245.7

Batch ID: E-6041

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	3.5505	0.00001	0.00002	µg/dry g	
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Method: EPA 6020

Batch ID: E-7013

Prepared: 23-Oct-13

Analyzed: 02-Nov-13 16:06

Aluminum (Al)	NA	34657.8	1	5	µg/dry g	
Antimony (Sb)	NA	0.629	0.025	0.05	µg/dry g	
Arsenic (As)	NA	15.299	0.025	0.05	µg/dry g	
Barium (Ba)	NA	119.479	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.586	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.2151	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	66.2462	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	296.2058	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	33104.2	1	5	µg/dry g	
Lead (Pb)	NA	84.3773	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	15.67	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.301	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.76	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	257.007	0.025	0.05	µg/dry g	

Sample ID: 22636-R1**B13-8085 Grab****Matrix: Sediment****Sampled: 10-Sep-13 8:38****Received: 10-Sep-13**

Method: EPA 245.7

Batch ID: E-6041

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	0.2154	0.00001	0.00002	µg/dry g	
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Method: EPA 6020

Batch ID: E-7013

Prepared: 23-Oct-13

Analyzed: 02-Nov-13 16:10

Aluminum (Al)	NA	27355.2	1	5	µg/dry g	
Antimony (Sb)	NA	0.331	0.025	0.05	µg/dry g	
Arsenic (As)	NA	9.862	0.025	0.05	µg/dry g	
Barium (Ba)	NA	107.844	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.507	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.4771	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	47.6544	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	81.7472	0.0025	0.005	µg/dry g	



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Iron (Fe)	NA	30817.1	1	5	µg/dry g	
Lead (Pb)	NA	21.6248	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	17.36	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.567	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.58	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	156.844	0.025	0.05	µg/dry g	

Sample ID: 22637-R1

B13-8105 Grab

Matrix: Sediment

Sampled: 10-Sep-13 9:46

Received: 10-Sep-13

Method: EPA 245.7

Batch ID: E-6041

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	0.1131	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7013		Prepared: 23-Oct-13		Analyzed: 02-Nov-13 16:15
Aluminum (Al)	NA	11845.1	1	5	µg/dry g	
Antimony (Sb)	NA	0.297	0.025	0.05	µg/dry g	
Arsenic (As)	NA	3.261	0.025	0.05	µg/dry g	
Barium (Ba)	NA	45.525	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.179	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.241	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	25.0697	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	39.1731	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	11183.7	1	5	µg/dry g	
Lead (Pb)	NA	14.6735	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	6.15	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.114	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.33	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	70.078	0.025	0.05	µg/dry g	

Sample ID: 22638-R1

B13-8117 Grab

Matrix: Sediment

Sampled: 10-Sep-13 11:07

Received: 10-Sep-13

Method: EPA 245.7

Batch ID: E-6041

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	1.9349	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7013		Prepared: 23-Oct-13		Analyzed: 02-Nov-13 16:20
Aluminum (Al)	NA	42691.6	1	5	µg/dry g	
Antimony (Sb)	NA	0.282	0.025	0.05	µg/dry g	
Arsenic (As)	NA	16.833	0.025	0.05	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Barium (Ba)	NA	113.008	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.723	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1595	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	72.1433	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	236.2876	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	44681.3	1	5	µg/dry g	
Lead (Pb)	NA	43.8792	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	18.09	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.345	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.53	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	257.008	0.025	0.05	µg/dry g	

Sample ID: 22639-R1**B13-8113 Grab**

Method: EPA 245.7

Matrix: Sediment

Batch ID: E-6041

Sampled: 10-Sep-13 12:10

Prepared: 23-Oct-13

Received: 10-Sep-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	1.3338	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7013	Prepared: 23-Oct-13	Analyzed: 02-Nov-13 16:25		
Aluminum (Al)	NA	30384.2	1	5	µg/dry g	
Antimony (Sb)	NA	0.268	0.025	0.05	µg/dry g	
Arsenic (As)	NA	10.778	0.025	0.05	µg/dry g	
Barium (Ba)	NA	102.609	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.536	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1332	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	48.2405	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	170.8532	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	32261.4	1	5	µg/dry g	
Lead (Pb)	NA	27.3067	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	13.11	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.209	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.4	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	183.269	0.025	0.05	µg/dry g	

Sample ID: 22640-R1**B13-8116 Grab**

Method: EPA 245.7

Matrix: Sediment

Batch ID: E-6041

Sampled: 10-Sep-13 13:51

Prepared: 23-Oct-13

Received: 10-Sep-13

Analyzed: 24-Oct-13 0:00



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Mercury (Hg)	NA	0.8401	0.00001	0.00002	µg/dry g	
Method: EPA 6020		Batch ID: E-7013		Prepared: 23-Oct-13		Analyzed: 02-Nov-13 16:29
Aluminum (Al)	NA	12988.5	1	5	µg/dry g	
Antimony (Sb)	NA	0.35	0.025	0.05	µg/dry g	
Arsenic (As)	NA	5.076	0.025	0.05	µg/dry g	
Barium (Ba)	NA	136.092	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.231	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.0905	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	21.8362	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	137.0107	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	13878	1	5	µg/dry g	
Lead (Pb)	NA	29.7136	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	5.98	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.126	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.3	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	122.569	0.025	0.05	µg/dry g	

Sample ID: 22641-R1**B13-8108 Grab****Matrix: Sediment****Sampled: 10-Sep-13 14:46****Received: 10-Sep-13**

Method: EPA 245.7

Batch ID: E-6041

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	0.465	0.00001	0.00002	µg/dry g	
Method: EPA 6020		Batch ID: E-7013		Prepared: 23-Oct-13		Analyzed: 02-Nov-13 16:34
Aluminum (Al)	NA	12499.7	1	5	µg/dry g	
Antimony (Sb)	NA	0.143	0.025	0.05	µg/dry g	
Arsenic (As)	NA	5.1	0.025	0.05	µg/dry g	
Barium (Ba)	NA	35.486	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.223	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1192	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	21.937	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	69.9111	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	12635.7	1	5	µg/dry g	
Lead (Pb)	NA	14.3024	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	5.68	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.109	0.025	0.05	µg/dry g	



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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Silver (Ag)	NA	0.28	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	83.085	0.025	0.05	µg/dry g	

Sample ID: 22642-R1

B13-8106 Grab

Matrix: Sediment

Sampled: 10-Sep-13 15:49

Received: 10-Sep-13

Method: EPA 245.7

Batch ID: E-6041

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	0.4608	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7013		Prepared: 23-Oct-13		Analyzed: 02-Nov-13 16:39
Aluminum (Al)	NA	16892.4	1	5	µg/dry g	
Antimony (Sb)	NA	0.16	0.025	0.05	µg/dry g	
Arsenic (As)	NA	6.385	0.025	0.05	µg/dry g	
Barium (Ba)	NA	59.752	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.31	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.1706	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	31.8398	0.0025	0.005	µg/dry g	
Copper (Cu)	NA	103.8969	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	19482.8	1	5	µg/dry g	
Lead (Pb)	NA	20.2195	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	8.91	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.173	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.38	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	133.777	0.025	0.05	µg/dry g	

Sample ID: 22643-R1

B13-8102 Grab

Matrix: Sediment

Sampled: 10-Sep-13 16:50

Received: 10-Sep-13

Method: EPA 245.7

Batch ID: E-6041

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	0.7557	0.00001	0.00002	µg/dry g	
	Method: EPA 6020	Batch ID: E-7013		Prepared: 23-Oct-13		Analyzed: 02-Nov-13 16:44
Aluminum (Al)	NA	32514.7	1	5	µg/dry g	
Antimony (Sb)	NA	0.296	0.025	0.05	µg/dry g	
Arsenic (As)	NA	10.776	0.025	0.05	µg/dry g	
Barium (Ba)	NA	106.664	0.025	0.05	µg/dry g	
Beryllium (Be)	NA	0.576	0.025	0.05	µg/dry g	
Cadmium (Cd)	NA	0.3596	0.0025	0.005	µg/dry g	
Chromium (Cr)	NA	58.0752	0.0025	0.005	µg/dry g	



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Elements**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Copper (Cu)	NA	197.3584	0.0025	0.005	µg/dry g	
Iron (Fe)	NA	33518.5	1	5	µg/dry g	
Lead (Pb)	NA	34.1747	0.0025	0.005	µg/dry g	
Nickel (Ni)	NA	16.38	0.01	0.02	µg/dry g	
Selenium (Se)	NA	0.427	0.025	0.05	µg/dry g	
Silver (Ag)	NA	0.72	0.01	0.02	µg/dry g	
Zinc (Zn)	NA	236.657	0.025	0.05	µg/dry g	



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22628-R1 B13-8111 Grab Matrix: Sediment Sampled: 09-Sep-13 8:53 Received: 10-Sep-13 Method: EPA 200.8 Batch ID: E-7018 Prepared: 31-Oct-13 Analyzed: 31-Oct-13 15:52						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.8186	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.1596	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.023	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.951	0.0015	0.003	µmol/dry g	
Sample ID: 22629-R1 B13-8112 Grab Matrix: Sediment Sampled: 09-Sep-13 9:58 Received: 10-Sep-13 Method: EPA 200.8 Batch ID: E-7018 Prepared: 31-Oct-13 Analyzed: 31-Oct-13 16:02						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.3331	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0766	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.012	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.9652	0.0015	0.003	µmol/dry g	
Sample ID: 22630-R1 B13-8500 Grab Matrix: Sediment Sampled: 09-Sep-13 11:04 Received: 10-Sep-13 Method: EPA 200.8 Batch ID: E-7018 Prepared: 31-Oct-13 Analyzed: 31-Oct-13 16:07						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.1146	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0939	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0089	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.7994	0.0015	0.003	µmol/dry g	
Sample ID: 22631-R1 B13-8123 Grab Matrix: Sediment Sampled: 09-Sep-13 12:03 Received: 10-Sep-13 Method: EPA 200.8 Batch ID: E-7018 Prepared: 31-Oct-13 Analyzed: 31-Oct-13 16:11						
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.1874	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0534	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0057	0.0033	0.0066	µmol/dry g	J



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.6434	0.0015	0.003	µmol/dry g	

Sample ID: 22632-R1**B13-8124 Grab****Matrix: Sediment****Sampled: 09-Sep-13 13:30****Received: 10-Sep-13**

Method: EPA 200.8

Batch ID: E-7018

Prepared: 31-Oct-13

Analyzed: 31-Oct-13 16:16

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.218	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0544	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0063	0.0033	0.0066	µmol/dry g	J
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.7373	0.0015	0.003	µmol/dry g	

Sample ID: 22633-R1**B13-8128 Grab****Matrix: Sediment****Sampled: 09-Sep-13 14:31****Received: 10-Sep-13**

Method: EPA 200.8

Batch ID: E-7018

Prepared: 31-Oct-13

Analyzed: 31-Oct-13 16:21

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.5967	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.1091	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0111	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.8754	0.0015	0.003	µmol/dry g	

Sample ID: 22634-R1**B13-8127 Grab****Matrix: Sediment****Sampled: 09-Sep-13 16:07****Received: 10-Sep-13**

Method: EPA 200.8

Batch ID: E-7018

Prepared: 31-Oct-13

Analyzed: 31-Oct-13 16:26

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.452	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.136	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0167	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	3.3912	0.0015	0.003	µmol/dry g	

Sample ID: 22635-R1**B13-8121 Grab****Matrix: Sediment****Sampled: 09-Sep-13 17:20****Received: 10-Sep-13**

Method: EPA 200.8

Batch ID: E-7018

Prepared: 31-Oct-13

Analyzed: 31-Oct-13 16:30

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	1.6701	0.0062	0.0124	µmol/dry g	



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Lead (Pb) - SEM	NA	0.2186	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0109	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	2.0618	0.0015	0.003	µmol/dry g	

Sample ID: 22636-R1**B13-8085 Grab****Matrix: Sediment****Sampled: 10-Sep-13 8:38****Received: 10-Sep-13**

Method: EPA 200.8

Batch ID: E-7018

Prepared: 31-Oct-13

Analyzed: 31-Oct-13 16:35

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	ND	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0362	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0249	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.7952	0.0015	0.003	µmol/dry g	

Sample ID: 22637-R1**B13-8105 Grab****Matrix: Sediment****Sampled: 10-Sep-13 9:46****Received: 10-Sep-13**

Method: EPA 200.8

Batch ID: E-7018

Prepared: 31-Oct-13

Analyzed: 31-Oct-13 16:40

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.0752	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0353	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.007	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.4501	0.0015	0.003	µmol/dry g	

Sample ID: 22638-R1**B13-8117 Grab****Matrix: Sediment****Sampled: 10-Sep-13 11:07****Received: 10-Sep-13**

Method: EPA 200.8

Batch ID: E-7018

Prepared: 31-Oct-13

Analyzed: 31-Oct-13 16:45

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	1.6352	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.1014	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0095	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.8084	0.0015	0.003	µmol/dry g	

Sample ID: 22639-R1**B13-8113 Grab****Matrix: Sediment****Sampled: 10-Sep-13 12:10****Received: 10-Sep-13**

Method: EPA 200.8

Batch ID: E-7018

Prepared: 31-Oct-13

Analyzed: 31-Oct-13 16:50



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	1.1058	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0781	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0084	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.3869	0.0015	0.003	µmol/dry g	

Sample ID: 22640-R1**B13-8116 Grab****Matrix: Sediment****Sampled: 10-Sep-13 13:51****Received: 10-Sep-13**

Method: EPA 200.8

Batch ID: E-7018

Prepared: 31-Oct-13

Analyzed: 31-Oct-13 16:54

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.8676	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0968	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0055	0.0033	0.0066	µmol/dry g	J
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.173	0.0015	0.003	µmol/dry g	

Sample ID: 22641-R1**B13-8108 Grab****Matrix: Sediment****Sampled: 10-Sep-13 14:46****Received: 10-Sep-13**

Method: EPA 200.8

Batch ID: E-7018

Prepared: 31-Oct-13

Analyzed: 31-Oct-13 16:59

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.396	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0444	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0054	0.0033	0.0066	µmol/dry g	J
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	0.7057	0.0015	0.003	µmol/dry g	

Sample ID: 22642-R1**B13-8106 Grab****Matrix: Sediment****Sampled: 10-Sep-13 15:49****Received: 10-Sep-13**

Method: EPA 200.8

Batch ID: E-7018

Prepared: 31-Oct-13

Analyzed: 31-Oct-13 17:04

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.4564	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.0624	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0084	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.1461	0.0015	0.003	µmol/dry g	



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Elements - AVS/SEM**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22643-R1		Matrix: Sediment		Sampled: 10-Sep-13 16:50		Received: 10-Sep-13
	B13-8102 Grab					
	Method: EPA 200.8	Batch ID: E-7018		Prepared: 31-Oct-13		Analyzed: 31-Oct-13 17:09
Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g	
Copper (Cu) - SEM	NA	0.7402	0.0062	0.0124	µmol/dry g	
Lead (Pb) - SEM	NA	0.098	0.0002	0.0004	µmol/dry g	
Nickel (Ni) - SEM	NA	0.0157	0.0033	0.0066	µmol/dry g	
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g	
Zinc (Zn) - SEM	NA	1.8403	0.0015	0.003	µmol/dry g	



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Fipronil & Degradates

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22628-R1 B13-8111 Grab Matrix: Sediment Sampled: 09-Sep-13 8:53 Received: 10-Sep-13 Method: EPA 8270C-NCI Batch ID: O-5057 Prepared: 02-Dec-13 Analyzed: 07-Jan-14 17:32						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22629-R1 B13-8112 Grab Matrix: Sediment Sampled: 09-Sep-13 9:58 Received: 10-Sep-13 Method: EPA 8270C-NCI Batch ID: O-5057 Prepared: 02-Dec-13 Analyzed: 07-Jan-14 19:40						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22630-R1 B13-8500 Grab Matrix: Sediment Sampled: 09-Sep-13 11:04 Received: 10-Sep-13 Method: EPA 8270C-NCI Batch ID: O-5057 Prepared: 02-Dec-13 Analyzed: 07-Jan-14 20:44						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22631-R1 B13-8123 Grab Matrix: Sediment Sampled: 09-Sep-13 12:03 Received: 10-Sep-13 Method: EPA 8270C-NCI Batch ID: O-5057 Prepared: 02-Dec-13 Analyzed: 07-Jan-14 21:48						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22632-R1 B13-8124 Grab Matrix: Sediment Sampled: 09-Sep-13 13:30 Received: 10-Sep-13 Method: EPA 8270C-NCI Batch ID: O-5057 Prepared: 02-Dec-13 Analyzed: 07-Jan-14 22:52						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	



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Fipronil & Degradates

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22633-R1 B13-8128 Grab Matrix: Sediment Sampled: 09-Sep-13 14:31 Received: 10-Sep-13 Method: EPA 8270C-NCI Batch ID: O-5057 Prepared: 02-Dec-13 Analyzed: 07-Jan-14 23:55						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22634-R1 B13-8127 Grab Matrix: Sediment Sampled: 09-Sep-13 16:07 Received: 10-Sep-13 Method: EPA 8270C-NCI Batch ID: O-5057 Prepared: 02-Dec-13 Analyzed: 08-Jan-14 0:59						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22635-R1 B13-8121 Grab Matrix: Sediment Sampled: 09-Sep-13 17:20 Received: 10-Sep-13 Method: EPA 8270C-NCI Batch ID: O-5057 Prepared: 02-Dec-13 Analyzed: 08-Jan-14 5:44						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22636-R1 B13-8085 Grab Matrix: Sediment Sampled: 10-Sep-13 8:38 Received: 10-Sep-13 Method: EPA 8270C-NCI Batch ID: O-5057 Prepared: 02-Dec-13 Analyzed: 08-Jan-14 6:48						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22637-R1 B13-8105 Grab Matrix: Sediment Sampled: 10-Sep-13 9:46 Received: 10-Sep-13 Method: EPA 8270C-NCI Batch ID: O-5057 Prepared: 02-Dec-13 Analyzed: 08-Jan-14 7:51						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	



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Fipronil & Degradates**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22638-R1 B13-8117 Grab Matrix: Sediment Sampled: 10-Sep-13 11:07 Received: 10-Sep-13 Method: EPA 8270C-NCI Batch ID: O-5057 Prepared: 02-Dec-13 Analyzed: 08-Jan-14 8:55						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22639-R1 B13-8113 Grab Matrix: Sediment Sampled: 10-Sep-13 12:10 Received: 10-Sep-13 Method: EPA 8270C-NCI Batch ID: O-5057 Prepared: 02-Dec-13 Analyzed: 08-Jan-14 9:59						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22640-R1 B13-8116 Grab Matrix: Sediment Sampled: 10-Sep-13 13:51 Received: 10-Sep-13 Method: EPA 8270C-NCI Batch ID: O-5057 Prepared: 02-Dec-13 Analyzed: 08-Jan-14 11:02						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22641-R1 B13-8108 Grab Matrix: Sediment Sampled: 10-Sep-13 14:46 Received: 10-Sep-13 Method: EPA 8270C-NCI Batch ID: O-5057 Prepared: 02-Dec-13 Analyzed: 08-Jan-14 12:06						
Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	
Sample ID: 22642-R1 B13-8106 Grab Matrix: Sediment Sampled: 10-Sep-13 15:49 Received: 10-Sep-13 Method: EPA 8270C-NCI Batch ID: O-5057 Prepared: 02-Dec-13 Analyzed: 08-Jan-14 13:10						
Fipronil	NA	ND	0.25	0.5	ng/dry g	



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Fipronil & Degradates

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22643-R1**B13-8102 Grab****Matrix: Sediment****Sampled: 10-Sep-13 16:50****Received: 10-Sep-13**

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 08-Jan-14 14:14

Fipronil	NA	ND	0.25	0.5	ng/dry g	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22628-R1</div> <div>B13-8111 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5102</div> </div> <div> <div>Sampled: 09-Sep-13 8:53</div> <div>Prepared: 28-Feb-14</div> </div> <div> <div>Received: 10-Sep-13</div> <div>Analyzed: 07-Apr-14 7:07</div> </div>						
PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	2.53	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	7.31	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	2.88	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	4.77	0.05	0.1	ng/dry g	
PCB095	NA	8.25	0.05	0.1	ng/dry g	
PCB097	NA	2.51	0.05	0.1	ng/dry g	
PCB099	NA	2.96	0.05	0.1	ng/dry g	
PCB101	NA	10.17	0.05	0.1	ng/dry g	
PCB105	NA	1.77	0.05	0.1	ng/dry g	
PCB110	NA	9.06	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	6.7	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	10.29	0.05	0.1	ng/dry g	
PCB141	NA	1.47	0.05	0.1	ng/dry g	
PCB149	NA	5.49	0.05	0.1	ng/dry g	
PCB151	NA	1.78	0.05	0.1	ng/dry g	
PCB153	NA	5.88	0.05	0.1	ng/dry g	
PCB156	NA	1.18	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	1.54	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	3	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	1.78	0.05	0.1	ng/dry g	
PCB177	NA	1.41	0.05	0.1	ng/dry g	
PCB180	NA	3.35	0.05	0.1	ng/dry g	
PCB183	NA	0.82	0.05	0.1	ng/dry g	
PCB187	NA	1.5	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	0.6	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22629-R1**B13-8112 Grab**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-5102

Sampled: 09-Sep-13 9:58

Prepared: 28-Feb-14

Received: 10-Sep-13

Analyzed: 07-Apr-14 12:17

PCB003

NA

ND

0.05

0.1

ng/dry g



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	2.38	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.58	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.29	0.05	0.1	ng/dry g	
PCB101	NA	0.66	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	1.23	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	2.1	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	1.02	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	1.46	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.39	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.8	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	0.61	0.05	0.1	ng/dry g	
PCB177	NA	0.36	0.05	0.1	ng/dry g	
PCB180	NA	0.81	0.05	0.1	ng/dry g	
PCB183	NA	0.33	0.05	0.1	ng/dry g	
PCB187	NA	0.86	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	0.22	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22630-R1**B13-8500 Grab**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-5102

Sampled: 09-Sep-13 11:04

Prepared: 28-Feb-14

Received: 10-Sep-13

Analyzed: 07-Apr-14 13:58

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	0.69	0.05	0.1	ng/dry g	
PCB015	NA	2.08	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB018	NA	4.82	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	4.93	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	3.97	0.05	0.1	ng/dry g	
PCB033	NA	2.43	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	5.41	0.05	0.1	ng/dry g	
PCB049	NA	5.49	0.05	0.1	ng/dry g	
PCB052	NA	9.54	0.05	0.1	ng/dry g	
PCB056(060)	NA	5.3	0.1	0.2	ng/dry g	
PCB066	NA	9.28	0.05	0.1	ng/dry g	
PCB070	NA	7.64	0.05	0.1	ng/dry g	
PCB074	NA	3.77	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	1.87	0.05	0.1	ng/dry g	
PCB095	NA	5.39	0.05	0.1	ng/dry g	
PCB097	NA	1.64	0.05	0.1	ng/dry g	
PCB099	NA	4.07	0.05	0.1	ng/dry g	
PCB101	NA	8.36	0.05	0.1	ng/dry g	
PCB105	NA	2.55	0.05	0.1	ng/dry g	
PCB110	NA	6.81	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	5.11	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	6.6	0.05	0.1	ng/dry g	
PCB141	NA	1.08	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB149	NA	3.93	0.05	0.1	ng/dry g	
PCB151	NA	1.4	0.05	0.1	ng/dry g	
PCB153	NA	6.85	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	1.31	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	1.7	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	1.61	0.05	0.1	ng/dry g	
PCB177	NA	0.82	0.05	0.1	ng/dry g	
PCB180	NA	2.59	0.05	0.1	ng/dry g	
PCB183	NA	0.66	0.05	0.1	ng/dry g	
PCB187	NA	2.78	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	1.07	0.05	0.1	ng/dry g	
PCB209	NA	0.49	0.05	0.1	ng/dry g	

Sample ID: 22631-R1**B13-8123 Grab**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-5102

Sampled: 09-Sep-13 12:03

Prepared: 28-Feb-14

Received: 10-Sep-13

Analyzed: 07-Apr-14 15:38

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.58	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.44	0.05	0.1	ng/dry g	
PCB101	NA	0.8	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.63	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	ND	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.63	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	1.16	0.05	0.1	ng/dry g	
PCB151	NA	ND	0.05	0.1	ng/dry g	
PCB153	NA	1.87	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.4	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.5	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	0.28	0.05	0.1	ng/dry g	
PCB177	NA	ND	0.05	0.1	ng/dry g	
PCB180	NA	0.99	0.05	0.1	ng/dry g	
PCB183	NA	0.23	0.05	0.1	ng/dry g	
PCB187	NA	0.69	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22632-R1**B13-8124 Grab**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-5102

Sampled: 09-Sep-13 13:30

Prepared: 28-Feb-14

Received: 10-Sep-13

Analyzed: 07-Apr-14 17:18

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	1.14	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.55	0.05	0.1	ng/dry g	
PCB101	NA	1.11	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.93	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	1.54	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.92	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	1.46	0.05	0.1	ng/dry g	
PCB151	NA	0.38	0.05	0.1	ng/dry g	
PCB153	NA	1.8	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.32	0.05	0.1	ng/dry g	



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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.6	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	0.84	0.05	0.1	ng/dry g	
PCB177	NA	0.75	0.05	0.1	ng/dry g	
PCB180	NA	1.32	0.05	0.1	ng/dry g	
PCB183	NA	0.28	0.05	0.1	ng/dry g	
PCB187	NA	0.88	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	0.4	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22633-R1**B13-8128 Grab**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-5102

Sampled: 09-Sep-13 14:31

Prepared: 28-Feb-14

Received: 10-Sep-13

Analyzed: 07-Apr-14 18:59

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	1.19	0.05	0.1	ng/dry g	
PCB049	NA	4.82	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB052	NA	4.58	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	2.02	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	1.22	0.05	0.1	ng/dry g	
PCB101	NA	3.17	0.05	0.1	ng/dry g	
PCB105	NA	1.15	0.05	0.1	ng/dry g	
PCB110	NA	2.36	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	2.6	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	5.41	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	3.59	0.05	0.1	ng/dry g	
PCB151	NA	0.94	0.05	0.1	ng/dry g	
PCB153	NA	4.7	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.73	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	1.1	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	2.16	0.05	0.1	ng/dry g	
PCB177	NA	1.1	0.05	0.1	ng/dry g	
PCB180	NA	2.82	0.05	0.1	ng/dry g	
PCB183	NA	1.16	0.05	0.1	ng/dry g	
PCB187	NA	2.53	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	1.23	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	0.77	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22634-R1**B13-8127 Grab****Matrix: Sediment****Sampled: 09-Sep-13 16:07****Received: 10-Sep-13**

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 07-Apr-14 20:39

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	3.02	0.05	0.1	ng/dry g	
PCB052	NA	3.91	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.83	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.89	0.05	0.1	ng/dry g	
PCB101	NA	1.56	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	3.1	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	3.81	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	1.25	0.05	0.1	ng/dry g	
PCB151	NA	0.66	0.05	0.1	ng/dry g	
PCB153	NA	2.41	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.39	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.4	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	1	0.05	0.1	ng/dry g	
PCB177	NA	0.43	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB180	NA	1.09	0.05	0.1	ng/dry g	
PCB183	NA	0.47	0.05	0.1	ng/dry g	
PCB187	NA	1.28	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22635-R1**B13-8121 Grab**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-5102

Sampled: 09-Sep-13 17:20

Prepared: 28-Feb-14

Received: 10-Sep-13

Analyzed: 07-Apr-14 22:20

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	3.23	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	8.48	0.05	0.1	ng/dry g	
PCB049	NA	8.53	0.05	0.1	ng/dry g	
PCB052	NA	22.14	0.05	0.1	ng/dry g	
PCB056(060)	NA	7.5	0.1	0.2	ng/dry g	
PCB066	NA	14.23	0.05	0.1	ng/dry g	
PCB070	NA	14.69	0.05	0.1	ng/dry g	
PCB074	NA	4.59	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	14.69	0.05	0.1	ng/dry g	
PCB095	NA	25.43	0.05	0.1	ng/dry g	
PCB097	NA	9.63	0.05	0.1	ng/dry g	
PCB099	NA	15.26	0.05	0.1	ng/dry g	
PCB101	NA	40.06	0.05	0.1	ng/dry g	
PCB105	NA	10.26	0.05	0.1	ng/dry g	
PCB110	NA	37.77	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	26.34	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	5.72	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	34.87	0.05	0.1	ng/dry g	
PCB141	NA	5.57	0.05	0.1	ng/dry g	
PCB149	NA	17.18	0.05	0.1	ng/dry g	
PCB151	NA	4.17	0.05	0.1	ng/dry g	
PCB153	NA	23.24	0.05	0.1	ng/dry g	
PCB156	NA	4.75	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	4.22	0.05	0.1	ng/dry g	
PCB167	NA	1.93	0.05	0.1	ng/dry g	
PCB168+132	NA	11	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	5.52	0.05	0.1	ng/dry g	
PCB174	NA	3.85	0.05	0.1	ng/dry g	
PCB177	NA	2.38	0.05	0.1	ng/dry g	
PCB180	NA	7.96	0.05	0.1	ng/dry g	
PCB183	NA	3.01	0.05	0.1	ng/dry g	
PCB187	NA	5.89	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	1.65	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	0.4	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	2.59	0.05	0.1	ng/dry g	
PCB206	NA	1.01	0.05	0.1	ng/dry g	
PCB209	NA	0.76	0.05	0.1	ng/dry g	

Sample ID: 22636-R1**B13-8085 Grab****Matrix: Sediment****Sampled: 10-Sep-13 8:38****Received: 10-Sep-13**

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 08-Apr-14 5:28

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	0.63	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.58	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	0.6	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.91	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.29	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	0.91	0.05	0.1	ng/dry g	
PCB151	NA	0.32	0.05	0.1	ng/dry g	
PCB153	NA	1.36	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.2	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	0.28	0.05	0.1	ng/dry g	
PCB177	NA	0.26	0.05	0.1	ng/dry g	
PCB180	NA	0.72	0.05	0.1	ng/dry g	
PCB183	NA	0.18	0.05	0.1	ng/dry g	
PCB187	NA	0.55	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22637-R1**B13-8105 Grab**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-5102

Sampled: 10-Sep-13 9:46

Prepared: 28-Feb-14

Received: 10-Sep-13

Analyzed: 08-Apr-14 7:08

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	1.96	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	5.51	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	1.31	0.05	0.1	ng/dry g	
PCB070	NA	3.36	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	4.65	0.05	0.1	ng/dry g	
PCB095	NA	7.57	0.05	0.1	ng/dry g	
PCB097	NA	2.42	0.05	0.1	ng/dry g	
PCB099	NA	3.44	0.05	0.1	ng/dry g	
PCB101	NA	10.97	0.05	0.1	ng/dry g	



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CA ELAP #2769

PCB Congeners

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB105	NA	2.37	0.05	0.1	ng/dry g	
PCB110	NA	10.52	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	7.26	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	3.29	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	9.27	0.05	0.1	ng/dry g	
PCB141	NA	1.24	0.05	0.1	ng/dry g	
PCB149	NA	5.51	0.05	0.1	ng/dry g	
PCB151	NA	1.3	0.05	0.1	ng/dry g	
PCB153	NA	6.81	0.05	0.1	ng/dry g	
PCB156	NA	1.29	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	1.17	0.05	0.1	ng/dry g	
PCB167	NA	0.4	0.05	0.1	ng/dry g	
PCB168+132	NA	2.7	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	1.28	0.05	0.1	ng/dry g	
PCB174	NA	1.54	0.05	0.1	ng/dry g	
PCB177	NA	0.65	0.05	0.1	ng/dry g	
PCB180	NA	2.49	0.05	0.1	ng/dry g	
PCB183	NA	0.81	0.05	0.1	ng/dry g	
PCB187	NA	1.39	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB206	NA	0.29	0.05	0.1	ng/dry g	
PCB209	NA	0.11	0.05	0.1	ng/dry g	

Sample ID: 22638-R1**B13-8117 Grab****Matrix: Sediment****Sampled: 10-Sep-13 11:07****Received: 10-Sep-13**

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 08-Apr-14 8:48

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	0.44	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.87	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.2	0.05	0.1	ng/dry g	
PCB101	NA	1.22	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.46	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB118	NA	1.02	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	2.77	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	1.5	0.05	0.1	ng/dry g	
PCB151	NA	0.76	0.05	0.1	ng/dry g	
PCB153	NA	2.12	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.43	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.4	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	0.85	0.05	0.1	ng/dry g	
PCB174	NA	0.7	0.05	0.1	ng/dry g	
PCB177	NA	0.66	0.05	0.1	ng/dry g	
PCB180	NA	1.1	0.05	0.1	ng/dry g	
PCB183	NA	0.42	0.05	0.1	ng/dry g	
PCB187	NA	0.98	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	0.26	0.05	0.1	ng/dry g	

Sample ID: 22639-R1

B13-8113 Grab

Matrix: Sediment

Sampled: 10-Sep-13 12:10

Received: 10-Sep-13

PHYSIS Project ID: 1307002-018

Client: AMEC

Project: RHMP Bight '13

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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Method: EPA 8270C		Batch ID: O-5102		Prepared: 28-Feb-14		Analyzed: 08-Apr-14 10:29
PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.71	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.37	0.05	0.1	ng/dry g	
PCB101	NA	0.91	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	0.58	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	1.25	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	2.28	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	1.22	0.05	0.1	ng/dry g	
PCB151	NA	0.71	0.05	0.1	ng/dry g	
PCB153	NA	1.95	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.31	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.5	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	0.86	0.05	0.1	ng/dry g	
PCB177	NA	0.39	0.05	0.1	ng/dry g	
PCB180	NA	1.15	0.05	0.1	ng/dry g	
PCB183	NA	0.35	0.05	0.1	ng/dry g	
PCB187	NA	0.84	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22640-R1**B13-8116 Grab**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-5102

Sampled: 10-Sep-13 13:51

Prepared: 28-Feb-14

Received: 10-Sep-13

Analyzed: 08-Apr-14 12:09

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	0.88	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	2.96	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	1.45	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	1.73	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	1.4	0.05	0.1	ng/dry g	
PCB101	NA	2.66	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	2.06	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	1.76	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	0.78	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB138	NA	4.55	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	2.07	0.05	0.1	ng/dry g	
PCB151	NA	0.66	0.05	0.1	ng/dry g	
PCB153	NA	3.06	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	1.2	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	1.4	0.05	0.1	ng/dry g	
PCB177	NA	0.73	0.05	0.1	ng/dry g	
PCB180	NA	1.77	0.05	0.1	ng/dry g	
PCB183	NA	0.59	0.05	0.1	ng/dry g	
PCB187	NA	1.67	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	0.2	0.05	0.1	ng/dry g	

Sample ID: 22641-R1**B13-8108 Grab**

Method: EPA 8270C

Matrix: Sediment

Batch ID: O-5102

Sampled: 10-Sep-13 14:46

Prepared: 28-Feb-14

Received: 10-Sep-13

Analyzed: 08-Apr-14 13:49

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.31	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	0.7	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.59	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.14	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	0.93	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB151	NA	0.47	0.05	0.1	ng/dry g	
PCB153	NA	1.13	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	0.21	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.2	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	0.48	0.05	0.1	ng/dry g	
PCB177	NA	0.29	0.05	0.1	ng/dry g	
PCB180	NA	0.87	0.05	0.1	ng/dry g	
PCB183	NA	0.33	0.05	0.1	ng/dry g	
PCB187	NA	0.57	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22642-R1**B13-8106 Grab****Matrix: Sediment****Sampled: 10-Sep-13 15:49****Received: 10-Sep-13**

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 08-Apr-14 15:30

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	2.05	0.05	0.1	ng/dry g	
PCB052	NA	1.94	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.62	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	ND	0.05	0.1	ng/dry g	
PCB101	NA	0.89	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	0.88	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	1.76	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	0.9	0.05	0.1	ng/dry g	
PCB151	NA	0.38	0.05	0.1	ng/dry g	
PCB153	NA	1.54	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	
PCB168+132	NA	0.3	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	0.43	0.05	0.1	ng/dry g	
PCB177	NA	0.54	0.05	0.1	ng/dry g	
PCB180	NA	0.77	0.05	0.1	ng/dry g	
PCB183	NA	0.22	0.05	0.1	ng/dry g	
PCB187	NA	0.65	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22643-R1**B13-8102 Grab****Matrix: Sediment****Sampled: 10-Sep-13 16:50****Received: 10-Sep-13**

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 08-Apr-14 17:10

PCB003	NA	ND	0.05	0.1	ng/dry g	
PCB005	NA	ND	0.05	0.1	ng/dry g	
PCB008	NA	ND	0.05	0.1	ng/dry g	
PCB015	NA	ND	0.05	0.1	ng/dry g	
PCB018	NA	ND	0.05	0.1	ng/dry g	
PCB027	NA	ND	0.05	0.1	ng/dry g	
PCB028	NA	ND	0.05	0.1	ng/dry g	
PCB029	NA	ND	0.05	0.1	ng/dry g	
PCB031	NA	ND	0.05	0.1	ng/dry g	
PCB033	NA	ND	0.05	0.1	ng/dry g	
PCB037	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB044	NA	ND	0.05	0.1	ng/dry g	
PCB049	NA	ND	0.05	0.1	ng/dry g	
PCB052	NA	ND	0.05	0.1	ng/dry g	
PCB056(060)	NA	ND	0.1	0.2	ng/dry g	
PCB066	NA	ND	0.05	0.1	ng/dry g	
PCB070	NA	ND	0.05	0.1	ng/dry g	
PCB074	NA	ND	0.05	0.1	ng/dry g	
PCB077	NA	ND	0.05	0.1	ng/dry g	
PCB081	NA	ND	0.05	0.1	ng/dry g	
PCB087	NA	ND	0.05	0.1	ng/dry g	
PCB095	NA	0.8	0.05	0.1	ng/dry g	
PCB097	NA	ND	0.05	0.1	ng/dry g	
PCB099	NA	0.42	0.05	0.1	ng/dry g	
PCB101	NA	1.19	0.05	0.1	ng/dry g	
PCB105	NA	ND	0.05	0.1	ng/dry g	
PCB110	NA	ND	0.05	0.1	ng/dry g	
PCB114	NA	ND	0.05	0.1	ng/dry g	
PCB118	NA	1.32	0.05	0.1	ng/dry g	
PCB119	NA	ND	0.05	0.1	ng/dry g	
PCB123	NA	ND	0.05	0.1	ng/dry g	
PCB126	NA	ND	0.05	0.1	ng/dry g	
PCB128	NA	ND	0.05	0.1	ng/dry g	
PCB137	NA	ND	0.05	0.1	ng/dry g	
PCB138	NA	2.74	0.05	0.1	ng/dry g	
PCB141	NA	ND	0.05	0.1	ng/dry g	
PCB149	NA	1.82	0.05	0.1	ng/dry g	
PCB151	NA	0.33	0.05	0.1	ng/dry g	
PCB153	NA	2.49	0.05	0.1	ng/dry g	
PCB156	NA	ND	0.05	0.1	ng/dry g	
PCB157	NA	ND	0.05	0.1	ng/dry g	
PCB158	NA	ND	0.05	0.1	ng/dry g	
PCB167	NA	ND	0.05	0.1	ng/dry g	



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PCB Congeners**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PCB168+132	NA	ND	0.1	0.2	ng/dry g	
PCB169	NA	ND	0.05	0.1	ng/dry g	
PCB170	NA	ND	0.05	0.1	ng/dry g	
PCB174	NA	0.75	0.05	0.1	ng/dry g	
PCB177	NA	0.36	0.05	0.1	ng/dry g	
PCB180	NA	1.02	0.05	0.1	ng/dry g	
PCB183	NA	0.45	0.05	0.1	ng/dry g	
PCB187	NA	1.42	0.05	0.1	ng/dry g	
PCB189	NA	ND	0.05	0.1	ng/dry g	
PCB194	NA	ND	0.05	0.1	ng/dry g	
PCB195	NA	ND	0.05	0.1	ng/dry g	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g	
PCB201	NA	ND	0.05	0.1	ng/dry g	
PCB203	NA	ND	0.05	0.1	ng/dry g	
PCB206	NA	ND	0.05	0.1	ng/dry g	
PCB209	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Sample ID: 22628-R1

B13-8111 Grab

Matrix: Sediment

Sampled: 09-Sep-13 8:53

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 22-Jan-14 21:30

(DFPBDE)	NA	88			% Recovery	
(FTBDE)	NA	104			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.2	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22629-R1

B13-8112 Grab

Matrix: Sediment

Sampled: 09-Sep-13 9:58

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 22-Jan-14 22:48

(DFPBDE)	NA	91			% Recovery	
(FTBDE)	NA	107			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.63	0.05	0.1	ng/dry g	
PBDE049	NA	3.28	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	0.08	0.05	0.1	ng/dry g	J
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22630-R1

B13-8500 Grab

Matrix: Sediment

Sampled: 09-Sep-13 11:04

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 22-Jan-14 23:27

(DFPBDE)	NA	79			% Recovery	
(FTBDE)	NA	102			% Recovery	
PBDE017	NA	0.42	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	2.02	0.05	0.1	ng/dry g	
PBDE049	NA	1	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	0.18	0.05	0.1	ng/dry g	
PBDE099	NA	2.73	0.05	0.1	ng/dry g	
PBDE100	NA	0.66	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	0.29	0.05	0.1	ng/dry g	
PBDE154	NA	0.33	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	23.68	0.05	0.1	ng/dry g	

Sample ID: 22631-R1

B13-8123 Grab

Matrix: Sediment

Sampled: 09-Sep-13 12:03

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 23-Jan-14 0:07

(DFPBDE)	NA	87			% Recovery	
(FTBDE)	NA	106			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.13	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22632-R1

B13-8124 Grab

Matrix: Sediment

Sampled: 09-Sep-13 13:30

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 23-Jan-14 7:46

(DFPBDE)	NA	88			% Recovery	
(FTBDE)	NA	157			% Recovery	R
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.15	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	



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PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22633-R1

B13-8128 Grab

Matrix: Sediment

Sampled: 09-Sep-13 14:31

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 23-Jan-14 2:34

(DFPBDE)	NA	88			% Recovery	
(FTBDE)	NA	118			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.27	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	0.22	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	17.59	0.05	0.1	ng/dry g	

Sample ID: 22634-R1

B13-8127 Grab

Matrix: Sediment

Sampled: 09-Sep-13 16:07

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 23-Jan-14 3:14

(DFPBDE)	NA	74			% Recovery	
(FTBDE)	NA	102			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.2	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	7.5	0.05	0.1	ng/dry g	

Sample ID: 22635-R1

B13-8121 Grab

Matrix: Sediment

Sampled: 09-Sep-13 17:20

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 23-Jan-14 3:52

(DFPBDE)	NA	80			% Recovery	
(FTBDE)	NA	101			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.36	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	0.25	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	12.37	0.05	0.1	ng/dry g	

Sample ID: 22636-R1

B13-8085 Grab

Matrix: Sediment

Sampled: 10-Sep-13 8:38

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 23-Jan-14 4:31

(DFPBDE)	NA	66			% Recovery	
(FTBDE)	NA	97			% Recovery	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.17	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22637-R1

B13-8105 Grab

Matrix: Sediment

Sampled: 10-Sep-13 9:46

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 23-Jan-14 5:10

(DFPBDE)	NA	80			% Recovery	
(FTBDE)	NA	102			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.19	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	0.05	0.05	0.1	ng/dry g	J
PBDE183	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22638-R1

B13-8117 Grab

Matrix: Sediment

Sampled: 10-Sep-13 11:07

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 23-Jan-14 5:49

(DFPBDE)	NA	115			% Recovery	
(FTBDE)	NA	121			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.2	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	11.86	0.05	0.1	ng/dry g	

Sample ID: 22639-R1

B13-8113 Grab

Matrix: Sediment

Sampled: 10-Sep-13 12:10

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 23-Jan-14 6:28

(DFPBDE)	NA	87			% Recovery	
(FTBDE)	NA	107			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.19	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22640-R1

B13-8116 Grab

Matrix: Sediment

Sampled: 10-Sep-13 13:51

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 23-Jan-14 7:07

(DFPBDE)	NA	81			% Recovery	
(FTBDE)	NA	99			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.22	0.05	0.1	ng/dry g	
PBDE049	NA	0.47	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	0.28	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	0.14	0.05	0.1	ng/dry g	
PBDE154	NA	0.09	0.05	0.1	ng/dry g	J
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22641-R1

B13-8108 Grab

Matrix: Sediment

Sampled: 10-Sep-13 14:46

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 23-Jan-14 8:25

(DFPBDE)	NA	90			% Recovery	
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CA ELAP #2769

PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
(FTBDE)	NA	102			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.13	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22642-R1

B13-8106 Grab

Matrix: Sediment

Sampled: 10-Sep-13 15:49

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 23-Jan-14 9:04

(DFPBDE)	NA	75			% Recovery	
(FTBDE)	NA	111			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.34	0.05	0.1	ng/dry g	
PBDE049	NA	0.21	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	0.06	0.05	0.1	ng/dry g	J



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PolyBrominated Diphenyl Ethers

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	

Sample ID: 22643-R1

B13-8102 Grab

Matrix: Sediment

Sampled: 10-Sep-13 16:50

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 23-Jan-14 9:43

(DFPBDE)	NA	78			% Recovery	
(FTBDE)	NA	113			% Recovery	
PBDE017	NA	ND	0.05	0.1	ng/dry g	
PBDE028	NA	ND	0.05	0.1	ng/dry g	
PBDE047	NA	0.18	0.05	0.1	ng/dry g	
PBDE049	NA	ND	0.05	0.1	ng/dry g	
PBDE066	NA	ND	0.05	0.1	ng/dry g	
PBDE071	NA	ND	0.05	0.1	ng/dry g	
PBDE085	NA	ND	0.05	0.1	ng/dry g	
PBDE099	NA	ND	0.05	0.1	ng/dry g	
PBDE100	NA	ND	0.05	0.1	ng/dry g	
PBDE138	NA	ND	0.05	0.1	ng/dry g	
PBDE153	NA	ND	0.05	0.1	ng/dry g	
PBDE154	NA	ND	0.05	0.1	ng/dry g	
PBDE183	NA	ND	0.05	0.1	ng/dry g	
PBDE190	NA	ND	0.05	0.1	ng/dry g	
PBDE209	NA	ND	0.05	0.1	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22628-R1</div> <div>B13-8111 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5102</div> </div> <div> <div>Sampled: 09-Sep-13 8:53</div> <div>Prepared: 28-Feb-14</div> </div> <div> <div>Received: 10-Sep-13</div> <div>Analyzed: 07-Apr-14 7:07</div> </div>						
(d10-Acenaphthene)	NA	96			% Recovery	
(d10-Phenanthrene)	NA	92			% Recovery	
(d12-Chrysene)	NA	93			% Recovery	
(d8-Naphthalene)	NA	77			% Recovery	
1-Methylnaphthalene	NA	3.1	1	5	ng/dry g	J
1-Methylphenanthrene	NA	18.7	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	4.2	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	5.9	1	5	ng/dry g	
2-Methylnaphthalene	NA	27.4	1	5	ng/dry g	
Acenaphthene	NA	5	1	5	ng/dry g	
Acenaphthylene	NA	27.1	1	5	ng/dry g	
Anthracene	NA	377.7	1	5	ng/dry g	
Benz[a]anthracene	NA	171.7	1	5	ng/dry g	
Benzo[a]pyrene	NA	102.9	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	216.8	1	5	ng/dry g	
Benzo[e]pyrene	NA	177.3	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	134.4	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	220.1	1	5	ng/dry g	
Biphenyl	NA	7.8	1	5	ng/dry g	
Chrysene	NA	437.1	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	47.6	1	5	ng/dry g	
Dibenzothiophene	NA	6.3	1	5	ng/dry g	
Fluoranthene	NA	202.2	1	5	ng/dry g	
Fluorene	NA	63.6	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	225.2	1	5	ng/dry g	
Naphthalene	NA	27.6	1	5	ng/dry g	
Perylene	NA	34	1	5	ng/dry g	
Phenanthrene	NA	181.2	1	5	ng/dry g	
Pyrene	NA	201.3	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22629-R1</div> <div>B13-8112 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5102</div> </div> <div> <div>Sampled: 09-Sep-13 9:58</div> <div>Prepared: 28-Feb-14</div> </div> <div> <div>Received: 10-Sep-13</div> <div>Analyzed: 07-Apr-14 12:17</div> </div>						
(d10-Acenaphthene)	NA	98			% Recovery	
(d10-Phenanthrene)	NA	100			% Recovery	
(d12-Chrysene)	NA	115			% Recovery	
(d8-Naphthalene)	NA	76			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	23.4	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	3.9	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	10.8	1	5	ng/dry g	
2-Methylnaphthalene	NA	50.8	1	5	ng/dry g	
Acenaphthene	NA	3.4	1	5	ng/dry g	J
Acenaphthylene	NA	11.9	1	5	ng/dry g	
Anthracene	NA	916.8	1	5	ng/dry g	
Benz[a]anthracene	NA	78.8	1	5	ng/dry g	
Benzo[a]pyrene	NA	81.4	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	120.4	1	5	ng/dry g	
Benzo[e]pyrene	NA	92.2	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	49.8	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	108.6	1	5	ng/dry g	
Biphenyl	NA	11	1	5	ng/dry g	
Chrysene	NA	165.1	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	15.5	1	5	ng/dry g	
Dibenzothiophene	NA	9.9	1	5	ng/dry g	
Fluoranthene	NA	106.9	1	5	ng/dry g	
Fluorene	NA	156.1	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	101.9	1	5	ng/dry g	
Naphthalene	NA	51.1	1	5	ng/dry g	
Perylene	NA	11.6	1	5	ng/dry g	
Phenanthrene	NA	308.3	1	5	ng/dry g	
Pyrene	NA	114.9	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22630-R1 B13-8500 Grab Method: EPA 8270C Matrix: Sediment Batch ID: O-5102 Sampled: 09-Sep-13 11:04 Prepared: 28-Feb-14 Received: 10-Sep-13 Analyzed: 07-Apr-14 13:58						
(d10-Acenaphthene)	NA	90			% Recovery	
(d10-Phenanthrene)	NA	80			% Recovery	
(d12-Chrysene)	NA	90			% Recovery	
(d8-Naphthalene)	NA	67			% Recovery	
1-Methylnaphthalene	NA	2	1	5	ng/dry g	J
1-Methylphenanthrene	NA	11.5	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	3.5	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	2.1	1	5	ng/dry g	J
2-Methylnaphthalene	NA	4.4	1	5	ng/dry g	J
Acenaphthene	NA	4.1	1	5	ng/dry g	J
Acenaphthylene	NA	4.8	1	5	ng/dry g	J
Anthracene	NA	24.3	1	5	ng/dry g	
Benz[a]anthracene	NA	81.5	1	5	ng/dry g	
Benzo[a]pyrene	NA	94.8	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	110.6	1	5	ng/dry g	
Benzo[e]pyrene	NA	83.9	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	162	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	94.7	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	122.3	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	43.8	1	5	ng/dry g	
Dibenzothiophene	NA	5.2	1	5	ng/dry g	
Fluoranthene	NA	235.7	1	5	ng/dry g	
Fluorene	NA	5.8	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	204.6	1	5	ng/dry g	
Naphthalene	NA	7	1	5	ng/dry g	
Perylene	NA	18.6	1	5	ng/dry g	
Phenanthrene	NA	103.9	1	5	ng/dry g	
Pyrene	NA	213.3	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22631-R1</div> <div>B13-8123 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5102</div> </div> <div> <div>Sampled: 09-Sep-13 12:03</div> <div>Prepared: 28-Feb-14</div> </div> <div> <div>Received: 10-Sep-13</div> <div>Analyzed: 07-Apr-14 15:38</div> </div>						
(d10-Acenaphthene)	NA	113			% Recovery	
(d10-Phenanthrene)	NA	100			% Recovery	
(d12-Chrysene)	NA	91			% Recovery	
(d8-Naphthalene)	NA	91			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	5.3	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	2.8	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	2	1	5	ng/dry g	J
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	2.9	1	5	ng/dry g	J
Anthracene	NA	3.9	1	5	ng/dry g	J
Benz[a]anthracene	NA	25.9	1	5	ng/dry g	
Benzo[a]pyrene	NA	17.2	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	42.3	1	5	ng/dry g	
Benzo[e]pyrene	NA	34.7	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	30.2	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	37.9	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	44.9	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	6.7	1	5	ng/dry g	
Dibenzothiophene	NA	1.5	1	5	ng/dry g	J
Fluoranthene	NA	37.9	1	5	ng/dry g	
Fluorene	NA	2.3	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	54.9	1	5	ng/dry g	
Naphthalene	NA	3.3	1	5	ng/dry g	J
Perylene	NA	3.3	1	5	ng/dry g	J
Phenanthrene	NA	21.7	1	5	ng/dry g	
Pyrene	NA	42.6	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22632-R1</div> <div>B13-8124 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5102</div> </div> <div> <div>Sampled: 09-Sep-13 13:30</div> <div>Prepared: 28-Feb-14</div> </div> <div> <div>Received: 10-Sep-13</div> <div>Analyzed: 07-Apr-14 17:18</div> </div>						
(d10-Acenaphthene)	NA	111			% Recovery	
(d10-Phenanthrene)	NA	94			% Recovery	
(d12-Chrysene)	NA	81			% Recovery	
(d8-Naphthalene)	NA	98			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	5.2	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	3	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	2.7	1	5	ng/dry g	J
Anthracene	NA	3.1	1	5	ng/dry g	J
Benz[a]anthracene	NA	23	1	5	ng/dry g	
Benzo[a]pyrene	NA	15.5	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	43	1	5	ng/dry g	
Benzo[e]pyrene	NA	32.7	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	27	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	39.1	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	40.2	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	7.2	1	5	ng/dry g	
Dibenzothiophene	NA	1.4	1	5	ng/dry g	J
Fluoranthene	NA	36	1	5	ng/dry g	
Fluorene	NA	2.7	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	51.7	1	5	ng/dry g	
Naphthalene	NA	3.2	1	5	ng/dry g	J
Perylene	NA	3.7	1	5	ng/dry g	J
Phenanthrene	NA	15.7	1	5	ng/dry g	
Pyrene	NA	44.9	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22633-R1</div> <div>B13-8128 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5102</div> </div> <div> <div>Sampled: 09-Sep-13 14:31</div> <div>Prepared: 28-Feb-14</div> </div> <div> <div>Received: 10-Sep-13</div> <div>Analyzed: 07-Apr-14 18:59</div> </div>						
(d10-Acenaphthene)	NA	70			% Recovery	
(d10-Phenanthrene)	NA	69			% Recovery	
(d12-Chrysene)	NA	74			% Recovery	
(d8-Naphthalene)	NA	56			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	5.9	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	2.8	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	2.7	1	5	ng/dry g	J
Anthracene	NA	6.3	1	5	ng/dry g	
Benz[a]anthracene	NA	28.7	1	5	ng/dry g	
Benzo[a]pyrene	NA	44.8	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	58.5	1	5	ng/dry g	
Benzo[e]pyrene	NA	42.8	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	50.7	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	52.3	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	46.4	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	11.8	1	5	ng/dry g	
Dibenzothiophene	NA	2	1	5	ng/dry g	J
Fluoranthene	NA	60.2	1	5	ng/dry g	
Fluorene	NA	2.8	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	89.6	1	5	ng/dry g	
Naphthalene	NA	3.3	1	5	ng/dry g	J
Perylene	NA	5.2	1	5	ng/dry g	
Phenanthrene	NA	24.6	1	5	ng/dry g	
Pyrene	NA	65.8	1	5	ng/dry g	



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Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22634-R1</div> <div>B13-8127 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5102</div> </div> <div> <div>Sampled: 09-Sep-13 16:07</div> <div>Prepared: 28-Feb-14</div> </div> <div> <div>Received: 10-Sep-13</div> <div>Analyzed: 07-Apr-14 20:39</div> </div>						
(d10-Acenaphthene)	NA	71			% Recovery	
(d10-Phenanthrene)	NA	73			% Recovery	
(d12-Chrysene)	NA	76			% Recovery	
(d8-Naphthalene)	NA	52			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	5.2	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	3.3	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	2.6	1	5	ng/dry g	J
Anthracene	NA	3.5	1	5	ng/dry g	J
Benz[a]anthracene	NA	20.8	1	5	ng/dry g	
Benzo[a]pyrene	NA	39.2	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	36.8	1	5	ng/dry g	
Benzo[e]pyrene	NA	31.1	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	32.1	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	35.1	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	25.7	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	6.8	1	5	ng/dry g	
Dibenzothiophene	NA	1.9	1	5	ng/dry g	J
Fluoranthene	NA	34.4	1	5	ng/dry g	
Fluorene	NA	2.5	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	60.8	1	5	ng/dry g	
Naphthalene	NA	2.7	1	5	ng/dry g	J
Perylene	NA	3.4	1	5	ng/dry g	J
Phenanthrene	NA	18.1	1	5	ng/dry g	
Pyrene	NA	40.5	1	5	ng/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22635-R1</div> <div>B13-8121 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5102</div> </div> <div> <div>Sampled: 09-Sep-13 17:20</div> <div>Prepared: 28-Feb-14</div> </div> <div> <div>Received: 10-Sep-13</div> <div>Analyzed: 07-Apr-14 22:20</div> </div>						
(d10-Acenaphthene)	NA	79			% Recovery	
(d10-Phenanthrene)	NA	76			% Recovery	
(d12-Chrysene)	NA	79			% Recovery	
(d8-Naphthalene)	NA	60			% Recovery	
1-Methylnaphthalene	NA	3.7	1	5	ng/dry g	J
1-Methylphenanthrene	NA	43.7	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	10.5	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	4.2	1	5	ng/dry g	J
2-Methylnaphthalene	NA	5.4	1	5	ng/dry g	
Acenaphthene	NA	24.8	1	5	ng/dry g	
Acenaphthylene	NA	21	1	5	ng/dry g	
Anthracene	NA	167.2	1	5	ng/dry g	
Benz[a]anthracene	NA	241	1	5	ng/dry g	
Benzo[a]pyrene	NA	206.1	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	244	1	5	ng/dry g	
Benzo[e]pyrene	NA	173.5	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	311.1	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	215.7	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	493.7	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	133.6	1	5	ng/dry g	
Dibenzothiophene	NA	11	1	5	ng/dry g	
Fluoranthene	NA	609	1	5	ng/dry g	
Fluorene	NA	25.2	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	394.6	1	5	ng/dry g	
Naphthalene	NA	6.4	1	5	ng/dry g	
Perylene	NA	40.7	1	5	ng/dry g	
Phenanthrene	NA	268.5	1	5	ng/dry g	
Pyrene	NA	620.9	1	5	ng/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22636-R1 B13-8085 Grab Method: EPA 8270C						
Matrix: Sediment Batch ID: O-5102						
Sampled: 10-Sep-13 8:38 Prepared: 28-Feb-14						
Received: 10-Sep-13 Analyzed: 08-Apr-14 5:28						
(d10-Acenaphthene)	NA	50			% Recovery	
(d10-Phenanthrene)	NA	75			% Recovery	
(d12-Chrysene)	NA	87			% Recovery	
(d8-Naphthalene)	NA	39			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	6.6	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	2.9	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	5.3	1	5	ng/dry g	
Acenaphthylene	NA	2	1	5	ng/dry g	J
Anthracene	NA	21.3	1	5	ng/dry g	
Benz[a]anthracene	NA	50.9	1	5	ng/dry g	
Benzo[a]pyrene	NA	47.4	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	51.6	1	5	ng/dry g	
Benzo[e]pyrene	NA	37.3	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	25.4	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	50.8	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	74.3	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	6.5	1	5	ng/dry g	
Dibenzothiophene	NA	4.1	1	5	ng/dry g	J
Fluoranthene	NA	86.3	1	5	ng/dry g	
Fluorene	NA	10.3	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	59.4	1	5	ng/dry g	
Naphthalene	NA	ND	1	5	ng/dry g	
Perylene	NA	5.9	1	5	ng/dry g	
Phenanthrene	NA	49.6	1	5	ng/dry g	
Pyrene	NA	69.3	1	5	ng/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22637-R1 B13-8105 Grab Method: EPA 8270C						
Matrix: Sediment Batch ID: O-5102						
Sampled: 10-Sep-13 9:46 Prepared: 28-Feb-14						
Received: 10-Sep-13 Analyzed: 08-Apr-14 7:08						
(d10-Acenaphthene)	NA	83			% Recovery	
(d10-Phenanthrene)	NA	91			% Recovery	
(d12-Chrysene)	NA	80			% Recovery	
(d8-Naphthalene)	NA	61			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	4.1	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	2.1	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	2.8	1	5	ng/dry g	J
Anthracene	NA	9.7	1	5	ng/dry g	
Benz[a]anthracene	NA	40	1	5	ng/dry g	
Benzo[a]pyrene	NA	47.7	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	54.5	1	5	ng/dry g	
Benzo[e]pyrene	NA	42	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	45.2	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	49.9	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	57	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	14	1	5	ng/dry g	
Dibenzothiophene	NA	1.9	1	5	ng/dry g	J
Fluoranthene	NA	68.6	1	5	ng/dry g	
Fluorene	NA	2.8	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	85.5	1	5	ng/dry g	
Naphthalene	NA	ND	1	5	ng/dry g	
Perylene	NA	8.5	1	5	ng/dry g	
Phenanthrene	NA	27.3	1	5	ng/dry g	
Pyrene	NA	68.2	1	5	ng/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22638-R1</div> <div>B13-8117 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5102</div> </div> <div> <div>Sampled: 10-Sep-13 11:07</div> <div>Prepared: 28-Feb-14</div> </div> <div> <div>Received: 10-Sep-13</div> <div>Analyzed: 08-Apr-14 8:48</div> </div>						
(d10-Acenaphthene)	NA	108			% Recovery	
(d10-Phenanthrene)	NA	111			% Recovery	
(d12-Chrysene)	NA	119			% Recovery	
(d8-Naphthalene)	NA	71			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	6.2	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	4.4	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	3.5	1	5	ng/dry g	J
Anthracene	NA	6.2	1	5	ng/dry g	
Benz[a]anthracene	NA	26.7	1	5	ng/dry g	
Benzo[a]pyrene	NA	31.2	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	54.4	1	5	ng/dry g	
Benzo[e]pyrene	NA	44.3	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	22.1	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	61.1	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	44.8	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	4.8	1	5	ng/dry g	J
Dibenzothiophene	NA	3.1	1	5	ng/dry g	J
Fluoranthene	NA	48.5	1	5	ng/dry g	
Fluorene	NA	3.5	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	39.9	1	5	ng/dry g	
Naphthalene	NA	2.4	1	5	ng/dry g	J
Perylene	NA	7.3	1	5	ng/dry g	
Phenanthrene	NA	25.4	1	5	ng/dry g	
Pyrene	NA	54.7	1	5	ng/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22639-R1</div> <div>B13-8113 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5102</div> </div> <div> <div>Sampled: 10-Sep-13 12:10</div> <div>Prepared: 28-Feb-14</div> </div> <div> <div>Received: 10-Sep-13</div> <div>Analyzed: 08-Apr-14 10:29</div> </div>						
(d10-Acenaphthene)	NA	100			% Recovery	
(d10-Phenanthrene)	NA	94			% Recovery	
(d12-Chrysene)	NA	83			% Recovery	
(d8-Naphthalene)	NA	76			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	4.6	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	3.8	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	2.5	1	5	ng/dry g	J
Anthracene	NA	4.1	1	5	ng/dry g	J
Benz[a]anthracene	NA	13.5	1	5	ng/dry g	
Benzo[a]pyrene	NA	12	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	37	1	5	ng/dry g	
Benzo[e]pyrene	NA	27.4	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	13.6	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	34.1	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	26.8	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	3.4	1	5	ng/dry g	J
Dibenzothiophene	NA	2	1	5	ng/dry g	J
Fluoranthene	NA	27.8	1	5	ng/dry g	
Fluorene	NA	2.5	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	26.3	1	5	ng/dry g	
Naphthalene	NA	2.4	1	5	ng/dry g	J
Perylene	NA	2	1	5	ng/dry g	J
Phenanthrene	NA	17.1	1	5	ng/dry g	
Pyrene	NA	28.8	1	5	ng/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 22640-R1 B13-8116 Grab Method: EPA 8270C		Matrix: Sediment Batch ID: O-5102		Sampled: 10-Sep-13 13:51 Prepared: 28-Feb-14		Received: 10-Sep-13 Analyzed: 08-Apr-14 12:09
(d10-Acenaphthene)	NA	93			% Recovery	
(d10-Phenanthrene)	NA	91			% Recovery	
(d12-Chrysene)	NA	81			% Recovery	
(d8-Naphthalene)	NA	72			% Recovery	
1-Methylnaphthalene	NA	2.7	1	5	ng/dry g	J
1-Methylphenanthrene	NA	17	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	3.7	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	2.1	1	5	ng/dry g	J
2-Methylnaphthalene	NA	2.4	1	5	ng/dry g	J
Acenaphthene	NA	3.4	1	5	ng/dry g	J
Acenaphthylene	NA	8	1	5	ng/dry g	
Anthracene	NA	20.9	1	5	ng/dry g	
Benz[a]anthracene	NA	69.7	1	5	ng/dry g	
Benzo[a]pyrene	NA	83.6	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	112.5	1	5	ng/dry g	
Benzo[e]pyrene	NA	77.1	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	114.1	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	100.8	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	127.2	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	44.5	1	5	ng/dry g	
Dibenzothiophene	NA	6	1	5	ng/dry g	
Fluoranthene	NA	148.2	1	5	ng/dry g	
Fluorene	NA	8.3	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	175	1	5	ng/dry g	
Naphthalene	NA	2.9	1	5	ng/dry g	J
Perylene	NA	11.3	1	5	ng/dry g	
Phenanthrene	NA	92.9	1	5	ng/dry g	
Pyrene	NA	136.3	1	5	ng/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22641-R1</div> <div>B13-8108 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5102</div> </div> <div> <div>Sampled: 10-Sep-13 14:46</div> <div>Prepared: 28-Feb-14</div> </div> <div> <div>Received: 10-Sep-13</div> <div>Analyzed: 08-Apr-14 13:49</div> </div>						
(d10-Acenaphthene)	NA	85			% Recovery	
(d10-Phenanthrene)	NA	76			% Recovery	
(d12-Chrysene)	NA	70			% Recovery	
(d8-Naphthalene)	NA	74			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	2.3	1	5	ng/dry g	J
2,3,5-Trimethylnaphthalene	NA	2.1	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	ND	1	5	ng/dry g	
Anthracene	NA	2.7	1	5	ng/dry g	J
Benz[a]anthracene	NA	9.7	1	5	ng/dry g	
Benzo[a]pyrene	NA	15.4	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	20.9	1	5	ng/dry g	
Benzo[e]pyrene	NA	13.7	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	11.3	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	19.8	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	15	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	4	1	5	ng/dry g	J
Dibenzothiophene	NA	ND	1	5	ng/dry g	
Fluoranthene	NA	15.3	1	5	ng/dry g	
Fluorene	NA	1.8	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	24.2	1	5	ng/dry g	
Naphthalene	NA	ND	1	5	ng/dry g	
Perylene	NA	1.5	1	5	ng/dry g	J
Phenanthrene	NA	9.4	1	5	ng/dry g	
Pyrene	NA	14.7	1	5	ng/dry g	



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ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22642-R1</div> <div>B13-8106 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5102</div> </div> <div> <div>Sampled: 10-Sep-13 15:49</div> <div>Prepared: 28-Feb-14</div> </div> <div> <div>Received: 10-Sep-13</div> <div>Analyzed: 08-Apr-14 15:30</div> </div>						
(d10-Acenaphthene)	NA	93			% Recovery	
(d10-Phenanthrene)	NA	90			% Recovery	
(d12-Chrysene)	NA	86			% Recovery	
(d8-Naphthalene)	NA	85			% Recovery	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g	
1-Methylphenanthrene	NA	6.4	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	3.1	1	5	ng/dry g	J
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g	
Acenaphthene	NA	ND	1	5	ng/dry g	
Acenaphthylene	NA	6.4	1	5	ng/dry g	
Anthracene	NA	9.2	1	5	ng/dry g	
Benz[a]anthracene	NA	43.8	1	5	ng/dry g	
Benzo[a]pyrene	NA	25.8	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	69	1	5	ng/dry g	
Benzo[e]pyrene	NA	50.7	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	33.4	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	66.1	1	5	ng/dry g	
Biphenyl	NA	ND	1	5	ng/dry g	
Chrysene	NA	82.9	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	10.7	1	5	ng/dry g	
Dibenzothiophene	NA	2.5	1	5	ng/dry g	J
Fluoranthene	NA	80.9	1	5	ng/dry g	
Fluorene	NA	4.5	1	5	ng/dry g	J
Indeno[1,2,3-c,d]pyrene	NA	66.9	1	5	ng/dry g	
Naphthalene	NA	3.2	1	5	ng/dry g	J
Perylene	NA	4.3	1	5	ng/dry g	J
Phenanthrene	NA	30.4	1	5	ng/dry g	
Pyrene	NA	79	1	5	ng/dry g	



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<div> <div>Sample ID: 22643-R1</div> <div>B13-8102 Grab</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5102</div> </div> <div> <div>Sampled: 10-Sep-13 16:50</div> <div>Prepared: 28-Feb-14</div> </div> <div> <div>Received: 10-Sep-13</div> <div>Analyzed: 08-Apr-14 17:10</div> </div>						
(d10-Acenaphthene)	NA	121			% Recovery	
(d10-Phenanthrene)	NA	107			% Recovery	
(d12-Chrysene)	NA	99			% Recovery	
(d8-Naphthalene)	NA	107			% Recovery	
1-Methylnaphthalene	NA	2.2	1	5	ng/dry g	J
1-Methylphenanthrene	NA	14.5	1	5	ng/dry g	
2,3,5-Trimethylnaphthalene	NA	6	1	5	ng/dry g	
2,6-Dimethylnaphthalene	NA	3	1	5	ng/dry g	J
2-Methylnaphthalene	NA	3.7	1	5	ng/dry g	J
Acenaphthene	NA	2.4	1	5	ng/dry g	J
Acenaphthylene	NA	18.3	1	5	ng/dry g	
Anthracene	NA	23.3	1	5	ng/dry g	
Benz[a]anthracene	NA	89.6	1	5	ng/dry g	
Benzo[a]pyrene	NA	39.2	1	5	ng/dry g	
Benzo[b]fluoranthene	NA	152	1	5	ng/dry g	
Benzo[e]pyrene	NA	109.2	1	5	ng/dry g	
Benzo[g,h,i]perylene	NA	61.7	1	5	ng/dry g	
Benzo[k]fluoranthene	NA	134.6	1	5	ng/dry g	
Biphenyl	NA	2.4	1	5	ng/dry g	J
Chrysene	NA	227.7	1	5	ng/dry g	
Dibenz[a,h]anthracene	NA	19.7	1	5	ng/dry g	
Dibenzothiophene	NA	4.2	1	5	ng/dry g	J
Fluoranthene	NA	136.8	1	5	ng/dry g	
Fluorene	NA	11.1	1	5	ng/dry g	
Indeno[1,2,3-c,d]pyrene	NA	119.2	1	5	ng/dry g	
Naphthalene	NA	6	1	5	ng/dry g	
Perylene	NA	8.6	1	5	ng/dry g	
Phenanthrene	NA	74.3	1	5	ng/dry g	
Pyrene	NA	135.4	1	5	ng/dry g	



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CA ELAP #2769

Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Sample ID: 22628-R1

B13-8111 Grab

Matrix: Sediment

Sampled: 09-Sep-13 8:53

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 02-Mar-14 12:26

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22629-R1

B13-8112 Grab

Matrix: Sediment

Sampled: 09-Sep-13 9:58

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 02-Mar-14 14:33

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
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Resmethrin	NA	ND	0.25	0.5	ng/dry g	
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Sample ID: 22630-R1

B13-8500 Grab

Matrix: Sediment

Sampled: 09-Sep-13 11:04

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 02-Mar-14 15:37

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	16.61	0.25	0.5	ng/dry g	
Cyfluthrin	NA	2.49	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22631-R1

B13-8123 Grab

Matrix: Sediment

Sampled: 09-Sep-13 12:03

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 02-Mar-14 16:41

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids**ANALYTICAL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22632-R1**B13-8124 Grab****Matrix: Sediment****Sampled: 09-Sep-13 13:30****Received: 10-Sep-13**

Method: EPA 8270C-NCI

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 02-Mar-14 17:45

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22633-R1**B13-8128 Grab****Matrix: Sediment****Sampled: 09-Sep-13 14:31****Received: 10-Sep-13**

Method: EPA 8270C-NCI

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 02-Mar-14 20:23

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22634-R1

B13-8127 Grab

Matrix: Sediment

Sampled: 09-Sep-13 16:07

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 02-Mar-14 21:27

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22635-R1

B13-8121 Grab

Matrix: Sediment

Sampled: 09-Sep-13 17:20

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 02-Mar-14 22:31

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22636-R1

B13-8085 Grab

Matrix: Sediment

Sampled: 10-Sep-13 8:38

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 02-Mar-14 23:35

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22637-R1

B13-8105 Grab

Matrix: Sediment

Sampled: 10-Sep-13 9:46

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 03-Mar-14 0:38

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22638-R1

B13-8117 Grab

Matrix: Sediment

Sampled: 10-Sep-13 11:07

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 03-Mar-14 1:42

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	0.67	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22639-R1

B13-8113 Grab

Matrix: Sediment

Sampled: 10-Sep-13 12:10

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 03-Mar-14 2:46

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	



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Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22640-R1

B13-8116 Grab

Matrix: Sediment

Sampled: 10-Sep-13 13:51

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 03-Mar-14 3:49

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	1.91	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22641-R1

B13-8108 Grab

Matrix: Sediment

Sampled: 10-Sep-13 14:46

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 03-Mar-14 4:53

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22642-R1

B13-8106 Grab

Matrix: Sediment

Sampled: 10-Sep-13 15:49

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 03-Mar-14 5:57

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

Sample ID: 22643-R1

B13-8102 Grab

Matrix: Sediment

Sampled: 10-Sep-13 16:50

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 03-Mar-14 7:00

Allethrin	NA	ND	0.25	0.5	ng/dry g	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g	



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CA ELAP #2769

Pyrethroids

ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fenvalerate	NA	ND	0.25	0.5	ng/dry g	
Fluvalinate	NA	ND	0.25	0.5	ng/dry g	
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g	
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g	
Prallethrin	NA	ND	0.25	0.5	ng/dry g	
Resmethrin	NA	ND	0.25	0.5	ng/dry g	

QUALITY CONTROL REPORT

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CA ELAP #2769

Aroclor PCBs**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22626-B1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C

Batch ID: O-5102

Prepared: 20-Feb-14

Analyzed: 06-Apr-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g				PASS	
Aroclor 1221	NA	ND	1	2	ng/dry g				PASS	
Aroclor 1232	NA	ND	1	2	ng/dry g				PASS	
Aroclor 1242	NA	ND	1	2	ng/dry g				PASS	
Aroclor 1248	NA	ND	1	2	ng/dry g				PASS	
Aroclor 1254	NA	ND	1	2	ng/dry g				PASS	
Aroclor 1260	NA	ND	1	2	ng/dry g				PASS	
Aroclor 1262	NA	ND	1	2	ng/dry g				PASS	
Aroclor 1268	NA	ND	1	2	ng/dry g				PASS	

Sample ID: 22627-B1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 06-Apr-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g				PASS	
Aroclor 1221	NA	ND	1	2	ng/dry g				PASS	
Aroclor 1232	NA	ND	1	2	ng/dry g				PASS	
Aroclor 1242	NA	ND	1	2	ng/dry g				PASS	
Aroclor 1248	NA	ND	1	2	ng/dry g				PASS	
Aroclor 1254	NA	ND	1	2	ng/dry g				PASS	
Aroclor 1260	NA	ND	1	2	ng/dry g				PASS	
Aroclor 1262	NA	ND	1	2	ng/dry g				PASS	
Aroclor 1268	NA	ND	1	2	ng/dry g				PASS	

Sample ID: 22628-R2**B13-8111 Grab****Matrix: Sediment****Sampled: 09-Sep-13 8:53****Received: 10-Sep-13**

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 07-Apr-14 0:00

Aroclor 1016	NA	ND	1	2	ng/dry g			PASS	0	25	PASS
Aroclor 1221	NA	ND	1	2	ng/dry g			PASS	0	25	PASS
Aroclor 1232	NA	ND	1	2	ng/dry g			PASS	0	25	PASS
Aroclor 1242	NA	ND	1	2	ng/dry g			PASS	0	25	PASS
Aroclor 1248	NA	ND	1	2	ng/dry g			PASS	0	25	PASS



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Aroclor PCBs**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Aroclor 1254	NA	ND	1	2	ng/dry g			PASS	0 25	PASS
Aroclor 1260	NA	31.3	1	2	ng/dry g			PASS	116 25	FAIL NH
Aroclor 1262	NA	ND	1	2	ng/dry g			PASS	0 25	PASS
Aroclor 1268	NA	ND	1	2	ng/dry g			PASS	0 25	PASS



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION LIMITS	QA CODE
Sample ID: 22626-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C-NCI		Batch ID: O-5057		Prepared: 02-Dec-13		Analyzed: 07-Jan-14 10:38		
Toxaphene	NA	ND	0.1	0.2	ng/dry g			PASS		
Sample ID: 22626-BS1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C-NCI		Batch ID: O-5057		Prepared: 02-Dec-13		Analyzed: 07-Jan-14 11:42		
Toxaphene	NA	9759.9	0.1	0.2	ng/dry g	10000	0	98 70 - 130% PASS		
Sample ID: 22626-BS2		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C-NCI		Batch ID: O-5057		Prepared: 02-Dec-13		Analyzed: 07-Jan-14 12:46		
Toxaphene	NA	8725.6	0.1	0.2	ng/dry g	10000	0	87 70 - 130% PASS	12 25 PASS	
Sample ID: 22627-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-5102		Prepared: 28-Feb-14		Analyzed: 06-Apr-14 20:39		
(PCB030)	NA	100			% Recovery	100		100 50 - 150% PASS		
(PCB112)	NA	96			% Recovery	100		96 50 - 150% PASS		
(PCB198)	NA	93			% Recovery	100		93 50 - 150% PASS		
(TCMX)	NA	94			% Recovery	100		94 50 - 150% PASS		
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g			PASS		
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g			PASS		
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g			PASS		
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g			PASS		
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g			PASS		
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g			PASS		
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g			PASS		
Aldrin	NA	ND	0.05	0.1	ng/dry g			PASS		
BHC-alpha	NA	ND	0.05	0.1	ng/dry g			PASS		
BHC-beta	NA	ND	0.05	0.1	ng/dry g			PASS		
BHC-delta	NA	ND	0.05	0.1	ng/dry g			PASS		
BHC-gamma	NA	ND	0.05	0.1	ng/dry g			PASS		
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g			PASS		
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g			PASS		



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g					PASS
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g					PASS
Dicofol	NA	ND	0.05	0.1	ng/dry g					PASS
Dieldrin	NA	ND	0.05	0.1	ng/dry g					PASS
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g					PASS
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g					PASS
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g					PASS
Endrin	NA	ND	0.05	0.1	ng/dry g					PASS
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g					PASS
Endrin ketone	NA	ND	0.05	0.1	ng/dry g					PASS
Heptachlor	NA	ND	0.05	0.1	ng/dry g					PASS
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g					PASS
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g					PASS
Methoxychlor	NA	ND	0.05	0.1	ng/dry g					PASS
Mirex	NA	ND	0.05	0.1	ng/dry g					PASS
Oxychlorane	NA	ND	0.05	0.1	ng/dry g					PASS
Perthane	NA	ND	0.05	0.1	ng/dry g					PASS
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g					PASS

Sample ID: 22627-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 06-Apr-14 22:19

(PCB030)	NA	87			% Recovery	100	0	87	70 - 130%	PASS
(PCB112)	NA	95			% Recovery	100	0	95	70 - 130%	PASS
(PCB198)	NA	97			% Recovery	100	0	97	70 - 130%	PASS
(TCMX)	NA	75			% Recovery	100	0	75	70 - 130%	PASS
2,4'-DDD	NA	1072.71	0.05	0.1	ng/dry g	1000	0	107	70 - 130%	PASS
2,4'-DDE	NA	891.16	0.05	0.1	ng/dry g	1000	0	89	70 - 130%	PASS
2,4'-DDT	NA	1030.57	0.05	0.1	ng/dry g	1000	0	103	70 - 130%	PASS
4,4'-DDD	NA	1189.24	0.05	0.1	ng/dry g	1000	0	119	70 - 130%	PASS
4,4'-DDE	NA	918.75	0.05	0.1	ng/dry g	1000	0	92	70 - 130%	PASS
4,4'-DDMU	NA	898.38	0.05	0.1	ng/dry g	1000	0	90	70 - 130%	PASS
4,4'-DDT	NA	1241.68	0.05	0.1	ng/dry g	1000	0	124	70 - 130%	PASS



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Aldrin	NA	916.35	0.05	0.1	ng/dry g	1000	0	92	70 - 130% PASS	
BHC-alpha	NA	898.68	0.05	0.1	ng/dry g	1000	0	90	70 - 130% PASS	
BHC-beta	NA	813.28	0.05	0.1	ng/dry g	1000	0	81	70 - 130% PASS	
BHC-delta	NA	789.78	0.05	0.1	ng/dry g	1000	0	79	70 - 130% PASS	
BHC-gamma	NA	871.47	0.05	0.1	ng/dry g	1000	0	87	70 - 130% PASS	
Chlordane-alpha	NA	883.2	0.05	0.1	ng/dry g	1000	0	88	70 - 130% PASS	
Chlordane-gamma	NA	916.59	0.05	0.1	ng/dry g	1000	0	92	70 - 130% PASS	
cis-Nonachlor	NA	869.45	0.05	0.1	ng/dry g	1000	0	87	70 - 130% PASS	
DCPA (Dacthal)	NA	993.42	0.05	0.1	ng/dry g	1000	0	99	70 - 130% PASS	
Dicofol	NA	1165	0.05	0.1	ng/dry g	1000	0	116	70 - 130% PASS	
Dieldrin	NA	858.23	0.05	0.1	ng/dry g	1000	0	86	70 - 130% PASS	
Endosulfan sulfate	NA	1031.87	0.05	0.1	ng/dry g	1000	0	103	70 - 130% PASS	
Endosulfan-I	NA	559.43	0.05	0.1	ng/dry g	1000	0	56	70 - 130% FAIL	*
Endosulfan-II	NA	563.61	0.05	0.1	ng/dry g	1000	0	56	70 - 130% FAIL	*
Endrin	NA	1072.87	0.05	0.1	ng/dry g	1000	0	107	70 - 130% PASS	
Endrin aldehyde	NA	20.55	0.05	0.1	ng/dry g	1000	0	2	70 - 130% FAIL	*
Endrin ketone	NA	985.96	0.05	0.1	ng/dry g	1000	0	99	70 - 130% PASS	
Heptachlor	NA	1146.29	0.05	0.1	ng/dry g	1000	0	115	70 - 130% PASS	
Heptachlor epoxide	NA	979.72	0.05	0.1	ng/dry g	1000	0	98	70 - 130% PASS	
Hexachlorobenzene	NA	751.54	0.05	0.1	ng/dry g	1000	0	75	70 - 130% PASS	
Methoxychlor	NA	984	0.05	0.1	ng/dry g	1000	0	98	70 - 130% PASS	
Mirex	NA	937.48	0.05	0.1	ng/dry g	1000	0	94	70 - 130% PASS	
Oxychlordane	NA	946.74	0.05	0.1	ng/dry g	1000	0	95	70 - 130% PASS	
Perthane	NA	1222.96	0.05	0.1	ng/dry g	1000	0	122	70 - 130% PASS	
trans-Nonachlor	NA	881.78	0.05	0.1	ng/dry g	1000	0	88	70 - 130% PASS	

Sample ID: 22627-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 06-Apr-14 23:59

(PCB030)	NA	86	% Recovery	100	0	86	70 - 130% PASS	1	25	PASS
(PCB112)	NA	89	% Recovery	100	0	89	70 - 130% PASS	7	25	PASS
(PCB198)	NA	83	% Recovery	100	0	83	70 - 130% PASS	16	25	PASS
(TCMX)	NA	81	% Recovery	100	0	81	70 - 130% PASS	8	25	PASS



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CA ELAP #2769

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	LIMITS	QA CODE
2,4'-DDD	NA	1090.13	0.05	0.1	ng/dry g	1000	0	109	70 - 130%	PASS	
2,4'-DDE	NA	868.14	0.05	0.1	ng/dry g	1000	0	87	70 - 130%	PASS	
2,4'-DDT	NA	1051.84	0.05	0.1	ng/dry g	1000	0	105	70 - 130%	PASS	
4,4'-DDD	NA	1259.57	0.05	0.1	ng/dry g	1000	0	126	70 - 130%	PASS	
4,4'-DDE	NA	939.54	0.05	0.1	ng/dry g	1000	0	94	70 - 130%	PASS	
4,4'-DDMU	NA	908.14	0.05	0.1	ng/dry g	1000	0	91	70 - 130%	PASS	
4,4'-DDT	NA	1332.74	0.05	0.1	ng/dry g	1000	0	133	70 - 130%	FAIL	R
Aldrin	NA	855.77	0.05	0.1	ng/dry g	1000	0	86	70 - 130%	PASS	
BHC-alpha	NA	887.8	0.05	0.1	ng/dry g	1000	0	89	70 - 130%	PASS	
BHC-beta	NA	852.19	0.05	0.1	ng/dry g	1000	0	85	70 - 130%	PASS	
BHC-delta	NA	817.03	0.05	0.1	ng/dry g	1000	0	82	70 - 130%	PASS	
BHC-gamma	NA	872.37	0.05	0.1	ng/dry g	1000	0	87	70 - 130%	PASS	
Chlordane-alpha	NA	848.1	0.05	0.1	ng/dry g	1000	0	85	70 - 130%	PASS	
Chlordane-gamma	NA	892.15	0.05	0.1	ng/dry g	1000	0	89	70 - 130%	PASS	
cis-Nonachlor	NA	829.81	0.05	0.1	ng/dry g	1000	0	83	70 - 130%	PASS	
DCPA (Dacthal)	NA	983.17	0.05	0.1	ng/dry g	1000	0	98	70 - 130%	PASS	
Dicofol	NA	1464.33	0.05	0.1	ng/dry g	1000	0	146	70 - 130%	FAIL	R
Dieldrin	NA	759.99	0.05	0.1	ng/dry g	1000	0	76	70 - 130%	PASS	
Endosulfan sulfate	NA	1045.68	0.05	0.1	ng/dry g	1000	0	105	70 - 130%	PASS	
Endosulfan-I	NA	522.01	0.05	0.1	ng/dry g	1000	0	52	70 - 130%	FAIL	*
Endosulfan-II	NA	609.4	0.05	0.1	ng/dry g	1000	0	61	70 - 130%	FAIL	*
Endrin	NA	1072.6	0.05	0.1	ng/dry g	1000	0	107	70 - 130%	PASS	
Endrin aldehyde	NA	83.25	0.05	0.1	ng/dry g	1000	0	8	70 - 130%	FAIL	*
Endrin ketone	NA	1000.35	0.05	0.1	ng/dry g	1000	0	100	70 - 130%	PASS	
Heptachlor	NA	1158.2	0.05	0.1	ng/dry g	1000	0	116	70 - 130%	PASS	
Heptachlor epoxide	NA	968.23	0.05	0.1	ng/dry g	1000	0	97	70 - 130%	PASS	
Hexachlorobenzene	NA	775.71	0.05	0.1	ng/dry g	1000	0	78	70 - 130%	PASS	
Methoxychlor	NA	916	0.05	0.1	ng/dry g	1000	0	92	70 - 130%	PASS	
Mirex	NA	904.13	0.05	0.1	ng/dry g	1000	0	90	70 - 130%	PASS	
Oxychlordane	NA	989.7	0.05	0.1	ng/dry g	1000	0	99	70 - 130%	PASS	
Perthane	NA	1294.36	0.05	0.1	ng/dry g	1000	0	129	70 - 130%	PASS	



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Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
trans-Nonachlor	NA	841.48	0.05	0.1	ng/dry g	1000	0	84 70 - 130%	PASS	5 25 PASS
Sample ID: 22628-MS1 B13-8111 Grab Method: EPA 8270C-NCI Batch ID: O-5057 Matrix: Sediment Sampled: 09-Sep-13 8:53 Received: 10-Sep-13 Prepared: 02-Dec-13 Analyzed: 07-Jan-14 13:50										
Toxaphene	NA	9499.8	0.1	0.2	ng/dry g	10000	0	95 50 - 150%	PASS	
Method: EPA 8270C Batch ID: O-5102 Prepared: 28-Feb-14 Analyzed: 07-Apr-14 1:40										
(PCB030)	NA	85			% Recovery	100	0	85 50 - 150%	PASS	
(PCB112)	NA	95			% Recovery	100	0	95 50 - 150%	PASS	
(PCB198)	NA	89			% Recovery	100	0	89 50 - 150%	PASS	
(TCMX)	NA	83			% Recovery	100	0	83 50 - 150%	PASS	
2,4'-DDD	NA	276.43	0.05	0.1	ng/dry g	253	0	109 50 - 150%	PASS	
2,4'-DDE	NA	231.37	0.05	0.1	ng/dry g	253	0	91 50 - 150%	PASS	
2,4'-DDT	NA	258.6	0.05	0.1	ng/dry g	253	0	102 25 - 125%	PASS	
4,4'-DDD	NA	310.19	0.05	0.1	ng/dry g	253	0	123 50 - 150%	PASS	
4,4'-DDE	NA	243.09	0.05	0.1	ng/dry g	253	0	96 50 - 150%	PASS	
4,4'-DDMU	NA	255.85	0.05	0.1	ng/dry g	253	0	101 50 - 150%	PASS	
4,4'-DDT	NA	309.45	0.05	0.1	ng/dry g	253	0	122 25 - 125%	PASS	
Aldrin	NA	209.82	0.05	0.1	ng/dry g	253	0	83 50 - 150%	PASS	
BHC-alpha	NA	231.88	0.05	0.1	ng/dry g	253	0	92 50 - 150%	PASS	
BHC-beta	NA	240.14	0.05	0.1	ng/dry g	253	0	95 50 - 150%	PASS	
BHC-delta	NA	163.17	0.05	0.1	ng/dry g	253	0	64 50 - 150%	PASS	
BHC-gamma	NA	214.05	0.05	0.1	ng/dry g	253	0	85 50 - 150%	PASS	
Chlordane-alpha	NA	226.82	0.05	0.1	ng/dry g	253	0	90 50 - 150%	PASS	
Chlordane-gamma	NA	240.35	0.05	0.1	ng/dry g	253	0	95 50 - 150%	PASS	
cis-Nonachlor	NA	209.79	0.05	0.1	ng/dry g	253	0	83 50 - 150%	PASS	
DCPA (Dacthal)	NA	247.39	0.05	0.1	ng/dry g	253	0	98 50 - 150%	PASS	
Dicofol	NA	221.19	0.05	0.1	ng/dry g	253	0	87 50 - 150%	PASS	
Dieldrin	NA	184.59	0.05	0.1	ng/dry g	253	0	73 50 - 150%	PASS	
Endosulfan sulfate	NA	238	0.05	0.1	ng/dry g	253	0	94 50 - 150%	PASS	
Endosulfan-I	NA	119.85	0.05	0.1	ng/dry g	253	0	47 50 - 150%	FAIL	M
Endosulfan-II	NA	131.61	0.05	0.1	ng/dry g	253	0	52 50 - 150%	PASS	
Endrin	NA	260.58	0.05	0.1	ng/dry g	253	0	103 25 - 125%	PASS	



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CA ELAP #2769

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Endrin aldehyde	NA	1.86	0.05	0.1	ng/dry g	253	0	1	0 - 125%	PASS
Endrin ketone	NA	211.98	0.05	0.1	ng/dry g	253	0	84	25 - 125%	PASS
Heptachlor	NA	274.12	0.05	0.1	ng/dry g	253	0	108	50 - 150%	PASS
Heptachlor epoxide	NA	234.34	0.05	0.1	ng/dry g	253	0	93	50 - 150%	PASS
Hexachlorobenzene	NA	203.53	0.05	0.1	ng/dry g	253	0	80	50 - 150%	PASS
Methoxychlor	NA	487.71	0.05	0.1	ng/dry g	253	0	193	50 - 150%	FAIL
Mirex	NA	213.26	0.05	0.1	ng/dry g	253	0	84	50 - 150%	PASS
Oxychlorodane	NA	234.27	0.05	0.1	ng/dry g	253	0	93	50 - 150%	PASS
Perthane	NA	330.78	0.05	0.1	ng/dry g	253	0	131	50 - 150%	PASS
trans-Nonachlor	NA	223.39	0.05	0.1	ng/dry g	253	0	88	50 - 150%	PASS

Sample ID: 22628-MS2

B13-8111 Grab

Matrix: Sediment

Sampled: 09-Sep-13 8:53

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 07-Jan-14 14:54

Toxaphene	NA	9646.4	0.1	0.2	ng/dry g	10000	0	96	50 - 150%	PASS	1	25	PASS
Method: EPA 8270C Batch ID: O-5102 Prepared: 28-Feb-14 Analyzed: 07-Apr-14 5:01													
(PCB030)	NA	83			% Recovery	100	0	83	50 - 150%	PASS	2	25	PASS
(PCB112)	NA	97			% Recovery	100	0	97	50 - 150%	PASS	2	25	PASS
(PCB198)	NA	89			% Recovery	100	0	89	50 - 150%	PASS	0	25	PASS
(TCMX)	NA	76			% Recovery	100	0	76	50 - 150%	PASS	9	25	PASS
2,4'-DDD	NA	296.38	0.05	0.1	ng/dry g	259.6	0	114	50 - 150%	PASS	4	25	PASS
2,4'-DDE	NA	240.53	0.05	0.1	ng/dry g	259.6	0	93	50 - 150%	PASS	2	25	PASS
2,4'-DDT	NA	277.97	0.05	0.1	ng/dry g	259.6	0	107	25 - 125%	PASS	5	25	PASS
4,4'-DDD	NA	331.47	0.05	0.1	ng/dry g	259.6	0	128	50 - 150%	PASS	4	25	PASS
4,4'-DDE	NA	254.28	0.05	0.1	ng/dry g	259.6	0	98	50 - 150%	PASS	2	25	PASS
4,4'-DDMU	NA	245.52	0.05	0.1	ng/dry g	259.6	0	95	50 - 150%	PASS	6	25	PASS
4,4'-DDT	NA	329.6	0.05	0.1	ng/dry g	259.6	0	127	25 - 125%	FAIL	4	25	PASS
Aldrin	NA	208.11	0.05	0.1	ng/dry g	259.6	0	80	50 - 150%	PASS	4	25	PASS
BHC-alpha	NA	225.36	0.05	0.1	ng/dry g	259.6	0	87	50 - 150%	PASS	6	25	PASS
BHC-beta	NA	256.51	0.05	0.1	ng/dry g	259.6	0	99	50 - 150%	PASS	4	25	PASS
BHC-delta	NA	207.29	0.05	0.1	ng/dry g	259.6	0	80	50 - 150%	PASS	22	25	PASS
BHC-gamma	NA	220.56	0.05	0.1	ng/dry g	259.6	0	85	50 - 150%	PASS	0	25	PASS
Chlordane-alpha	NA	237.43	0.05	0.1	ng/dry g	259.6	0	91	50 - 150%	PASS	1	25	PASS

CA ELAP #2769

QUALITY CONTROL REPORT

Sample ID: 22628-R2		B13-8111 Grab		Matrix: Sediment		Sampled: 09-Sep-13 8:53		Received: 10-Sep-13		
		Method: EPA 8270C-NCI		Batch ID: O-5057		Prepared: 02-Dec-13		Analyzed: 07-Jan-14 18:36		
Toxaphene	NA	ND	0.1	0.2	ng/dry g			PASS	0	25 PASS
		Method: EPA 8270C		Batch ID: O-5102		Prepared: 28-Feb-14		Analyzed: 07-Apr-14 10:37		
(PCB030)	NA	81			% Recovery	100	81 50 - 150%	PASS	11	25 PASS
(PCB112)	NA	102			% Recovery	100	102 50 - 150%	PASS	12	25 PASS
(PCB198)	NA	75			% Recovery	100	75 50 - 150%	PASS	14	25 PASS
(TCMX)	NA	75			% Recovery	100	75 50 - 150%	PASS	14	25 PASS
2,4'-DDD	NA	ND	0.05	0.1	ng/dry g			PASS	0	25 PASS
2,4'-DDE	NA	ND	0.05	0.1	ng/dry g			PASS	0	25 PASS
2,4'-DDT	NA	ND	0.05	0.1	ng/dry g			PASS	0	25 PASS
4,4'-DDD	NA	ND	0.05	0.1	ng/dry g			PASS	0	25 PASS



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Chlorinated Pesticides**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
4,4'-DDE	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
4,4'-DDMU	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
4,4'-DDT	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
Aldrin	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
BHC-alpha	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
BHC-beta	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
BHC-delta	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
BHC-gamma	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
Chlordane-alpha	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
Chlordane-gamma	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
cis-Nonachlor	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
DCPA (Dacthal)	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
Dicofol	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
Dieldrin	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
Endosulfan sulfate	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
Endosulfan-I	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
Endosulfan-II	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
Endrin	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
Endrin aldehyde	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
Endrin ketone	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
Heptachlor	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
Heptachlor epoxide	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
Hexachlorobenzene	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
Methoxychlor	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
Mirex	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
Oxychlordane	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
Perthane	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
trans-Nonachlor	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS

Sample ID: 22644-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 07-Apr-14 3:20

(PCB030)	NA	52	% Recovery	100	52	60 - 140%	FAIL	R
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PHYSIS Project ID: 1307002-018

Client: AMEC

Project: RHMP Bight '13

qcb - 10 of 58



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Chlorinated Pesticides**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
(PCB112)	NA	98			% Recovery	100		98 60 - 140% PASS		
(PCB198)	NA	110			% Recovery	100		110 60 - 140% PASS		
(TCMX)	NA	98			% Recovery	100		98 60 - 140% PASS		
2,4'-DDD	NA	39.2	0.05	0.1	ng/dry g	38		103 60 - 140% PASS		
2,4'-DDE	NA	19.6	0.05	0.1	ng/dry g	19		103 60 - 140% PASS		
4,4'-DDD	NA	90.5	0.05	0.1	ng/dry g	108		84 60 - 140% PASS		
4,4'-DDE	NA	99.3	0.05	0.1	ng/dry g	86		115 60 - 140% PASS		
4,4'-DDT	NA	142	0.05	0.1	ng/dry g	170		84 60 - 140% PASS		
Chlordane-alpha	NA	10.3	0.05	0.1	ng/dry g	16.5		62 60 - 140% PASS		
Chlordane-gamma	NA	13.1	0.05	0.1	ng/dry g	19		69 60 - 140% PASS		
cis-Nonachlor	NA	2.87	0.05	0.1	ng/dry g	3.7		78 60 - 140% PASS		
Hexachlorobenzene	NA	8	0.05	0.1	ng/dry g	6		133 60 - 140% PASS		
trans-Nonachlor	NA	6.2	0.05	0.1	ng/dry g	8.2		76 60 - 140% PASS		



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Conventionals

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
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Acid Volatile Sulfides

Method: Plumb, 1981 and TERL

Fraction: NA

22626-B1	QAQC Procedural Blank	C-14076 ND Prepared: 23-Oct-13	0.05	0.1	mg/dry kg				PASS			
22626-BS1	QAQC Procedural Blank	C-14076 8.64 Prepared: 23-Oct-13	0.05	0.1	mg/dry kg	8.31	0	104	80 - 120% PASS			
22626-BS2	QAQC Procedural Blank	C-14076 7.97 Prepared: 23-Oct-13	0.05	0.1	mg/dry kg	8.31	0	96	80 - 120% PASS	8	25	PASS
22628-MS1	B13-8111	C-14076 26.16 Prepared: 23-Oct-13	0.05	0.1	mg/dry kg	24.54	6.73	79	50 - 130% PASS			
22628-MS2	B13-8111	C-14076 25.35 Prepared: 23-Oct-13	0.05	0.1	mg/dry kg	21.94	6.73	85	50 - 130% PASS	7	25	PASS
22628-R2	B13-8111	C-14076 6.04 Prepared: 23-Oct-13	0.05	0.1	mg/dry kg				PASS	21	25	PASS

Ammonia as N

Method: SM 4500-NH₃ D

Fraction: NA

22653-B1	QAQC Procedural Blank	C-14052 ND Prepared: 07-Oct-13	0.02	0.05	mg/L				PASS			
22653-BS1	QAQC Procedural Blank	C-14052 3.94 Prepared: 07-Oct-13	0.02	0.05	mg/L	4.38	0	90	80 - 120% PASS			
22653-BS2	QAQC Procedural Blank	C-14052 4.2 Prepared: 07-Oct-13	0.02	0.05	mg/L	4.38	0	96	80 - 120% PASS	6	25	PASS
22626-B1	QAQC Procedural Blank	C-14075 ND Prepared: 23-Oct-13	0.02	0.03	mg/dry kg				PASS			
22626-BS1	QAQC Procedural Blank	C-14075 2.58 Prepared: 23-Oct-13	0.02	0.03	mg/dry kg	2.86	0	90	80 - 120% PASS			
22626-BS2	QAQC Procedural Blank	C-14075 2.75 Prepared: 23-Oct-13	0.02	0.03	mg/dry kg	2.86	0	96	80 - 120% PASS	6	25	PASS
22628-MS1	B13-8111	C-14075 8.61 Prepared: 23-Oct-13	0.02	0.03	mg/dry kg	5.48	3.22	98	70 - 130% PASS			
22628-MS2	B13-8111	C-14075 9.22 Prepared: 23-Oct-13	0.02	0.03	mg/dry kg	5.42	3.22	111	70 - 130% PASS	12	25	PASS
22628-R2	B13-8111	C-14075 3.33 Prepared: 23-Oct-13	0.02	0.03	mg/dry kg				PASS	7	25	PASS



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Conventional

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION LIMITS	QA CODE
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Nitrate as N

Method: SM 4500-NO₃ E

Fraction: NA

22623-MS1	B13-VVEB	C-14053	0.1	0.01	0.05	mg/L	0.11	0	91	70 - 130% PASS			
		Prepared: 11-Sep-13				Analyzed: 08-Oct-13 0:00							
22623-MS2	B13-VVEB	C-14053	0.11	0.01	0.05	mg/L	0.11	0	100	70 - 130% PASS	9	25	PASS
		Prepared: 11-Sep-13				Analyzed: 08-Oct-13 0:00							
22623-R2	B13-VVEB	C-14053	ND	0.01	0.05	mg/L				PASS	0	25	PASS
		Prepared: 11-Sep-13				Analyzed: 08-Oct-13 0:00							
22653-B1	QAQC Procedural Blank	C-14053	ND	0.01	0.05	mg/L				PASS			
		Prepared: 11-Sep-13				Analyzed: 08-Oct-13 0:00							
22653-BS1	QAQC Procedural Blank	C-14053	0.12	0.01	0.05	mg/L	0.11	0	109	80 - 120% PASS			
		Prepared: 11-Sep-13				Analyzed: 08-Oct-13 0:00							
22653-BS2	QAQC Procedural Blank	C-14053	0.12	0.01	0.05	mg/L	0.11	0	109	80 - 120% PASS	0	25	PASS
		Prepared: 11-Sep-13				Analyzed: 08-Oct-13 0:00							

Nitrite as N

Method: SM 4500-NO₂ B

Fraction: NA

22653-B1	QAQC Procedural Blank	C-14003	ND	0.01	0.05	mg/L				PASS			
		Prepared: 11-Sep-13				Analyzed: 11-Sep-13 0:00							
22653-BS1	QAQC Procedural Blank	C-14003	0.53	0.01	0.05	mg/L	0.5	0	106	80 - 120% PASS			
		Prepared: 11-Sep-13				Analyzed: 11-Sep-13 0:00							
22653-BS2	QAQC Procedural Blank	C-14003	0.53	0.01	0.05	mg/L	0.5	0	106	80 - 120% PASS	0	25	PASS
		Prepared: 11-Sep-13				Analyzed: 11-Sep-13 0:00							

Percent Solids

Method: SM 2540 B

Fraction: NA

22626-B1	QAQC Procedural Blank	C-14074	ND	0.1	0.1	% Dry Weight				PASS			
		Prepared: 22-Oct-13				Analyzed: 22-Oct-13 0:00							
22628-R2	B13-8111	C-14074	43.1	0.1	0.1	% Dry Weight				PASS	1	25	PASS
		Prepared: 22-Oct-13				Analyzed: 22-Oct-13 0:00							

Total Phosphorus

Method: EPA 6020

Fraction: NA

22626-B1	QAQC Procedural Blank	E-7012	ND	0.016	0.05	µg/dry g				PASS			
		Prepared: 23-Oct-13				Analyzed: 01-Nov-13 14:37							
22626-BS1	QAQC Procedural Blank	E-7012	46.754	0.016	0.05	µg/dry g	50	0	94	80 - 120% PASS			
		Prepared: 23-Oct-13				Analyzed: 01-Nov-13 15:28							



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Conventionals

QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
22626-BS2	QAQC Procedural Blank	E-7012 Prepared: 23-Oct-13	46.49	0.016	0.05	µg/dry g	50	0	93	80 - 120%	PASS	1 25 PASS
22628-MS1	B13-8111	E-7012 Prepared: 23-Oct-13	2545.211	0.016	0.05	µg/dry g	1726.5	828.332	99	70 - 130%	PASS	
22628-MS2	B13-8111	E-7012 Prepared: 23-Oct-13	2561.009	0.016	0.05	µg/dry g	1726.5	828.332	100	70 - 130%	PASS	1 25 PASS
22628-R2	B13-8111	E-7012 Prepared: 23-Oct-13	819.488	0.016	0.05	µg/dry g					PASS	2 25 PASS
22623-R2	B13-VVEB	E-7013 Prepared: 08-Oct-13	ND	0.016	0.05	mg/L					PASS	0 25 PASS
22627-B1	QAQC Procedural Blank	E-7013 Prepared: 23-Oct-13	ND	0.016	0.05	µg/dry g					PASS	
22627-BS1	QAQC Procedural Blank	E-7013 Prepared: 23-Oct-13	46.257	0.016	0.05	µg/dry g	50	0	93	80 - 120%	PASS	
22627-BS2	QAQC Procedural Blank	E-7013 Prepared: 23-Oct-13	45.16	0.016	0.05	µg/dry g	50	0	90	80 - 120%	PASS	3 25 PASS
22634-MS1	B13-8127	E-7013 Prepared: 23-Oct-13	3024.013	0.016	0.05	µg/dry g	2066.5	978.918	99	70 - 130%	PASS	
22634-MS2	B13-8127	E-7013 Prepared: 23-Oct-13	2982.237	0.016	0.05	µg/dry g	2066.5	978.918	97	70 - 130%	PASS	2 25 PASS
22634-R2	B13-8127	E-7013 Prepared: 23-Oct-13	971.517	0.016	0.05	µg/dry g					PASS	2 25 PASS
22653-B1	QAQC Procedural Blank	E-7013 Prepared: 08-Oct-13	ND	0.016	0.05	mg/L					PASS	

Total Suspended Solids

Method: SM 2540 D

Fraction: NA

22653-B1	QAQC Procedural Blank	C-13153 Prepared: 16-Sep-13	ND	0.5	0.5	mg/L					PASS	
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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22623-R2

B13-VVEB Grab

Matrix: Liquid

Sampled: 10-Sep-13

18:00

Received: 10-Sep-13

Method: EPA 245.7

Batch ID: E-6039

Prepared: 24-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	Total	ND	0.01	0.02	µg/L			PASS	0 25	PASS	
		Method: EPA 200.8				Batch ID: E-7013		Prepared: 23-Oct-13		Analyzed: 30-Oct-13 16:54	
Aluminum (Al)	Total	37.14	1.65	8.25	µg/L			PASS	10 25	PASS	
Antimony (Sb)	Total	ND	0.03	0.15	µg/L			PASS	0 25	PASS	J
Arsenic (As)	Total	ND	0.09	0.3	µg/L			PASS	103 25	FAIL	SL
Barium (Ba)	Total	1.47	0.25	0.5	µg/L			PASS	36 25	FAIL	SL
Beryllium (Be)	Total	ND	0.02	0.1	µg/L			PASS	0 25	PASS	J
Cadmium (Cd)	Total	ND	0.005	0.01	µg/L			PASS	0 25	PASS	
Chromium (Cr)	Total	ND	0.01	0.05	µg/L			PASS	178 25	FAIL	SL
Copper (Cu)	Total	0.292	0.005	0.01	µg/L			PASS	189 25	FAIL	SL
Iron (Fe)	Total	3.44	1.13	5.65	µg/L			PASS	13 25	PASS	J
Lead (Pb)	Total	ND	0.005	0.01	µg/L			PASS	0 25	PASS	
Nickel (Ni)	Total	0.14	0.01	0.02	µg/L			PASS	7 25	PASS	
Selenium (Se)	Total	0.29	0.02	0.1	µg/L			PASS	174 25	FAIL	SL
Silver (Ag)	Total	ND	0.01	0.02	µg/L			PASS	120 25	FAIL	SL
Zinc (Zn)	Total	ND	0.02	0.1	µg/L			PASS	191 25	FAIL	SL

Sample ID: 22626-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6040

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	ND	0.00001	0.00002	µg/dry g			PASS			
		Method: EPA 6020				Batch ID: E-7012		Prepared: 23-Oct-13		Analyzed: 02-Nov-13 14:11	
Aluminum (Al)	NA	ND	1	5	µg/dry g			PASS			
Antimony (Sb)	NA	ND	0.025	0.05	µg/dry g			PASS			
Arsenic (As)	NA	ND	0.025	0.05	µg/dry g			PASS			
Barium (Ba)	NA	ND	0.025	0.05	µg/dry g			PASS			
Beryllium (Be)	NA	ND	0.025	0.05	µg/dry g			PASS			
Cadmium (Cd)	NA	ND	0.0025	0.005	µg/dry g			PASS			
Chromium (Cr)	NA	ND	0.0025	0.005	µg/dry g			PASS			
Copper (Cu)	NA	ND	0.0025	0.005	µg/dry g			PASS			



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Iron (Fe)	NA	ND	1	5	µg/dry g					PASS
Lead (Pb)	NA	ND	0.0025	0.005	µg/dry g					PASS
Nickel (Ni)	NA	ND	0.01	0.02	µg/dry g					PASS
Selenium (Se)	NA	ND	0.025	0.05	µg/dry g					PASS
Silver (Ag)	NA	ND	0.01	0.02	µg/dry g					PASS
Zinc (Zn)	NA	ND	0.025	0.05	µg/dry g					PASS

Sample ID: 22626-BS1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 245.7

Batch ID: E-6040

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	0.872	0.00001	0.00002	µg/dry g	1	0	87	80 - 120%	PASS	
Method: EPA 6020 Batch ID: E-7012 Prepared: 23-Oct-13 Analyzed: 02-Nov-13 15:03											
Aluminum (Al)	NA	2	1	5	µg/dry g	2	0	100	80 - 120%	PASS	
Antimony (Sb)	NA	2.19	0.025	0.05	µg/dry g	2	0	110	80 - 120%	PASS	
Arsenic (As)	NA	2.194	0.025	0.05	µg/dry g	2	0	110	80 - 120%	PASS	
Barium (Ba)	NA	2.216	0.025	0.05	µg/dry g	2	0	111	80 - 120%	PASS	
Beryllium (Be)	NA	1.972	0.025	0.05	µg/dry g	2	0	99	80 - 120%	PASS	
Cadmium (Cd)	NA	2.0113	0.0025	0.005	µg/dry g	2	0	101	80 - 120%	PASS	
Chromium (Cr)	NA	2.0387	0.0025	0.005	µg/dry g	2	0	102	80 - 120%	PASS	
Copper (Cu)	NA	2.0324	0.0025	0.005	µg/dry g	2	0	102	80 - 120%	PASS	
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS	
Lead (Pb)	NA	2.0557	0.0025	0.005	µg/dry g	2	0	103	80 - 120%	PASS	
Nickel (Ni)	NA	2	0.01	0.02	µg/dry g	2	0	100	80 - 120%	PASS	
Selenium (Se)	NA	1.915	0.025	0.05	µg/dry g	2	0	96	80 - 120%	PASS	
Silver (Ag)	NA	0.19	0.01	0.02	µg/dry g	0.2	0	95	80 - 120%	PASS	
Zinc (Zn)	NA	2.167	0.025	0.05	µg/dry g	2	0	108	80 - 120%	PASS	

Sample ID: 22626-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 245.7

Batch ID: E-6040

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	0.853	0.00001	0.00002	µg/dry g	1	0	85	80 - 120%	PASS	2 25 PASS
Method: EPA 6020 Batch ID: E-7012 Prepared: 23-Oct-13 Analyzed: 02-Nov-13 15:08											
Aluminum (Al)	NA	2	1	5	µg/dry g	2	0	100	80 - 120%	PASS	0 25 PASS
Antimony (Sb)	NA	2.158	0.025	0.05	µg/dry g	2	0	108	80 - 120%	PASS	2 25 PASS



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Arsenic (As)	NA	2.184	0.025	0.05	µg/dry g	2	0	109	80 - 120% PASS	1	25	PASS
Barium (Ba)	NA	2.148	0.025	0.05	µg/dry g	2	0	107	80 - 120% PASS	4	25	PASS
Beryllium (Be)	NA	1.985	0.025	0.05	µg/dry g	2	0	99	80 - 120% PASS	0	25	PASS
Cadmium (Cd)	NA	2.0212	0.0025	0.005	µg/dry g	2	0	101	80 - 120% PASS	0	25	PASS
Chromium (Cr)	NA	2.0508	0.0025	0.005	µg/dry g	2	0	103	80 - 120% PASS	1	25	PASS
Copper (Cu)	NA	2.037	0.0025	0.005	µg/dry g	2	0	102	80 - 120% PASS	0	25	PASS
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120% PASS	0	25	PASS
Lead (Pb)	NA	2.0629	0.0025	0.005	µg/dry g	2	0	103	80 - 120% PASS	0	25	PASS
Nickel (Ni)	NA	2.01	0.01	0.02	µg/dry g	2	0	100	80 - 120% PASS	0	25	PASS
Selenium (Se)	NA	1.948	0.025	0.05	µg/dry g	2	0	97	80 - 120% PASS	1	25	PASS
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	0.2	0	100	80 - 120% PASS	5	25	PASS
Zinc (Zn)	NA	2.183	0.025	0.05	µg/dry g	2	0	109	80 - 120% PASS	1	25	PASS

Sample ID: 22627-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6041

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	ND	0.00001	0.00002	µg/dry g				PASS			
Method: EPA 6020												
Aluminum (Al)	NA	ND	1	5	µg/dry g				PASS			
Antimony (Sb)	NA	ND	0.025	0.05	µg/dry g				PASS			
Arsenic (As)	NA	ND	0.025	0.05	µg/dry g				PASS			
Barium (Ba)	NA	ND	0.025	0.05	µg/dry g				PASS			
Beryllium (Be)	NA	ND	0.025	0.05	µg/dry g				PASS			
Cadmium (Cd)	NA	ND	0.0025	0.005	µg/dry g				PASS			
Chromium (Cr)	NA	ND	0.0025	0.005	µg/dry g				PASS			
Copper (Cu)	NA	ND	0.0025	0.005	µg/dry g				PASS			
Iron (Fe)	NA	ND	1	5	µg/dry g				PASS			
Lead (Pb)	NA	ND	0.0025	0.005	µg/dry g				PASS			
Nickel (Ni)	NA	ND	0.01	0.02	µg/dry g				PASS			
Selenium (Se)	NA	ND	0.025	0.05	µg/dry g				PASS			
Silver (Ag)	NA	ND	0.01	0.02	µg/dry g				PASS			
Zinc (Zn)	NA	ND	0.025	0.05	µg/dry g				PASS			



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22627-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6041

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	0.891	0.00001	0.00002	µg/dry g	1	0	89	80 - 120%	PASS
Method: EPA 6020 Batch ID: E-7013 Prepared: 23-Oct-13 Analyzed: 02-Nov-13 17:03										
Aluminum (Al)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS
Antimony (Sb)	NA	2.054	0.025	0.05	µg/dry g	2	0	103	80 - 120%	PASS
Arsenic (As)	NA	2.083	0.025	0.05	µg/dry g	2	0	104	80 - 120%	PASS
Barium (Ba)	NA	2.116	0.025	0.05	µg/dry g	2	0	106	80 - 120%	PASS
Beryllium (Be)	NA	1.927	0.025	0.05	µg/dry g	2	0	96	80 - 120%	PASS
Cadmium (Cd)	NA	2.0487	0.0025	0.005	µg/dry g	2	0	102	80 - 120%	PASS
Chromium (Cr)	NA	1.9828	0.0025	0.005	µg/dry g	2	0	99	80 - 120%	PASS
Copper (Cu)	NA	1.9886	0.0025	0.005	µg/dry g	2	0	99	80 - 120%	PASS
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120%	PASS
Lead (Pb)	NA	2.087	0.0025	0.005	µg/dry g	2	0	104	80 - 120%	PASS
Nickel (Ni)	NA	1.97	0.01	0.02	µg/dry g	2	0	99	80 - 120%	PASS
Selenium (Se)	NA	1.955	0.025	0.05	µg/dry g	2	0	98	80 - 120%	PASS
Silver (Ag)	NA	0.19	0.01	0.02	µg/dry g	0.2	0	95	80 - 120%	PASS
Zinc (Zn)	NA	2.126	0.025	0.05	µg/dry g	2	0	106	80 - 120%	PASS

Sample ID: 22627-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6041

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	0.881	0.00001	0.00002	µg/dry g	1	0	88	80 - 120%	PASS	1	25	PASS
Method: EPA 6020 Batch ID: E-7013 Prepared: 23-Oct-13 Analyzed: 02-Nov-13 17:07													
Aluminum (Al)	NA	2	1	5	µg/dry g	2	0	100	80 - 120%	PASS	5	25	PASS
Antimony (Sb)	NA	2.035	0.025	0.05	µg/dry g	2	0	102	80 - 120%	PASS	1	25	PASS
Arsenic (As)	NA	2.094	0.025	0.05	µg/dry g	2	0	105	80 - 120%	PASS	1	25	PASS
Barium (Ba)	NA	2.075	0.025	0.05	µg/dry g	2	0	104	80 - 120%	PASS	2	25	PASS
Beryllium (Be)	NA	1.929	0.025	0.05	µg/dry g	2	0	96	80 - 120%	PASS	0	25	PASS
Cadmium (Cd)	NA	2.0466	0.0025	0.005	µg/dry g	2	0	102	80 - 120%	PASS	0	25	PASS
Chromium (Cr)	NA	1.9732	0.0025	0.005	µg/dry g	2	0	99	80 - 120%	PASS	0	25	PASS
Copper (Cu)	NA	1.9745	0.0025	0.005	µg/dry g	2	0	99	80 - 120%	PASS	0	25	PASS



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Iron (Fe)	NA	1.9	1	5	µg/dry g	2	0	95	80 - 120% PASS	0	25 PASS	
Lead (Pb)	NA	2.0814	0.0025	0.005	µg/dry g	2	0	104	80 - 120% PASS	0	25 PASS	
Nickel (Ni)	NA	1.97	0.01	0.02	µg/dry g	2	0	99	80 - 120% PASS	0	25 PASS	
Selenium (Se)	NA	2.012	0.025	0.05	µg/dry g	2	0	101	80 - 120% PASS	3	25 PASS	
Silver (Ag)	NA	0.2	0.01	0.02	µg/dry g	0.2	0	100	80 - 120% PASS	5	25 PASS	
Zinc (Zn)	NA	2.096	0.025	0.05	µg/dry g	2	0	105	80 - 120% PASS	1	25 PASS	

Sample ID: 22628-MS1

B13-8111 Grab

Matrix: Sediment

Sampled: 09-Sep-13 8:53

Received: 10-Sep-13

Method: EPA 245.7

Batch ID: E-6040

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	1.53659	0.00001	0.00002	µg/dry g	0.3453	0.9836	160	75 - 125% FAIL			SH
Method: EPA 6020 Batch ID: E-7012 Prepared: 23-Oct-13 Analyzed: 02-Nov-13 15:13												
Aluminum (Al)	NA	47406.8	1	5	µg/dry g	1382	44300.9	225	75 - 125% FAIL			SH
Antimony (Sb)	NA	71.995	0.025	0.05	µg/dry g	69.06	0.425	104	75 - 125% PASS			
Arsenic (As)	NA	93.662	0.025	0.05	µg/dry g	69.06	14.528	115	75 - 125% PASS			
Barium (Ba)	NA	207.469	0.025	0.05	µg/dry g	69.06	139.414	99	75 - 125% PASS			
Beryllium (Be)	NA	71.924	0.025	0.05	µg/dry g	69.06	0.806	103	75 - 125% PASS			
Cadmium (Cd)	NA	66.7293	0.0025	0.005	µg/dry g	69.06	0.2913	96	75 - 125% PASS			
Chromium (Cr)	NA	153.4108	0.0025	0.005	µg/dry g	69.06	78.1244	109	75 - 125% PASS			
Copper (Cu)	NA	218.3404	0.0025	0.005	µg/dry g	69.06	148.3611	101	75 - 125% PASS			
Iron (Fe)	NA	42881.7	1	5	µg/dry g	1382	39950.2	212	75 - 125% FAIL			SH
Lead (Pb)	NA	112.9301	0.0025	0.005	µg/dry g	69.06	49.5749	92	75 - 125% PASS			
Nickel (Ni)	NA	90.38	0.01	0.02	µg/dry g	69.06	20.56	101	75 - 125% PASS			
Selenium (Se)	NA	69.09	0.025	0.05	µg/dry g	69.06	0.414	99	75 - 125% PASS			
Silver (Ag)	NA	7.84	0.01	0.02	µg/dry g	69.06	1.04	10	75 - 125% FAIL			M
Zinc (Zn)	NA	308.133	0.025	0.05	µg/dry g	69.06	246.496	89	75 - 125% PASS			

Sample ID: 22628-MS2

B13-8111 Grab

Matrix: Sediment

Sampled: 09-Sep-13 8:53

Received: 10-Sep-13

Method: EPA 245.7

Batch ID: E-6040

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	1.48824	0.00001	0.00002	µg/dry g	0.3453	0.9836	146	75 - 125% FAIL	9	25 PASS	SH
Method: EPA 6020 Batch ID: E-7012 Prepared: 23-Oct-13 Analyzed: 02-Nov-13 15:17												
Aluminum (Al)	NA	45097.5	1	5	µg/dry g	1382	44300.9	58	75 - 125% FAIL	118	25 FAIL	SH
Antimony (Sb)	NA	72.779	0.025	0.05	µg/dry g	69.06	0.425	105	75 - 125% PASS	1	25 PASS	



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
		LIMITS								LIMITS
Sample ID: 22634-MS1		B13-8127 Grab		Matrix: Sediment		Sampled: 09-Sep-13 16:07		Received: 10-Sep-13		
Method: EPA 245.7		Batch ID: E-6041		Prepared: 23-Oct-13		Analyzed: 24-Oct-13 0:00				
Mercury (Hg)	NA	1.13575	0.00001	0.00002	µg/dry g	0.413	0.76635	89	75 - 125%	PASS
Method: EPA 6020		Batch ID: E-7013		Prepared: 23-Oct-13		Analyzed: 02-Nov-13 17:12				
Aluminum (Al)	NA	62417.1	1	5	µg/dry g	1654	62898.7	-29	75 - 125%	FAIL
Antimony (Sb)	NA	81.714	0.025	0.05	µg/dry g	82.66	0.455	98	75 - 125%	PASS
Arsenic (As)	NA	105.712	0.025	0.05	µg/dry g	82.66	18.04	106	75 - 125%	PASS
Barium (Ba)	NA	242.098	0.025	0.05	µg/dry g	82.66	165.558	93	75 - 125%	PASS
Beryllium (Be)	NA	84.699	0.025	0.05	µg/dry g	82.66	1.067	101	75 - 125%	PASS
Cadmium (Cd)	NA	81.0651	0.0025	0.005	µg/dry g	82.66	0.2957	98	75 - 125%	PASS
Chromium (Cr)	NA	211.7408	0.0025	0.005	µg/dry g	82.66	120.8566	110	75 - 125%	PASS
Copper (Cu)	NA	449.8155	0.0025	0.005	µg/dry g	82.66	376.8161	88	75 - 125%	PASS
Iron (Fe)	NA	57169.4	1	5	µg/dry g	1654	57553.9	-23	75 - 125%	FAIL
Lead (Pb)	NA	145.5551	0.0025	0.005	µg/dry g	82.66	69.9458	91	75 - 125%	PASS
Nickel (Ni)	NA	107.72	0.01	0.02	µg/dry g	82.66	27.1	98	75 - 125%	PASS
Selenium (Se)	NA	87.801	0.025	0.05	µg/dry g	82.66	0.517	106	75 - 125%	PASS
Silver (Ag)	NA	9.4	0.01	0.02	µg/dry g	82.66	1.17	10	75 - 125%	FAIL
Zinc (Zn)	NA	488.67	0.025	0.05	µg/dry g	82.66	427.665	74	75 - 125%	FAIL

Sample ID: 22634-MS2		B13-8127 Grab		Matrix: Sediment		Sampled: 09-Sep-13 16:07		Received: 10-Sep-13		
Method: EPA 245.7		Batch ID: E-6041		Prepared: 23-Oct-13		Analyzed: 24-Oct-13 0:00				
Mercury (Hg)	NA	1.14401	0.00001	0.00002	µg/dry g	0.413	0.76635	91	75 - 125%	PASS
Method: EPA 6020		Batch ID: E-7013		Prepared: 23-Oct-13		Analyzed: 02-Nov-13 17:17				
Aluminum (Al)	NA	62967.5	1	5	µg/dry g	1654	62898.7	4	75 - 125%	FAIL
Antimony (Sb)	NA	82.14	0.025	0.05	µg/dry g	82.66	0.455	99	75 - 125%	PASS
Arsenic (As)	NA	107.03	0.025	0.05	µg/dry g	82.66	18.04	108	75 - 125%	PASS
Barium (Ba)	NA	244.535	0.025	0.05	µg/dry g	82.66	165.558	96	75 - 125%	PASS
Beryllium (Be)	NA	84.466	0.025	0.05	µg/dry g	82.66	1.067	101	75 - 125%	PASS
Cadmium (Cd)	NA	81.8057	0.0025	0.005	µg/dry g	82.66	0.2957	99	75 - 125%	PASS
Chromium (Cr)	NA	213.2057	0.0025	0.005	µg/dry g	82.66	120.8566	112	75 - 125%	PASS
Copper (Cu)	NA	451.0467	0.0025	0.005	µg/dry g	82.66	376.8161	90	75 - 125%	PASS



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Iron (Fe)	NA	58027.4	1	5	µg/dry g	1654	57553.9	29	75 - 125% FAIL	1733	25 FAIL	SH
Lead (Pb)	NA	146.6663	0.0025	0.005	µg/dry g	82.66	69.9458	93	75 - 125% PASS	2	25 PASS	
Nickel (Ni)	NA	107.85	0.01	0.02	µg/dry g	82.66	27.1	98	75 - 125% PASS	0	25 PASS	
Selenium (Se)	NA	86.367	0.025	0.05	µg/dry g	82.66	0.517	104	75 - 125% PASS	2	25 PASS	
Silver (Ag)	NA	9.18	0.01	0.02	µg/dry g	8.27	1.17	97	75 - 125% PASS	163	25 FAIL	SH
Zinc (Zn)	NA	489.997	0.025	0.05	µg/dry g	82.66	427.665	75	75 - 125% PASS	1	25 PASS	

Sample ID: 22634-R2

B13-8127 Grab

Matrix: Sediment

Sampled: 09-Sep-13 16:07

Received: 10-Sep-13

Method: EPA 245.7

Batch ID: E-6041

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	0.7598	0.00001	0.00002	µg/dry g				PASS	2	25 PASS	
Method: EPA 6020 Batch ID: E-7013 Prepared: 23-Oct-13 Analyzed: 02-Nov-13 16:01												
Aluminum (Al)	NA	63048.5	1	5	µg/dry g				PASS	0	25 PASS	
Antimony (Sb)	NA	0.485	0.025	0.05	µg/dry g				PASS	13	25 PASS	
Arsenic (As)	NA	17.824	0.025	0.05	µg/dry g				PASS	2	25 PASS	
Barium (Ba)	NA	165.96	0.025	0.05	µg/dry g				PASS	0	25 PASS	
Beryllium (Be)	NA	1.058	0.025	0.05	µg/dry g				PASS	2	25 PASS	
Cadmium (Cd)	NA	0.2985	0.0025	0.005	µg/dry g				PASS	2	25 PASS	
Chromium (Cr)	NA	120.3987	0.0025	0.005	µg/dry g				PASS	1	25 PASS	
Copper (Cu)	NA	371.7448	0.0025	0.005	µg/dry g				PASS	3	25 PASS	
Iron (Fe)	NA	57572.9	1	5	µg/dry g				PASS	0	25 PASS	
Lead (Pb)	NA	70.3263	0.0025	0.005	µg/dry g				PASS	1	25 PASS	
Nickel (Ni)	NA	27.01	0.01	0.02	µg/dry g				PASS	1	25 PASS	
Selenium (Se)	NA	0.551	0.025	0.05	µg/dry g				PASS	13	25 PASS	
Silver (Ag)	NA	1.23	0.01	0.02	µg/dry g				PASS	10	25 PASS	
Zinc (Zn)	NA	424.768	0.025	0.05	µg/dry g				PASS	1	25 PASS	

Sample ID: 22645-CRM1

QAQC CRM - RTC 016-050

Matrix: Sediment

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6040

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	0.1661	0.00001	0.00002	µg/dry g	0.158	105	80 - 120% PASS				
Method: EPA 6020 Batch ID: E-7012 Prepared: 23-Oct-13 Analyzed: 02-Nov-13 14:49												
Aluminum (Al)	NA	31381.8	1	5	µg/dry g	8920	352	80 - 120% FAIL				*
Arsenic (As)	NA	9.681	0.025	0.05	µg/dry g	7.76	125	80 - 120% FAIL				*



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Beryllium (Be)	NA	0.984	0.025	0.05	µg/dry g	0.49		201 80 - 120% FAIL		*
Cadmium (Cd)	NA	0.2629	0.0025	0.005	µg/dry g	0.47		56 80 - 120% FAIL		R
Chromium (Cr)	NA	45.187	0.0025	0.005	µg/dry g	14.5		312 80 - 120% FAIL		*
Copper (Cu)	NA	16.3947	0.0025	0.005	µg/dry g	15.5		106 80 - 120% PASS		
Iron (Fe)	NA	20965.2	1	5	µg/dry g	16800		125 80 - 120% FAIL		*
Lead (Pb)	NA	15.6365	0.0025	0.005	µg/dry g	14.01		112 80 - 120% PASS		
Nickel (Ni)	NA	20.98	0.01	0.02	µg/dry g	16.7		126 80 - 120% FAIL		*
Zinc (Zn)	NA	81.24	0.025	0.05	µg/dry g	69.7		117 80 - 120% PASS		

Sample ID: 22646-CRM1

QAQC CRM - RTC 016-050

Matrix: Sediment

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6041

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	0.1437	0.00001	0.00002	µg/dry g	0.158		91 80 - 120% PASS		
Method: EPA 6020 Batch ID: E-7013 Prepared: 23-Oct-13 Analyzed: 02-Nov-13 16:48										
Aluminum (Al)	NA	19911.3	1	5	µg/dry g	8920		223 80 - 120% FAIL		*
Arsenic (As)	NA	8.249	0.025	0.05	µg/dry g	7.76		106 80 - 120% PASS		
Beryllium (Be)	NA	0.737	0.025	0.05	µg/dry g	0.49		150 80 - 120% FAIL		*
Cadmium (Cd)	NA	0.2743	0.0025	0.005	µg/dry g	0.47		58 80 - 120% FAIL		R
Chromium (Cr)	NA	29.7434	0.0025	0.005	µg/dry g	14.5		205 80 - 120% FAIL		*
Copper (Cu)	NA	14.6953	0.0025	0.005	µg/dry g	15.5		95 80 - 120% PASS		
Iron (Fe)	NA	18553.8	1	5	µg/dry g	16800		110 80 - 120% PASS		
Lead (Pb)	NA	14.3436	0.0025	0.005	µg/dry g	14.01		102 80 - 120% PASS		
Nickel (Ni)	NA	18.37	0.01	0.02	µg/dry g	16.7		110 80 - 120% PASS		
Zinc (Zn)	NA	69.54	0.025	0.05	µg/dry g	69.7		100 80 - 120% PASS		

Sample ID: 22647-CRM1

QAQC CRM - ERA 540

Matrix: Sediment

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6040

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	9.2308	0.00001	0.00002	µg/dry g	9.25		100 80 - 120% PASS		25
Method: EPA 6020 Batch ID: E-7012 Prepared: 23-Oct-13 Analyzed: 02-Nov-13 14:54										
Aluminum (Al)	NA	16091.3	1	5	µg/dry g	9060		178 80 - 120% FAIL		*
Antimony (Sb)	NA	177.385	0.025	0.05	µg/dry g	106		167 80 - 120% FAIL		*
Arsenic (As)	NA	186.468	0.025	0.05	µg/dry g	182		102 80 - 120% PASS		
Beryllium (Be)	NA	93.27	0.025	0.05	µg/dry g	98.3		95 80 - 120% PASS		



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Elements**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Cadmium (Cd)	NA	56.5422	0.0025	0.005	µg/dry g	60.4		94 80 - 120% PASS		
Chromium (Cr)	NA	133.3002	0.0025	0.005	µg/dry g	125		107 80 - 120% PASS		
Copper (Cu)	NA	75.4696	0.0025	0.005	µg/dry g	80.1		94 80 - 120% PASS		
Iron (Fe)	NA	16615.1	1	5	µg/dry g	12900		129 80 - 120% FAIL		*
Lead (Pb)	NA	123.4447	0.0025	0.005	µg/dry g	136		91 80 - 120% PASS		
Nickel (Ni)	NA	124.4	0.01	0.02	µg/dry g	128		97 80 - 120% PASS		
Selenium (Se)	NA	80.839	0.025	0.05	µg/dry g	85.9		94 80 - 120% PASS		
Silver (Ag)	NA	61.67	0.01	0.02	µg/dry g	61.3		101 80 - 120% PASS		
Zinc (Zn)	NA	204.28	0.025	0.05	µg/dry g	204		100 80 - 120% PASS		

Sample ID: 22648-CRM1**QAQC CRM - ERA 540****Matrix: Sediment****Sampled:****Received:**

Method: EPA 245.7

Batch ID: E-6041

Prepared: 23-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	8.5938	0.00001	0.00002	µg/dry g	9.25		93 80 - 120% PASS		25
Method: EPA 6020 Batch ID: E-7013 Prepared: 23-Oct-13 Analyzed: 02-Nov-13 16:53										
Aluminum (Al)	NA	13956.7	1	5	µg/dry g	9060		154 80 - 120% FAIL		*
Antimony (Sb)	NA	173.263	0.025	0.05	µg/dry g	106		163 80 - 120% FAIL		*
Arsenic (As)	NA	190.01	0.025	0.05	µg/dry g	182		104 80 - 120% PASS		
Beryllium (Be)	NA	95.9	0.025	0.05	µg/dry g	98.3		98 80 - 120% PASS		
Cadmium (Cd)	NA	59.4976	0.0025	0.005	µg/dry g	60.4		99 80 - 120% PASS		
Chromium (Cr)	NA	134.4258	0.0025	0.005	µg/dry g	125		108 80 - 120% PASS		
Copper (Cu)	NA	76.9688	0.0025	0.005	µg/dry g	80.1		96 80 - 120% PASS		
Iron (Fe)	NA	16111.4	1	5	µg/dry g	12900		125 80 - 120% FAIL		*
Lead (Pb)	NA	133.2246	0.0025	0.005	µg/dry g	136		98 80 - 120% PASS		
Nickel (Ni)	NA	127.95	0.01	0.02	µg/dry g	128		100 80 - 120% PASS		
Selenium (Se)	NA	90.679	0.025	0.05	µg/dry g	85.9		106 80 - 120% PASS		
Silver (Ag)	NA	66.22	0.01	0.02	µg/dry g	61.3		108 80 - 120% PASS		
Zinc (Zn)	NA	205.668	0.025	0.05	µg/dry g	204		101 80 - 120% PASS		

Sample ID: 22653-B1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 245.7

Batch ID: E-6039

Prepared: 24-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	ND	0.01	0.02	µg/dry g			PASS		
Method: EPA 200.8 Batch ID: E-7013 Prepared: 23-Oct-13 Analyzed: 30-Oct-13 16:45										



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Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Aluminum (Al)	Total	ND	1.65	8.25	µg/L			PASS		
Antimony (Sb)	Total	ND	0.03	0.15	µg/L			PASS		
Arsenic (As)	Total	ND	0.09	0.3	µg/L			PASS		
Barium (Ba)	Total	ND	0.25	0.5	µg/L			PASS		
Beryllium (Be)	Total	ND	0.02	0.1	µg/L			PASS		
Cadmium (Cd)	Total	ND	0.005	0.01	µg/L			PASS		
Chromium (Cr)	Total	ND	0.01	0.05	µg/L			PASS		
Copper (Cu)	Total	ND	0.005	0.01	µg/L			PASS		
Iron (Fe)	Total	ND	1.13	5.65	µg/L			PASS		
Lead (Pb)	Total	ND	0.005	0.01	µg/L			PASS		
Nickel (Ni)	Total	ND	0.01	0.02	µg/L			PASS		
Selenium (Se)	Total	ND	0.02	0.1	µg/L			PASS		
Silver (Ag)	Total	ND	0.01	0.02	µg/L			PASS		
Zinc (Zn)	Total	ND	0.02	0.1	µg/L			PASS		

Sample ID: 22653-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6039

Prepared: 24-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	0.09	0.01	0.02	µg/dry g	0.1	0	90	80 - 120%	PASS
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Sample ID: 22653-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 245.7

Batch ID: E-6039

Prepared: 24-Oct-13

Analyzed: 24-Oct-13 0:00

Mercury (Hg)	NA	0.09	0.01	0.02	µg/dry g	0.1	0	90	80 - 120%	PASS	0	25	PASS
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Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22626-B1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 200.8

Batch ID: E-7018

Prepared: 31-Oct-13

Analyzed: 31-Oct-13 15:28

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g					PASS
Copper (Cu) - SEM	NA	ND	0.0062	0.0124	µmol/dry g					PASS
Lead (Pb) - SEM	NA	ND	0.0002	0.0004	µmol/dry g					PASS
Nickel (Ni) - SEM	NA	ND	0.0033	0.0066	µmol/dry g					PASS
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g					PASS
Zinc (Zn) - SEM	NA	ND	0.0015	0.003	µmol/dry g					PASS

Sample ID: 22626-BS1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 200.8

Batch ID: E-7018

Prepared: 31-Oct-13

Analyzed: 31-Oct-13 17:28

Cadmium (Cd) - SEM	NA	0.0187	0.0018	0.0036	µmol/dry g	0.0178	0	105	75 - 130%	PASS
Copper (Cu) - SEM	NA	0.0312	0.0062	0.0124	µmol/dry g	0.0315	0	99	70 - 130%	PASS
Lead (Pb) - SEM	NA	0.0099	0.0002	0.0004	µmol/dry g	0.0097	0	102	65 - 135%	PASS
Nickel (Ni) - SEM	NA	0.0337	0.0033	0.0066	µmol/dry g	0.0341	0	99	70 - 130%	PASS
Silver (Ag) - SEM	NA	0.0012	0.0047	0.0094	µmol/dry g	0.0019	0	63	50 - 155%	PASS
Zinc (Zn) - SEM	NA	0.0352	0.0015	0.003	µmol/dry g	0.0306	0	115	50 - 150%	PASS

Sample ID: 22626-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 200.8

Batch ID: E-7018

Prepared: 31-Oct-13

Analyzed: 31-Oct-13 17:32

Cadmium (Cd) - SEM	NA	0.0186	0.0018	0.0036	µmol/dry g	0.0178	0	104	75 - 130%	PASS	1	25	PASS
Copper (Cu) - SEM	NA	0.0313	0.0062	0.0124	µmol/dry g	0.0315	0	99	70 - 130%	PASS	0	25	PASS
Lead (Pb) - SEM	NA	0.0099	0.0002	0.0004	µmol/dry g	0.0097	0	102	65 - 135%	PASS	0	25	PASS
Nickel (Ni) - SEM	NA	0.0339	0.0033	0.0066	µmol/dry g	0.0341	0	99	70 - 130%	PASS	0	25	PASS
Silver (Ag) - SEM	NA	0.0013	0.0047	0.0094	µmol/dry g	0.0019	0	68	50 - 155%	PASS	8	25	PASS
Zinc (Zn) - SEM	NA	0.0352	0.0015	0.003	µmol/dry g	0.0306	0	115	50 - 150%	PASS	0	25	PASS

Sample ID: 22628-MS1**B13-8111 Grab****Matrix: Sediment****Sampled: 09-Sep-13 8:53****Received: 10-Sep-13**

Method: EPA 200.8

Batch ID: E-7018

Prepared: 31-Oct-13

Analyzed: 31-Oct-13 17:46

Cadmium (Cd) - SEM	NA	0.5329	0.0018	0.0036	µmol/dry g	0.5113	0	104	75 - 130%	PASS
Copper (Cu) - SEM	NA	1.7259	0.0062	0.0124	µmol/dry g	0.9046	0.7763	105	70 - 130%	PASS
Lead (Pb) - SEM	NA	0.4287	0.0002	0.0004	µmol/dry g	0.2774	0.1553	99	65 - 135%	PASS



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Elements - AVS/SEM**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Nickel (Ni) - SEM	NA	1.0152	0.0033	0.0066	µmol/dry g	0.9794	0.0223	101	70 - 130%	PASS		
Silver (Ag) - SEM	NA	0.0497	0.0047	0.0094	µmol/dry g	0.0533	0	93	50 - 155%	PASS		
Zinc (Zn) - SEM	NA	2.9231	0.0015	0.003	µmol/dry g	0.8792	1.884	118	50 - 150%	PASS		

Sample ID: 22628-MS2**B13-8111 Grab****Matrix: Sediment****Sampled: 09-Sep-13 8:53****Received: 10-Sep-13**

Method: EPA 200.8

Batch ID: E-7018

Prepared: 31-Oct-13

Analyzed: 31-Oct-13 17:51

Cadmium (Cd) - SEM	NA	0.5331	0.0018	0.0036	µmol/dry g	0.5113	0	104	75 - 130%	PASS	0	25	PASS
Copper (Cu) - SEM	NA	1.7195	0.0062	0.0124	µmol/dry g	0.9046	0.7763	104	70 - 130%	PASS	1	25	PASS
Lead (Pb) - SEM	NA	0.4259	0.0002	0.0004	µmol/dry g	0.2774	0.1553	98	65 - 135%	PASS	1	25	PASS
Nickel (Ni) - SEM	NA	1.0112	0.0033	0.0066	µmol/dry g	0.9794	0.0223	101	70 - 130%	PASS	0	25	PASS
Silver (Ag) - SEM	NA	0.0519	0.0047	0.0094	µmol/dry g	0.0533	0	97	50 - 155%	PASS	4	25	PASS
Zinc (Zn) - SEM	NA	2.903	0.0015	0.003	µmol/dry g	0.8792	1.884	116	50 - 150%	PASS	2	25	PASS

Sample ID: 22628-R2**B13-8111 Grab****Matrix: Sediment****Sampled: 09-Sep-13 8:53****Received: 10-Sep-13**

Method: EPA 200.8

Batch ID: E-7018

Prepared: 31-Oct-13

Analyzed: 31-Oct-13 15:57

Cadmium (Cd) - SEM	NA	ND	0.0018	0.0036	µmol/dry g					PASS	0	25	PASS
Copper (Cu) - SEM	NA	0.7339	0.0062	0.0124	µmol/dry g					PASS	11	25	PASS
Lead (Pb) - SEM	NA	0.151	0.0002	0.0004	µmol/dry g					PASS	6	25	PASS
Nickel (Ni) - SEM	NA	0.0216	0.0033	0.0066	µmol/dry g					PASS	6	25	PASS
Silver (Ag) - SEM	NA	ND	0.0047	0.0094	µmol/dry g					PASS	0	25	PASS
Zinc (Zn) - SEM	NA	1.8169	0.0015	0.003	µmol/dry g					PASS	7	25	PASS



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Fipronil & Degradates

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22626-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 07-Jan-14 10:38

Fipronil	NA	ND	0.25	0.5	ng/dry g				PASS	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g				PASS	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g				PASS	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g				PASS	

Sample ID: 22626-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 07-Jan-14 11:42

Fipronil	NA	2085.78	0.25	0.5	ng/dry g	2000	0	104	50 - 150%	PASS
Fipronil Desulfinyl	NA	1539.14	0.25	0.5	ng/dry g	2000	0	77	50 - 150%	PASS
Fipronil Sulfide	NA	1403.59	0.25	0.5	ng/dry g	2000	0	70	50 - 150%	PASS
Fipronil Sulfone	NA	1862.08	0.25	0.5	ng/dry g	2000	0	93	50 - 150%	PASS

Sample ID: 22626-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 07-Jan-14 12:46

Fipronil	NA	1745.19	0.25	0.5	ng/dry g	2000	0	87	50 - 150%	PASS	18	25	PASS
Fipronil Desulfinyl	NA	1532.31	0.25	0.5	ng/dry g	2000	0	77	50 - 150%	PASS	0	25	PASS
Fipronil Sulfide	NA	1279.06	0.25	0.5	ng/dry g	2000	0	64	50 - 150%	PASS	9	25	PASS
Fipronil Sulfone	NA	1883.75	0.25	0.5	ng/dry g	2000	0	94	50 - 150%	PASS	1	25	PASS

Sample ID: 22628-MS1

B13-8111 Grab

Matrix: Sediment

Sampled: 09-Sep-13 8:53

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 07-Jan-14 13:50

Fipronil	NA	1884.92	0.25	0.5	ng/dry g	2000	0	94	50 - 150%	PASS			
Fipronil Desulfinyl	NA	1452.99	0.25	0.5	ng/dry g	2000	0	73	50 - 150%	PASS			
Fipronil Sulfide	NA	1230.27	0.25	0.5	ng/dry g	2000	0	62	50 - 150%	PASS			
Fipronil Sulfone	NA	1314.05	0.25	0.5	ng/dry g	2000	0	66	50 - 150%	PASS			

Sample ID: 22628-MS2

B13-8111 Grab

Matrix: Sediment

Sampled: 09-Sep-13 8:53

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 07-Jan-14 14:54

Fipronil	NA	1986.61	0.25	0.5	ng/dry g	2000	0	99	50 - 150%	PASS	5	25	PASS
Fipronil Desulfinyl	NA	1547.96	0.25	0.5	ng/dry g	2000	0	77	50 - 150%	PASS	5	25	PASS



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Fipronil & Degradates

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Fipronil Sulfide	NA	1254.39	0.25	0.5	ng/dry g	2000	0	63	50 - 150% PASS	2	25 PASS	
Fipronil Sulfone	NA	1267.33	0.25	0.5	ng/dry g	2000	0	63	50 - 150% PASS	5	25 PASS	

Sample ID: 22628-R2

B13-8111 Grab

Matrix: Sediment

Sampled: 09-Sep-13 8:53

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 07-Jan-14 18:36

Fipronil	NA	ND	0.25	0.5	ng/dry g				PASS	0	25 PASS	
Fipronil Desulfinyl	NA	ND	0.25	0.5	ng/dry g				PASS	0	25 PASS	
Fipronil Sulfide	NA	ND	0.25	0.5	ng/dry g				PASS	0	25 PASS	
Fipronil Sulfone	NA	ND	0.25	0.5	ng/dry g				PASS	0	25 PASS	



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22627-B1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-5102		Prepared: 28-Feb-14		Analyzed: 06-Apr-14 20:39		
PCB003	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB005	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB008	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB015	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB018	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB027	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB028	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB029	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB031	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB033	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB037	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB044	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB049	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB052	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB056(060)	NA	ND	0.1	0.2	ng/dry g			PASS		
PCB066	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB070	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB074	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB077	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB081	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB087	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB095	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB097	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB099	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB101	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB105	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB110	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB114	NA	ND	0.05	0.1	ng/dry g			PASS		
PCB118	NA	ND	0.05	0.1	ng/dry g			PASS		



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB119	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB123	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB126	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB128	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB137	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB138	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB141	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB149	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB151	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB153	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB156	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB157	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB158	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB167	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB168+132	NA	ND	0.1	0.2	ng/dry g				PASS	
PCB169	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB170	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB174	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB177	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB180	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB183	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB187	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB189	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB194	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB195	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB199(200)	NA	ND	0.1	0.2	ng/dry g				PASS	
PCB201	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB203	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB206	NA	ND	0.05	0.1	ng/dry g				PASS	
PCB209	NA	ND	0.05	0.1	ng/dry g				PASS	

Sample ID: 22627-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

PHYSIS Project ID: 1307002-018

Client: AMEC

Project: RHMP Bight '13

qcb - 28 of 58



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PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Method: EPA 8270C		Batch ID: O-5102		Prepared: 28-Feb-14		Analyzed: 06-Apr-14 22:19				
PCB003	NA	169.86	0.05	0.1	ng/dry g	200	0	85 70 - 130% PASS		
PCB005	NA	220.06	0.05	0.1	ng/dry g	200	0	110 70 - 130% PASS		
PCB008	NA	161.82	0.05	0.1	ng/dry g	200	0	81 70 - 130% PASS		
PCB015	NA	223.84	0.05	0.1	ng/dry g	200	0	112 70 - 130% PASS		
PCB018	NA	212.88	0.05	0.1	ng/dry g	200	0	106 70 - 130% PASS		
PCB027	NA	191.75	0.05	0.1	ng/dry g	200	0	96 70 - 130% PASS		
PCB028	NA	241.23	0.05	0.1	ng/dry g	200	0	121 70 - 130% PASS		
PCB029	NA	219.87	0.05	0.1	ng/dry g	200	0	110 70 - 130% PASS		
PCB031	NA	178.76	0.05	0.1	ng/dry g	200	0	89 70 - 130% PASS		
PCB033	NA	183.47	0.05	0.1	ng/dry g	200	0	92 70 - 130% PASS		
PCB037	NA	243.74	0.05	0.1	ng/dry g	200	0	122 70 - 130% PASS		
PCB044	NA	242.78	0.05	0.1	ng/dry g	200	0	121 70 - 130% PASS		
PCB049	NA	241.62	0.05	0.1	ng/dry g	200	0	121 70 - 130% PASS		
PCB052	NA	232.99	0.05	0.1	ng/dry g	200	0	116 70 - 130% PASS		
PCB056(060)	NA	228.6	0.1	0.2	ng/dry g	200	0	114 70 - 130% PASS		
PCB066	NA	222.12	0.05	0.1	ng/dry g	200	0	111 70 - 130% PASS		
PCB070	NA	248.97	0.05	0.1	ng/dry g	200	0	124 70 - 130% PASS		
PCB074	NA	233.29	0.05	0.1	ng/dry g	200	0	117 70 - 130% PASS		
PCB077	NA	242.23	0.05	0.1	ng/dry g	200	0	121 70 - 130% PASS		
PCB081	NA	249.89	0.05	0.1	ng/dry g	200	0	125 70 - 130% PASS		
PCB087	NA	227.02	0.05	0.1	ng/dry g	200	0	114 70 - 130% PASS		
PCB095	NA	178.56	0.05	0.1	ng/dry g	200	0	89 70 - 130% PASS		
PCB097	NA	179.36	0.05	0.1	ng/dry g	200	0	90 70 - 130% PASS		
PCB099	NA	248.52	0.05	0.1	ng/dry g	200	0	124 70 - 130% PASS		
PCB101	NA	245.43	0.05	0.1	ng/dry g	200	0	123 70 - 130% PASS		
PCB105	NA	214.98	0.05	0.1	ng/dry g	200	0	107 70 - 130% PASS		
PCB110	NA	240.71	0.05	0.1	ng/dry g	200	0	120 70 - 130% PASS		
PCB114	NA	242.24	0.05	0.1	ng/dry g	200	0	121 70 - 130% PASS		
PCB118	NA	246.28	0.05	0.1	ng/dry g	200	0	123 70 - 130% PASS		
PCB119	NA	228.52	0.05	0.1	ng/dry g	200	0	114 70 - 130% PASS		



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PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB123	NA	238.99	0.05	0.1	ng/dry g	200	0	119	70 - 130% PASS	
PCB126	NA	248.44	0.05	0.1	ng/dry g	200	0	124	70 - 130% PASS	
PCB128	NA	194.81	0.05	0.1	ng/dry g	200	0	97	70 - 130% PASS	
PCB137	NA	239.63	0.05	0.1	ng/dry g	200	0	120	70 - 130% PASS	
PCB138	NA	212.56	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	
PCB141	NA	186.87	0.05	0.1	ng/dry g	200	0	93	70 - 130% PASS	
PCB149	NA	212.77	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	
PCB151	NA	219.28	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	
PCB153	NA	217.89	0.05	0.1	ng/dry g	200	0	109	70 - 130% PASS	
PCB156	NA	229.1	0.05	0.1	ng/dry g	200	0	115	70 - 130% PASS	
PCB157	NA	227.86	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	
PCB158	NA	227.37	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	
PCB167	NA	247.37	0.05	0.1	ng/dry g	200	0	124	70 - 130% PASS	
PCB168+132	NA	418.3	0.1	0.2	ng/dry g	400	0	105	70 - 130% PASS	
PCB169	NA	235.12	0.05	0.1	ng/dry g	200	0	118	70 - 130% PASS	
PCB170	NA	230.68	0.05	0.1	ng/dry g	200	0	115	70 - 130% PASS	
PCB174	NA	213.36	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	
PCB177	NA	231.18	0.05	0.1	ng/dry g	200	0	116	70 - 130% PASS	
PCB180	NA	241.53	0.05	0.1	ng/dry g	200	0	121	70 - 130% PASS	
PCB183	NA	220.05	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	
PCB187	NA	213.98	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	
PCB189	NA	239.63	0.05	0.1	ng/dry g	200	0	120	70 - 130% PASS	
PCB194	NA	227.71	0.05	0.1	ng/dry g	200	0	114	70 - 130% PASS	
PCB195	NA	215.46	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	
PCB199(200)	NA	205.7	0.1	0.2	ng/dry g	200	0	103	70 - 130% PASS	
PCB201	NA	211.41	0.05	0.1	ng/dry g	200	0	106	70 - 130% PASS	
PCB203	NA	215.83	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	
PCB206	NA	238.7	0.05	0.1	ng/dry g	200	0	119	70 - 130% PASS	
PCB209	NA	150.22	0.05	0.1	ng/dry g	200	0	75	70 - 130% PASS	

Sample ID: 22627-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 06-Apr-14 23:59



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB003	NA	179.82	0.05	0.1	ng/dry g	200	0	90 70 - 130% PASS	6 25 PASS	
PCB005	NA	246.6	0.05	0.1	ng/dry g	200	0	123 70 - 130% PASS	11 25 PASS	
PCB008	NA	163.67	0.05	0.1	ng/dry g	200	0	82 70 - 130% PASS	1 25 PASS	
PCB015	NA	237.32	0.05	0.1	ng/dry g	200	0	119 70 - 130% PASS	6 25 PASS	
PCB018	NA	221.35	0.05	0.1	ng/dry g	200	0	111 70 - 130% PASS	5 25 PASS	
PCB027	NA	209.62	0.05	0.1	ng/dry g	200	0	105 70 - 130% PASS	9 25 PASS	
PCB028	NA	247.01	0.05	0.1	ng/dry g	200	0	124 70 - 130% PASS	2 25 PASS	
PCB029	NA	231.32	0.05	0.1	ng/dry g	200	0	116 70 - 130% PASS	5 25 PASS	
PCB031	NA	197.23	0.05	0.1	ng/dry g	200	0	99 70 - 130% PASS	11 25 PASS	
PCB033	NA	192.65	0.05	0.1	ng/dry g	200	0	96 70 - 130% PASS	4 25 PASS	
PCB037	NA	246.95	0.05	0.1	ng/dry g	200	0	123 70 - 130% PASS	1 25 PASS	
PCB044	NA	223.76	0.05	0.1	ng/dry g	200	0	112 70 - 130% PASS	8 25 PASS	
PCB049	NA	226.4	0.05	0.1	ng/dry g	200	0	113 70 - 130% PASS	7 25 PASS	
PCB052	NA	229.83	0.05	0.1	ng/dry g	200	0	115 70 - 130% PASS	1 25 PASS	
PCB056(060)	NA	212.6	0.1	0.2	ng/dry g	200	0	106 70 - 130% PASS	7 25 PASS	
PCB066	NA	228.75	0.05	0.1	ng/dry g	200	0	114 70 - 130% PASS	3 25 PASS	
PCB070	NA	246.21	0.05	0.1	ng/dry g	200	0	123 70 - 130% PASS	1 25 PASS	
PCB074	NA	235.69	0.05	0.1	ng/dry g	200	0	118 70 - 130% PASS	1 25 PASS	
PCB077	NA	240.39	0.05	0.1	ng/dry g	200	0	120 70 - 130% PASS	1 25 PASS	
PCB081	NA	246.93	0.05	0.1	ng/dry g	200	0	123 70 - 130% PASS	2 25 PASS	
PCB087	NA	239.78	0.05	0.1	ng/dry g	200	0	120 70 - 130% PASS	5 25 PASS	
PCB095	NA	176.87	0.05	0.1	ng/dry g	200	0	88 70 - 130% PASS	1 25 PASS	
PCB097	NA	191.02	0.05	0.1	ng/dry g	200	0	96 70 - 130% PASS	6 25 PASS	
PCB099	NA	246.4	0.05	0.1	ng/dry g	200	0	123 70 - 130% PASS	1 25 PASS	
PCB101	NA	243.48	0.05	0.1	ng/dry g	200	0	122 70 - 130% PASS	1 25 PASS	
PCB105	NA	220.09	0.05	0.1	ng/dry g	200	0	110 70 - 130% PASS	3 25 PASS	
PCB110	NA	239.22	0.05	0.1	ng/dry g	200	0	120 70 - 130% PASS	0 25 PASS	
PCB114	NA	247.82	0.05	0.1	ng/dry g	200	0	124 70 - 130% PASS	2 25 PASS	
PCB118	NA	248.5	0.05	0.1	ng/dry g	200	0	124 70 - 130% PASS	1 25 PASS	
PCB119	NA	243.59	0.05	0.1	ng/dry g	200	0	122 70 - 130% PASS	7 25 PASS	
PCB123	NA	246.47	0.05	0.1	ng/dry g	200	0	123 70 - 130% PASS	3 25 PASS	



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
PCB126	NA	246.6	0.05	0.1	ng/dry g	200	0	123	70 - 130% PASS	1	25	PASS
PCB128	NA	172.68	0.05	0.1	ng/dry g	200	0	86	70 - 130% PASS	12	25	PASS
PCB137	NA	240.73	0.05	0.1	ng/dry g	200	0	120	70 - 130% PASS	0	25	PASS
PCB138	NA	216.82	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	2	25	PASS
PCB141	NA	185.54	0.05	0.1	ng/dry g	200	0	93	70 - 130% PASS	0	25	PASS
PCB149	NA	214.52	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	1	25	PASS
PCB151	NA	230.25	0.05	0.1	ng/dry g	200	0	115	70 - 130% PASS	4	25	PASS
PCB153	NA	221.93	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	2	25	PASS
PCB156	NA	220.83	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	4	25	PASS
PCB157	NA	219.9	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	4	25	PASS
PCB158	NA	230.34	0.05	0.1	ng/dry g	200	0	115	70 - 130% PASS	1	25	PASS
PCB167	NA	246.35	0.05	0.1	ng/dry g	200	0	123	70 - 130% PASS	1	25	PASS
PCB168+132	NA	408.1	0.1	0.2	ng/dry g	400	0	102	70 - 130% PASS	3	25	PASS
PCB169	NA	235.04	0.05	0.1	ng/dry g	200	0	118	70 - 130% PASS	0	25	PASS
PCB170	NA	215.75	0.05	0.1	ng/dry g	200	0	108	70 - 130% PASS	6	25	PASS
PCB174	NA	205.32	0.05	0.1	ng/dry g	200	0	103	70 - 130% PASS	4	25	PASS
PCB177	NA	219.01	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	5	25	PASS
PCB180	NA	238.07	0.05	0.1	ng/dry g	200	0	119	70 - 130% PASS	2	25	PASS
PCB183	NA	219.85	0.05	0.1	ng/dry g	200	0	110	70 - 130% PASS	0	25	PASS
PCB187	NA	214.73	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	0	25	PASS
PCB189	NA	232.8	0.05	0.1	ng/dry g	200	0	116	70 - 130% PASS	3	25	PASS
PCB194	NA	221.73	0.05	0.1	ng/dry g	200	0	111	70 - 130% PASS	3	25	PASS
PCB195	NA	203.15	0.05	0.1	ng/dry g	200	0	102	70 - 130% PASS	6	25	PASS
PCB199(200)	NA	183.9	0.1	0.2	ng/dry g	200	0	92	70 - 130% PASS	11	25	PASS
PCB201	NA	205.86	0.05	0.1	ng/dry g	200	0	103	70 - 130% PASS	3	25	PASS
PCB203	NA	213.88	0.05	0.1	ng/dry g	200	0	107	70 - 130% PASS	1	25	PASS
PCB206	NA	225.96	0.05	0.1	ng/dry g	200	0	113	70 - 130% PASS	5	25	PASS
PCB209	NA	136.44	0.05	0.1	ng/dry g	200	0	68	70 - 130% FAIL	10	25	PASS R

Sample ID: 22628-MS1

B13-8111 Grab

Matrix: Sediment

Sampled: 09-Sep-13 8:53

Received: 10-Sep-13

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 07-Apr-14 1:40

PCB003	NA	48	0.05	0.1	ng/dry g	50.68	0	95	50 - 150% PASS			
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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB005	NA	62.38	0.05	0.1	ng/dry g	50.68	0	123	50 - 150% PASS	
PCB008	NA	38.85	0.05	0.1	ng/dry g	50.68	0	77	50 - 150% PASS	
PCB015	NA	60.03	0.05	0.1	ng/dry g	50.68	0	118	50 - 150% PASS	
PCB018	NA	58.38	0.05	0.1	ng/dry g	50.68	0	115	50 - 150% PASS	
PCB027	NA	53	0.05	0.1	ng/dry g	50.68	0	105	50 - 150% PASS	
PCB028	NA	60.34	0.05	0.1	ng/dry g	50.68	0	119	50 - 150% PASS	
PCB029	NA	60.07	0.05	0.1	ng/dry g	50.68	0	119	50 - 150% PASS	
PCB031	NA	51.34	0.05	0.1	ng/dry g	50.68	0	101	50 - 150% PASS	
PCB033	NA	49.52	0.05	0.1	ng/dry g	50.68	0	98	50 - 150% PASS	
PCB037	NA	61.93	0.05	0.1	ng/dry g	50.68	0	122	50 - 150% PASS	
PCB044	NA	57.95	0.05	0.1	ng/dry g	50.68	2.08	110	50 - 150% PASS	
PCB049	NA	56.96	0.05	0.1	ng/dry g	50.68	1.5	109	50 - 150% PASS	
PCB052	NA	60.3	0.05	0.1	ng/dry g	50.68	4.9	109	50 - 150% PASS	
PCB056(060)	NA	52.9	0.1	0.2	ng/dry g	50.7	0	104	50 - 150% PASS	
PCB066	NA	53.71	0.05	0.1	ng/dry g	50.68	0	106	50 - 150% PASS	
PCB070	NA	59.56	0.05	0.1	ng/dry g	50.68	1.44	115	50 - 150% PASS	
PCB074	NA	55.69	0.05	0.1	ng/dry g	50.68	0	110	50 - 150% PASS	
PCB077	NA	58.74	0.05	0.1	ng/dry g	50.68	0	116	50 - 150% PASS	
PCB081	NA	57.4	0.05	0.1	ng/dry g	50.68	0	113	50 - 150% PASS	
PCB087	NA	53.59	0.05	0.1	ng/dry g	50.68	2.38	101	50 - 150% PASS	
PCB095	NA	43.93	0.05	0.1	ng/dry g	50.68	4.62	78	50 - 150% PASS	
PCB097	NA	42.54	0.05	0.1	ng/dry g	50.68	1.25	81	50 - 150% PASS	
PCB099	NA	60.21	0.05	0.1	ng/dry g	50.68	1.86	115	50 - 150% PASS	
PCB101	NA	61.49	0.05	0.1	ng/dry g	50.68	5.82	110	50 - 150% PASS	
PCB105	NA	51.82	0.05	0.1	ng/dry g	50.68	0.88	101	50 - 150% PASS	
PCB110	NA	57.28	0.05	0.1	ng/dry g	50.68	5.06	103	50 - 150% PASS	
PCB114	NA	60.02	0.05	0.1	ng/dry g	50.68	0	118	50 - 150% PASS	
PCB118	NA	56.42	0.05	0.1	ng/dry g	50.68	3.93	104	50 - 150% PASS	
PCB119	NA	56.02	0.05	0.1	ng/dry g	50.68	0	111	50 - 150% PASS	
PCB123	NA	52.42	0.05	0.1	ng/dry g	50.68	0	103	50 - 150% PASS	
PCB126	NA	59.76	0.05	0.1	ng/dry g	50.68	0	118	50 - 150% PASS	



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CA ELAP #2769

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PCB128	NA	46.4	0.05	0.1	ng/dry g	50.68	0	92	50 - 150% PASS	
PCB137	NA	54.46	0.05	0.1	ng/dry g	50.68	0	107	50 - 150% PASS	
PCB138	NA	54.04	0.05	0.1	ng/dry g	50.68	6.8	93	50 - 150% PASS	
PCB141	NA	46.3	0.05	0.1	ng/dry g	50.68	0.74	90	50 - 150% PASS	
PCB149	NA	49.66	0.05	0.1	ng/dry g	50.68	3.66	91	50 - 150% PASS	
PCB151	NA	52.83	0.05	0.1	ng/dry g	50.68	1.25	102	50 - 150% PASS	
PCB153	NA	54.14	0.05	0.1	ng/dry g	50.68	3.95	99	50 - 150% PASS	
PCB156	NA	53.21	0.05	0.1	ng/dry g	50.68	0.59	104	50 - 150% PASS	
PCB157	NA	48.7	0.05	0.1	ng/dry g	50.68	0	96	50 - 150% PASS	
PCB158	NA	54.84	0.05	0.1	ng/dry g	50.68	0.95	106	50 - 150% PASS	
PCB167	NA	56.47	0.05	0.1	ng/dry g	50.68	0	111	50 - 150% PASS	
PCB168+132	NA	101.6	0.1	0.2	ng/dry g	101.4	2.1	98	50 - 150% PASS	
PCB169	NA	56.85	0.05	0.1	ng/dry g	50.68	0	112	50 - 150% PASS	
PCB170	NA	49.1	0.05	0.1	ng/dry g	50.68	0	97	50 - 150% PASS	
PCB174	NA	52.11	0.05	0.1	ng/dry g	50.68	1.17	101	50 - 150% PASS	
PCB177	NA	53.6	0.05	0.1	ng/dry g	50.68	0.85	104	50 - 150% PASS	
PCB180	NA	57.69	0.05	0.1	ng/dry g	50.68	2.35	109	50 - 150% PASS	
PCB183	NA	54.76	0.05	0.1	ng/dry g	50.68	0.67	107	50 - 150% PASS	
PCB187	NA	55.4	0.05	0.1	ng/dry g	50.68	1.39	107	50 - 150% PASS	
PCB189	NA	50.67	0.05	0.1	ng/dry g	50.68	0	100	50 - 150% PASS	
PCB194	NA	52.63	0.05	0.1	ng/dry g	50.68	0	104	50 - 150% PASS	
PCB195	NA	47.99	0.05	0.1	ng/dry g	50.68	0	95	50 - 150% PASS	
PCB199(200)	NA	44.8	0.1	0.2	ng/dry g	50.7	0	88	50 - 150% PASS	
PCB201	NA	50.33	0.05	0.1	ng/dry g	50.68	0	99	50 - 150% PASS	
PCB203	NA	50.51	0.05	0.1	ng/dry g	50.68	0	100	50 - 150% PASS	
PCB206	NA	51.42	0.05	0.1	ng/dry g	50.68	0.69	100	50 - 150% PASS	
PCB209	NA	31.11	0.05	0.1	ng/dry g	50.68	0	61	50 - 150% PASS	

Sample ID: 22628-MS2

B13-8111 Grab

Matrix: Sediment

Sampled: 09-Sep-13 8:53

Received: 10-Sep-13

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 07-Apr-14 5:01

PCB003	NA	43.51	0.05	0.1	ng/dry g	51.92	0	84	50 - 150% PASS	12	25	PASS
PCB005	NA	58.36	0.05	0.1	ng/dry g	51.92	0	112	50 - 150% PASS	9	25	PASS



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PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
PCB008	NA	40.25	0.05	0.1	ng/dry g	51.92	0	78	50 - 150% PASS	1	25	PASS
PCB015	NA	59.22	0.05	0.1	ng/dry g	51.92	0	114	50 - 150% PASS	3	25	PASS
PCB018	NA	54.53	0.05	0.1	ng/dry g	51.92	0	105	50 - 150% PASS	9	25	PASS
PCB027	NA	51.99	0.05	0.1	ng/dry g	51.92	0	100	50 - 150% PASS	5	25	PASS
PCB028	NA	61.81	0.05	0.1	ng/dry g	51.92	0	119	50 - 150% PASS	0	25	PASS
PCB029	NA	57.58	0.05	0.1	ng/dry g	51.92	0	111	50 - 150% PASS	7	25	PASS
PCB031	NA	48.09	0.05	0.1	ng/dry g	51.92	0	93	50 - 150% PASS	8	25	PASS
PCB033	NA	47.95	0.05	0.1	ng/dry g	51.92	0	92	50 - 150% PASS	6	25	PASS
PCB037	NA	61.48	0.05	0.1	ng/dry g	51.92	0	118	50 - 150% PASS	3	25	PASS
PCB044	NA	54.35	0.05	0.1	ng/dry g	51.92	2.08	101	50 - 150% PASS	9	25	PASS
PCB049	NA	57.13	0.05	0.1	ng/dry g	51.92	1.5	107	50 - 150% PASS	2	25	PASS
PCB052	NA	59.54	0.05	0.1	ng/dry g	51.92	4.9	105	50 - 150% PASS	4	25	PASS
PCB056(060)	NA	51.5	0.1	0.2	ng/dry g	51.9	0	99	50 - 150% PASS	5	25	PASS
PCB066	NA	55.77	0.05	0.1	ng/dry g	51.92	0	107	50 - 150% PASS	1	25	PASS
PCB070	NA	59.26	0.05	0.1	ng/dry g	51.92	1.44	111	50 - 150% PASS	4	25	PASS
PCB074	NA	55.88	0.05	0.1	ng/dry g	51.92	0	108	50 - 150% PASS	2	25	PASS
PCB077	NA	58.76	0.05	0.1	ng/dry g	51.92	0	113	50 - 150% PASS	3	25	PASS
PCB081	NA	59.83	0.05	0.1	ng/dry g	51.92	0	115	50 - 150% PASS	2	25	PASS
PCB087	NA	57.65	0.05	0.1	ng/dry g	51.92	2.38	106	50 - 150% PASS	5	25	PASS
PCB095	NA	44.81	0.05	0.1	ng/dry g	51.92	4.62	77	50 - 150% PASS	1	25	PASS
PCB097	NA	46.14	0.05	0.1	ng/dry g	51.92	1.25	86	50 - 150% PASS	6	25	PASS
PCB099	NA	59.77	0.05	0.1	ng/dry g	51.92	1.86	112	50 - 150% PASS	3	25	PASS
PCB101	NA	61.61	0.05	0.1	ng/dry g	51.92	5.82	107	50 - 150% PASS	3	25	PASS
PCB105	NA	55	0.05	0.1	ng/dry g	51.92	0.88	104	50 - 150% PASS	3	25	PASS
PCB110	NA	60.19	0.05	0.1	ng/dry g	51.92	5.06	106	50 - 150% PASS	3	25	PASS
PCB114	NA	62.29	0.05	0.1	ng/dry g	51.92	0	120	50 - 150% PASS	2	25	PASS
PCB118	NA	58.35	0.05	0.1	ng/dry g	51.92	3.93	105	50 - 150% PASS	1	25	PASS
PCB119	NA	57.32	0.05	0.1	ng/dry g	51.92	0	110	50 - 150% PASS	1	25	PASS
PCB123	NA	56.41	0.05	0.1	ng/dry g	51.92	0	109	50 - 150% PASS	6	25	PASS
PCB126	NA	63.9	0.05	0.1	ng/dry g	51.92	0	123	50 - 150% PASS	4	25	PASS
PCB128	NA	43.5	0.05	0.1	ng/dry g	51.92	0	84	50 - 150% PASS	9	25	PASS



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
PCB137	NA	58.8	0.05	0.1	ng/dry g	51.92	0	113	50 - 150% PASS	5	25	PASS
PCB138	NA	57.12	0.05	0.1	ng/dry g	51.92	6.8	97	50 - 150% PASS	4	25	PASS
PCB141	NA	46.55	0.05	0.1	ng/dry g	51.92	0.74	88	50 - 150% PASS	2	25	PASS
PCB149	NA	51.82	0.05	0.1	ng/dry g	51.92	3.66	93	50 - 150% PASS	2	25	PASS
PCB151	NA	54.45	0.05	0.1	ng/dry g	51.92	1.25	102	50 - 150% PASS	0	25	PASS
PCB153	NA	55.65	0.05	0.1	ng/dry g	51.92	3.95	100	50 - 150% PASS	1	25	PASS
PCB156	NA	55.96	0.05	0.1	ng/dry g	51.92	0.59	107	50 - 150% PASS	3	25	PASS
PCB157	NA	48.8	0.05	0.1	ng/dry g	51.92	0	94	50 - 150% PASS	2	25	PASS
PCB158	NA	55.9	0.05	0.1	ng/dry g	51.92	0.95	106	50 - 150% PASS	0	25	PASS
PCB167	NA	63.05	0.05	0.1	ng/dry g	51.92	0	121	50 - 150% PASS	9	25	PASS
PCB168+132	NA	108.6	0.1	0.2	ng/dry g	103.8	2.1	103	50 - 150% PASS	5	25	PASS
PCB169	NA	61.51	0.05	0.1	ng/dry g	51.92	0	118	50 - 150% PASS	5	25	PASS
PCB170	NA	54.48	0.05	0.1	ng/dry g	51.92	0	105	50 - 150% PASS	8	25	PASS
PCB174	NA	55.17	0.05	0.1	ng/dry g	51.92	1.17	104	50 - 150% PASS	3	25	PASS
PCB177	NA	54.28	0.05	0.1	ng/dry g	51.92	0.85	103	50 - 150% PASS	1	25	PASS
PCB180	NA	59.6	0.05	0.1	ng/dry g	51.92	2.35	110	50 - 150% PASS	1	25	PASS
PCB183	NA	56.6	0.05	0.1	ng/dry g	51.92	0.67	108	50 - 150% PASS	1	25	PASS
PCB187	NA	58.13	0.05	0.1	ng/dry g	51.92	1.39	109	50 - 150% PASS	2	25	PASS
PCB189	NA	52.83	0.05	0.1	ng/dry g	51.92	0	102	50 - 150% PASS	2	25	PASS
PCB194	NA	52.61	0.05	0.1	ng/dry g	51.92	0	101	50 - 150% PASS	3	25	PASS
PCB195	NA	50.16	0.05	0.1	ng/dry g	51.92	0	97	50 - 150% PASS	2	25	PASS
PCB199(200)	NA	46.8	0.1	0.2	ng/dry g	51.9	0	90	50 - 150% PASS	2	25	PASS
PCB201	NA	49.9	0.05	0.1	ng/dry g	51.92	0	96	50 - 150% PASS	3	25	PASS
PCB203	NA	50.43	0.05	0.1	ng/dry g	51.92	0	97	50 - 150% PASS	3	25	PASS
PCB206	NA	52.12	0.05	0.1	ng/dry g	51.92	0.69	99	50 - 150% PASS	1	25	PASS
PCB209	NA	29.87	0.05	0.1	ng/dry g	51.92	0	58	50 - 150% PASS	5	25	PASS

Sample ID: 22628-R2

B13-8111 Grab

Matrix: Sediment

Sampled: 09-Sep-13 8:53

Received: 10-Sep-13

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 07-Apr-14 10:37

PCB003	NA	ND	0.05	0.1	ng/dry g				PASS	0	25	PASS
PCB005	NA	ND	0.05	0.1	ng/dry g				PASS	0	25	PASS
PCB008	NA	ND	0.05	0.1	ng/dry g				PASS	0	25	PASS



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PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB015	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB018	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB027	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB028	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB029	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB031	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB033	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB037	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB044	NA	1.63	0.05	0.1	ng/dry g			PASS	43 25	FAIL NH
PCB049	NA	3.01	0.05	0.1	ng/dry g			PASS	193 25	FAIL SL
PCB052	NA	2.49	0.05	0.1	ng/dry g			PASS	98 25	FAIL NH
PCB056(060)	NA	ND	0.1	0.2	ng/dry g			PASS	0 25	PASS
PCB066	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB070	NA	ND	0.05	0.1	ng/dry g			PASS	193 25	FAIL SL
PCB074	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB077	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB081	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB087	NA	ND	0.05	0.1	ng/dry g			PASS	196 25	FAIL SL
PCB095	NA	1	0.05	0.1	ng/dry g			PASS	157 25	FAIL NH
PCB097	NA	ND	0.05	0.1	ng/dry g			PASS	192 25	FAIL SL
PCB099	NA	0.76	0.05	0.1	ng/dry g			PASS	118 25	FAIL NH
PCB101	NA	1.48	0.05	0.1	ng/dry g			PASS	149 25	FAIL NH
PCB105	NA	ND	0.05	0.1	ng/dry g			PASS	189 25	FAIL SL
PCB110	NA	1.05	0.05	0.1	ng/dry g			PASS	158 25	FAIL NH
PCB114	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB118	NA	1.16	0.05	0.1	ng/dry g			PASS	141 25	FAIL NH
PCB119	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB123	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB126	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB128	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB137	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS



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CA ELAP #2769

PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB138	NA	3.3	0.05	0.1	ng/dry g			PASS	103 25	FAIL NH
PCB141	NA	ND	0.05	0.1	ng/dry g			PASS	187 25	FAIL SL
PCB149	NA	1.83	0.05	0.1	ng/dry g			PASS	100 25	FAIL NH
PCB151	NA	0.72	0.05	0.1	ng/dry g			PASS	85 25	FAIL NH
PCB153	NA	2.02	0.05	0.1	ng/dry g			PASS	98 25	FAIL NH
PCB156	NA	ND	0.05	0.1	ng/dry g			PASS	184 25	FAIL SL
PCB157	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB158	NA	0.37	0.05	0.1	ng/dry g			PASS	123 25	FAIL SL
PCB167	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB168+132	NA	1.2	0.1	0.2	ng/dry g			PASS	86 25	FAIL NH
PCB169	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB170	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB174	NA	0.57	0.05	0.1	ng/dry g			PASS	103 25	FAIL NH
PCB177	NA	0.29	0.05	0.1	ng/dry g			PASS	132 25	FAIL SL
PCB180	NA	1.36	0.05	0.1	ng/dry g			PASS	85 25	FAIL NH
PCB183	NA	0.51	0.05	0.1	ng/dry g			PASS	47 25	FAIL NH
PCB187	NA	1.28	0.05	0.1	ng/dry g			PASS	16 25	PASS
PCB189	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB194	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB195	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB199(200)	NA	ND	0.1	0.2	ng/dry g			PASS	0 25	PASS
PCB201	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB203	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS
PCB206	NA	0.77	0.05	0.1	ng/dry g			PASS	25 25	PASS
PCB209	NA	ND	0.05	0.1	ng/dry g			PASS	0 25	PASS

Sample ID: 22644-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 07-Apr-14 3:20

PCB008	NA	22.4	0.05	0.1	ng/dry g	22.3	100	60 - 140%	PASS
PCB018	NA	58.4	0.05	0.1	ng/dry g	51	115	60 - 140%	PASS
PCB028	NA	96.4	0.05	0.1	ng/dry g	80.8	119	60 - 140%	PASS
PCB031	NA	78	0.05	0.1	ng/dry g	78.7	99	60 - 140%	PASS



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PCB Congeners**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PCB044	NA	44.8	0.05	0.1	ng/dry g	60.2		74 60 - 140% PASS		
PCB049	NA	70.8	0.05	0.1	ng/dry g	53		134 60 - 140% PASS		
PCB052	NA	73.2	0.05	0.1	ng/dry g	79.4		92 60 - 140% PASS		
PCB066	NA	55.4	0.05	0.1	ng/dry g	71.9		77 60 - 140% PASS		
PCB087	NA	20.2	0.05	0.1	ng/dry g	29.9		68 60 - 140% PASS		
PCB095	NA	42.7	0.05	0.1	ng/dry g	65		66 60 - 140% PASS		
PCB099	NA	27.2	0.05	0.1	ng/dry g	37.5		73 60 - 140% PASS		
PCB101	NA	64.6	0.05	0.1	ng/dry g	73.4		88 60 - 140% PASS		
PCB105	NA	21	0.05	0.1	ng/dry g	24.5		86 60 - 140% PASS		
PCB110	NA	49	0.05	0.1	ng/dry g	63.5		77 60 - 140% PASS		
PCB118	NA	43.6	0.05	0.1	ng/dry g	58		75 60 - 140% PASS		
PCB128	NA	5.66	0.05	0.1	ng/dry g	8.5		67 60 - 140% PASS		
PCB138	NA	48.6	0.05	0.1	ng/dry g	62.1		78 60 - 140% PASS		
PCB149	NA	53.4	0.05	0.1	ng/dry g	49.7		107 60 - 140% PASS		
PCB151	NA	14.8	0.05	0.1	ng/dry g	16.9		88 60 - 140% PASS		
PCB153	NA	64	0.05	0.1	ng/dry g	74		86 60 - 140% PASS		
PCB156	NA	6.14	0.05	0.1	ng/dry g	6.5		94 60 - 140% PASS		
PCB170	NA	16.6	0.05	0.1	ng/dry g	22.6		73 60 - 140% PASS		
PCB180	NA	40	0.05	0.1	ng/dry g	44.3		90 60 - 140% PASS		
PCB183	NA	10.8	0.05	0.1	ng/dry g	12.2		89 60 - 140% PASS		
PCB187	NA	28.6	0.05	0.1	ng/dry g	25.1		114 60 - 140% PASS		
PCB194	NA	13.2	0.05	0.1	ng/dry g	11.2		118 60 - 140% PASS		
PCB195	NA	4.32	0.05	0.1	ng/dry g	3.8		114 60 - 140% PASS		
PCB206	NA	9.14	0.05	0.1	ng/dry g	9.2		99 60 - 140% PASS		
PCB209	NA	6.08	0.05	0.1	ng/dry g	6.8		89 60 - 140% PASS		



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CA ELAP #2769

PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
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Sample ID: 22626-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 22-Jan-14 17:05

(DFPBDE)	NA	94			% Recovery	100		94	50 - 150%	PASS
(FTBDE)	NA	102			% Recovery	100		102	50 - 150%	PASS
PBDE017	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE028	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE047	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE049	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE066	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE071	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE085	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE099	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE100	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE138	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE153	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE154	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE183	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE190	NA	ND	0.05	0.1	ng/dry g					PASS
PBDE209	NA	ND	0.05	0.1	ng/dry g					PASS

Sample ID: 22626-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 22-Jan-14 17:45

(DFPBDE)	NA	128			% Recovery	100	0	128	70 - 130%	PASS
(FTBDE)	NA	121			% Recovery	100	0	121	70 - 130%	PASS
PBDE017	NA	145	0.05	0.1	ng/dry g	175	0	83	70 - 130%	PASS
PBDE028	NA	163	0.05	0.1	ng/dry g	175	0	93	70 - 130%	PASS
PBDE047	NA	129	0.05	0.1	ng/dry g	175	0	74	70 - 130%	PASS
PBDE049	NA	129	0.05	0.1	ng/dry g	175	0	74	70 - 130%	PASS
PBDE066	NA	137	0.05	0.1	ng/dry g	175	0	78	70 - 130%	PASS
PBDE071	NA	136	0.05	0.1	ng/dry g	175	0	78	70 - 130%	PASS
PBDE085	NA	129	0.05	0.1	ng/dry g	175	0	74	70 - 130%	PASS



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PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
PBDE099	NA	128	0.05	0.1	ng/dry g	175	0	73	70 - 130%	PASS
PBDE100	NA	133	0.05	0.1	ng/dry g	175	0	76	70 - 130%	PASS
PBDE138	NA	133	0.05	0.1	ng/dry g	175	0	76	70 - 130%	PASS
PBDE153	NA	124	0.05	0.1	ng/dry g	175	0	71	70 - 130%	PASS
PBDE154	NA	127	0.05	0.1	ng/dry g	175	0	73	70 - 130%	PASS
PBDE183	NA	137	0.05	0.1	ng/dry g	175	0	78	70 - 130%	PASS
PBDE190	NA	127	0.05	0.1	ng/dry g	175	0	73	70 - 130%	PASS
PBDE209	NA	823	0.05	0.1	ng/dry g	875	0	94	70 - 130%	PASS

Sample ID: 22626-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 22-Jan-14 18:23

(DFPBDE)	NA	116			% Recovery	100	0	116	70 - 130%	PASS	10	25	PASS
(FTBDE)	NA	109			% Recovery	100	0	109	70 - 130%	PASS	10	25	PASS
PBDE017	NA	139	0.05	0.1	ng/dry g	175	0	79	70 - 130%	PASS	5	25	PASS
PBDE028	NA	161	0.05	0.1	ng/dry g	175	0	92	70 - 130%	PASS	1	25	PASS
PBDE047	NA	131	0.05	0.1	ng/dry g	175	0	75	70 - 130%	PASS	1	25	PASS
PBDE049	NA	138	0.05	0.1	ng/dry g	175	0	79	70 - 130%	PASS	7	25	PASS
PBDE066	NA	135	0.05	0.1	ng/dry g	175	0	77	70 - 130%	PASS	1	25	PASS
PBDE071	NA	138	0.05	0.1	ng/dry g	175	0	79	70 - 130%	PASS	1	25	PASS
PBDE085	NA	127	0.05	0.1	ng/dry g	175	0	73	70 - 130%	PASS	1	25	PASS
PBDE099	NA	127	0.05	0.1	ng/dry g	175	0	73	70 - 130%	PASS	0	25	PASS
PBDE100	NA	129	0.05	0.1	ng/dry g	175	0	74	70 - 130%	PASS	3	25	PASS
PBDE138	NA	133	0.05	0.1	ng/dry g	175	0	76	70 - 130%	PASS	0	25	PASS
PBDE153	NA	124	0.05	0.1	ng/dry g	175	0	71	70 - 130%	PASS	0	25	PASS
PBDE154	NA	126	0.05	0.1	ng/dry g	175	0	72	70 - 130%	PASS	1	25	PASS
PBDE183	NA	145	0.05	0.1	ng/dry g	175	0	83	70 - 130%	PASS	6	25	PASS
PBDE190	NA	139	0.05	0.1	ng/dry g	175	0	79	70 - 130%	PASS	8	25	PASS
PBDE209	NA	890	0.05	0.1	ng/dry g	875	0	102	70 - 130%	PASS	8	25	PASS

Sample ID: 22628-MS1

B13-8111 Grab

Matrix: Sediment

Sampled: 09-Sep-13 8:53

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 22-Jan-14 19:02

(DFPBDE)	NA	98			% Recovery	100	0	98	70 - 130%	PASS			
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PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
(FTBDE)	NA	117			% Recovery	100	0	117 70 - 130% PASS		
PBDE017	NA	133	0.05	0.1	ng/dry g	175	0	76 70 - 130% PASS		
PBDE028	NA	142	0.05	0.1	ng/dry g	175	0	81 70 - 130% PASS		
PBDE047	NA	142	0.05	0.1	ng/dry g	175	0.23	81 70 - 130% PASS		
PBDE049	NA	122	0.05	0.1	ng/dry g	175	0	70 70 - 130% PASS		
PBDE066	NA	146	0.05	0.1	ng/dry g	175	0	83 70 - 130% PASS		
PBDE071	NA	138	0.05	0.1	ng/dry g	175	0	79 70 - 130% PASS		
PBDE085	NA	167	0.05	0.1	ng/dry g	175	0	95 70 - 130% PASS		
PBDE099	NA	165	0.05	0.1	ng/dry g	175	0	94 70 - 130% PASS		
PBDE100	NA	160	0.05	0.1	ng/dry g	175	0	91 70 - 130% PASS		
PBDE138	NA	170	0.05	0.1	ng/dry g	175	0	97 70 - 130% PASS		
PBDE153	NA	193	0.05	0.1	ng/dry g	175	0	110 70 - 130% PASS		
PBDE154	NA	175	0.05	0.1	ng/dry g	175	0	100 70 - 130% PASS		
PBDE183	NA	190	0.05	0.1	ng/dry g	175	0	109 70 - 130% PASS		
PBDE190	NA	192	0.05	0.1	ng/dry g	175	0	110 70 - 130% PASS		
PBDE209	NA	874	0.05	0.1	ng/dry g	875	0	100 70 - 130% PASS		

Sample ID: 22628-MS2

B13-8111 Grab

Matrix: Sediment

Sampled: 09-Sep-13 8:53

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 22-Jan-14 19:41

(DFPBDE)	NA	126			% Recovery	100	0	126 70 - 130% PASS	25	25	PASS
(FTBDE)	NA	123			% Recovery	100	0	123 70 - 130% PASS	5	25	PASS
PBDE017	NA	155	0.05	0.1	ng/dry g	175	0	89 70 - 130% PASS	16	25	PASS
PBDE028	NA	175	0.05	0.1	ng/dry g	175	0	100 70 - 130% PASS	21	25	PASS
PBDE047	NA	148	0.05	0.1	ng/dry g	175	0.23	84 70 - 130% PASS	4	25	PASS
PBDE049	NA	132	0.05	0.1	ng/dry g	175	0	75 70 - 130% PASS	7	25	PASS
PBDE066	NA	152	0.05	0.1	ng/dry g	175	0	87 70 - 130% PASS	5	25	PASS
PBDE071	NA	128	0.05	0.1	ng/dry g	175	0	73 70 - 130% PASS	8	25	PASS
PBDE085	NA	167	0.05	0.1	ng/dry g	175	0	95 70 - 130% PASS	0	25	PASS
PBDE099	NA	156	0.05	0.1	ng/dry g	175	0	89 70 - 130% PASS	5	25	PASS
PBDE100	NA	152	0.05	0.1	ng/dry g	175	0	87 70 - 130% PASS	4	25	PASS
PBDE138	NA	166	0.05	0.1	ng/dry g	175	0	95 70 - 130% PASS	2	25	PASS
PBDE153	NA	160	0.05	0.1	ng/dry g	175	0	91 70 - 130% PASS	19	25	PASS



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PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
PBDE154	NA	159	0.05	0.1	ng/dry g	175	0	91	70 - 130%	PASS	9 25	PASS
PBDE183	NA	164	0.05	0.1	ng/dry g	175	0	94	70 - 130%	PASS	15 25	PASS
PBDE190	NA	179	0.05	0.1	ng/dry g	175	0	102	70 - 130%	PASS	8 25	PASS
PBDE209	NA	805	0.05	0.1	ng/dry g	875	0	92	70 - 130%	PASS	8 25	PASS

Sample ID: 22628-R2

B13-8111 Grab

Matrix: Sediment

Sampled: 09-Sep-13 8:53

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 22-Jan-14 22:09

(DFPBDE)	NA	68			% Recovery	100		68	50 - 150%	PASS	26 25	FAIL	M
(FTBDE)	NA	103			% Recovery	100		103	50 - 150%	PASS	1 25	PASS	
PBDE017	NA	ND	0.05	0.1	ng/dry g					PASS	0 25	PASS	
PBDE028	NA	ND	0.05	0.1	ng/dry g					PASS	0 25	PASS	
PBDE047	NA	0.27	0.05	0.1	ng/dry g					PASS	30 25	FAIL	SL
PBDE049	NA	ND	0.05	0.1	ng/dry g					PASS	0 25	PASS	
PBDE066	NA	ND	0.05	0.1	ng/dry g					PASS	0 25	PASS	
PBDE071	NA	ND	0.05	0.1	ng/dry g					PASS	0 25	PASS	
PBDE085	NA	ND	0.05	0.1	ng/dry g					PASS	0 25	PASS	
PBDE099	NA	ND	0.05	0.1	ng/dry g					PASS	0 25	PASS	
PBDE100	NA	ND	0.05	0.1	ng/dry g					PASS	0 25	PASS	
PBDE138	NA	ND	0.05	0.1	ng/dry g					PASS	0 25	PASS	
PBDE153	NA	ND	0.05	0.1	ng/dry g					PASS	0 25	PASS	
PBDE154	NA	ND	0.05	0.1	ng/dry g					PASS	0 25	PASS	
PBDE183	NA	ND	0.05	0.1	ng/dry g					PASS	0 25	PASS	
PBDE190	NA	ND	0.05	0.1	ng/dry g					PASS	0 25	PASS	
PBDE209	NA	ND	0.05	0.1	ng/dry g					PASS	0 25	PASS	

Sample ID: 22644-CRM1

QAQC CRM - SRM 1944

Matrix: Sediment

Sampled:

Received:

Method: EPA 8270C-NCI

Batch ID: O-5057

Prepared: 02-Dec-13

Analyzed: 22-Jan-14 20:51

PBDE047	NA	1.92	0.05	0.1	ng/dry g	1.72		112	60 - 140%	PASS			
PBDE099	NA	1.56	0.05	0.1	ng/dry g	2		78	60 - 140%	PASS			
PBDE100	NA	0.37	0.05	0.1	ng/dry g	0.4		93	60 - 140%	PASS			
PBDE153	NA	5.66	0.05	0.1	ng/dry g	6.44		88	60 - 140%	PASS			
PBDE154	NA	0.82	0.05	0.1	ng/dry g	1.06		77	60 - 140%	PASS			



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PolyBrominated Diphenyl Ethers

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
PBDE183	NA	42.91	0.05	0.1	ng/dry g	31.8		135 60 - 140% PASS		
PBDE209	NA	101	0.05	0.1	ng/dry g	93.5		108 60 - 140% PASS		



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22627-B1		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5102		Prepared: 28-Feb-14		Analyzed: 06-Apr-14 20:39	
(d10-Acenaphthene)	NA	107			% Recovery	100	107	50 - 150%	PASS	
(d10-Phenanthrene)	NA	111			% Recovery	100	111	50 - 150%	PASS	
(d12-Chrysene)	NA	118			% Recovery	100	118	50 - 150%	PASS	
(d8-Naphthalene)	NA	84			% Recovery	100	84	25 - 125%	PASS	
1-Methylnaphthalene	NA	ND	1	5	ng/dry g				PASS	
1-Methylphenanthrene	NA	ND	1	5	ng/dry g				PASS	
2,3,5-Trimethylnaphthalene	NA	ND	1	5	ng/dry g				PASS	
2,6-Dimethylnaphthalene	NA	ND	1	5	ng/dry g				PASS	
2-Methylnaphthalene	NA	ND	1	5	ng/dry g				PASS	
Acenaphthene	NA	ND	1	5	ng/dry g				PASS	
Acenaphthylene	NA	ND	1	5	ng/dry g				PASS	
Anthracene	NA	ND	1	5	ng/dry g				PASS	
Benz[a]anthracene	NA	ND	1	5	ng/dry g				PASS	
Benzo[a]pyrene	NA	ND	1	5	ng/dry g				PASS	
Benzo[b]fluoranthene	NA	ND	1	5	ng/dry g				PASS	
Benzo[e]pyrene	NA	ND	1	5	ng/dry g				PASS	
Benzo[g,h,i]perylene	NA	ND	1	5	ng/dry g				PASS	
Benzo[k]fluoranthene	NA	ND	1	5	ng/dry g				PASS	
Biphenyl	NA	ND	1	5	ng/dry g				PASS	
Chrysene	NA	ND	1	5	ng/dry g				PASS	
Dibenz[a,h]anthracene	NA	ND	1	5	ng/dry g				PASS	
Dibenzothiophene	NA	ND	1	5	ng/dry g				PASS	
Fluoranthene	NA	ND	1	5	ng/dry g				PASS	
Fluorene	NA	ND	1	5	ng/dry g				PASS	
Indeno[1,2,3-c,d]pyrene	NA	ND	1	5	ng/dry g				PASS	
Naphthalene	NA	ND	1	5	ng/dry g				PASS	
Perylene	NA	ND	1	5	ng/dry g				PASS	
Phenanthrene	NA	ND	1	5	ng/dry g				PASS	
Pyrene	NA	ND	1	5	ng/dry g				PASS	



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
		LIMITS								LIMITS
Sample ID: 22627-BS1		QAQC Procedural Blank		Matrix: DI Water		Sampled:		Received:		
		Method: EPA 8270C		Batch ID: O-5102		Prepared: 28-Feb-14		Analyzed: 06-Apr-14 22:19		
(d10-Acenaphthene)	NA	104			% Recovery	100	0	104	70 - 130%	PASS
(d10-Phenanthrene)	NA	110			% Recovery	100	0	110	70 - 130%	PASS
(d12-Chrysene)	NA	136			% Recovery	100	0	136	70 - 130%	FAIL
(d8-Naphthalene)	NA	89			% Recovery	100	0	89	70 - 130%	PASS
1-Methylnaphthalene	NA	956	1	5	ng/dry g	1000	0	96	70 - 130%	PASS
1-Methylphenanthrene	NA	1165	1	5	ng/dry g	1000	0	116	70 - 130%	PASS
2,3,5-Trimethylnaphthalene	NA	1088	1	5	ng/dry g	1000	0	109	70 - 130%	PASS
2,6-Dimethylnaphthalene	NA	1054	1	5	ng/dry g	1000	0	105	70 - 130%	PASS
2-Methylnaphthalene	NA	958	1	5	ng/dry g	1000	0	96	70 - 130%	PASS
Acenaphthene	NA	839	1	5	ng/dry g	1000	0	84	70 - 130%	PASS
Acenaphthylene	NA	784	1	5	ng/dry g	1000	0	78	70 - 130%	PASS
Anthracene	NA	932	1	5	ng/dry g	1000	0	93	70 - 130%	PASS
Benz[a]anthracene	NA	952	1	5	ng/dry g	1000	0	95	70 - 130%	PASS
Benzo[a]pyrene	NA	838	1	5	ng/dry g	1000	0	84	70 - 130%	PASS
Benzo[b]fluoranthene	NA	1084	1	5	ng/dry g	1000	0	108	70 - 130%	PASS
Benzo[e]pyrene	NA	1072	1	5	ng/dry g	1000	0	107	70 - 130%	PASS
Benzo[g,h,i]perylene	NA	844	1	5	ng/dry g	1000	0	84	70 - 130%	PASS
Benzo[k]fluoranthene	NA	1012	1	5	ng/dry g	1000	0	101	70 - 130%	PASS
Biphenyl	NA	1008	1	5	ng/dry g	1000	0	101	70 - 130%	PASS
Chrysene	NA	1031	1	5	ng/dry g	1000	0	103	70 - 130%	PASS
Dibenz[a,h]anthracene	NA	949	1	5	ng/dry g	1000	0	95	70 - 130%	PASS
Dibenzothiophene	NA	705	1	5	ng/dry g	1000	0	70	70 - 130%	PASS
Fluoranthene	NA	1184	1	5	ng/dry g	1000	0	118	70 - 130%	PASS
Fluorene	NA	881	1	5	ng/dry g	1000	0	88	70 - 130%	PASS
Indeno[1,2,3-c,d]pyrene	NA	924	1	5	ng/dry g	1000	0	92	70 - 130%	PASS
Naphthalene	NA	862	1	5	ng/dry g	1000	0	86	70 - 130%	PASS
Perylene	NA	959	1	5	ng/dry g	1000	0	96	70 - 130%	PASS
Phenanthrene	NA	1085	1	5	ng/dry g	1000	0	109	70 - 130%	PASS
Pyrene	NA	1204	1	5	ng/dry g	1000	0	120	70 - 130%	PASS



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Sample ID: 22627-BS2		QAQC Procedural Blank			Matrix: DI Water		Sampled:		Received:	
		Method: EPA 8270C			Batch ID: O-5102		Prepared: 28-Feb-14		Analyzed: 06-Apr-14 23:59	
(d10-Acenaphthene)	NA	112			% Recovery	100	0	112	70 - 130% PASS	7 25 PASS
(d10-Phenanthrene)	NA	120			% Recovery	100	0	120	70 - 130% PASS	9 25 PASS
(d12-Chrysene)	NA	140			% Recovery	100	0	140	70 - 130% FAIL	3 25 PASS R
(d8-Naphthalene)	NA	90			% Recovery	100	0	90	70 - 130% PASS	1 25 PASS
1-Methylnaphthalene	NA	1032	1	5	ng/dry g	1000	0	103	70 - 130% PASS	7 25 PASS
1-Methylphenanthrene	NA	1300	1	5	ng/dry g	1000	0	130	70 - 130% PASS	11 25 PASS
2,3,5-Trimethylnaphthalene	NA	1184	1	5	ng/dry g	1000	0	118	70 - 130% PASS	8 25 PASS
2,6-Dimethylnaphthalene	NA	1136	1	5	ng/dry g	1000	0	114	70 - 130% PASS	8 25 PASS
2-Methylnaphthalene	NA	1045	1	5	ng/dry g	1000	0	104	70 - 130% PASS	8 25 PASS
Acenaphthene	NA	878	1	5	ng/dry g	1000	0	88	70 - 130% PASS	5 25 PASS
Acenaphthylene	NA	784	1	5	ng/dry g	1000	0	78	70 - 130% PASS	0 25 PASS
Anthracene	NA	893	1	5	ng/dry g	1000	0	89	70 - 130% PASS	4 25 PASS
Benz[a]anthracene	NA	972	1	5	ng/dry g	1000	0	97	70 - 130% PASS	2 25 PASS
Benzo[a]pyrene	NA	879	1	5	ng/dry g	1000	0	88	70 - 130% PASS	5 25 PASS
Benzo[b]fluoranthene	NA	1160	1	5	ng/dry g	1000	0	116	70 - 130% PASS	7 25 PASS
Benzo[e]pyrene	NA	1105	1	5	ng/dry g	1000	0	111	70 - 130% PASS	3 25 PASS
Benzo[g,h,i]perylene	NA	876	1	5	ng/dry g	1000	0	88	70 - 130% PASS	5 25 PASS
Benzo[k]fluoranthene	NA	1025	1	5	ng/dry g	1000	0	102	70 - 130% PASS	1 25 PASS
Biphenyl	NA	1120	1	5	ng/dry g	1000	0	112	70 - 130% PASS	10 25 PASS
Chrysene	NA	1001	1	5	ng/dry g	1000	0	100	70 - 130% PASS	3 25 PASS
Dibenz[a,h]anthracene	NA	1009	1	5	ng/dry g	1000	0	101	70 - 130% PASS	6 25 PASS
Dibenzothiophene	NA	836	1	5	ng/dry g	1000	0	84	70 - 130% PASS	18 25 PASS
Fluoranthene	NA	1000	1	5	ng/dry g	1000	0	100	70 - 130% PASS	17 25 PASS
Fluorene	NA	885	1	5	ng/dry g	1000	0	88	70 - 130% PASS	0 25 PASS
Indeno[1,2,3-c,d]pyrene	NA	960	1	5	ng/dry g	1000	0	96	70 - 130% PASS	4 25 PASS
Naphthalene	NA	926	1	5	ng/dry g	1000	0	93	70 - 130% PASS	8 25 PASS
Perylene	NA	1030	1	5	ng/dry g	1000	0	103	70 - 130% PASS	7 25 PASS
Phenanthrene	NA	1177	1	5	ng/dry g	1000	0	118	70 - 130% PASS	9 25 PASS
Pyrene	NA	1298	1	5	ng/dry g	1000	0	130	70 - 130% PASS	8 25 PASS



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CA ELAP #2769

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %			PRECISION %			QA CODE
Sample ID: 22628-MS2		B13-8111 Grab			Matrix: Sediment			Sampled: 09-Sep-13 8:53			Received: 10-Sep-13			
		Method: EPA 8270C			Batch ID: O-5102			Prepared: 28-Feb-14			Analyzed: 07-Apr-14 5:01			
(d10-Acenaphthene)	NA	109			% Recovery	100	0	109	50 - 150%	PASS	85	25	FAIL	M
(d10-Phenanthrene)	NA	117			% Recovery	100	0	117	50 - 150%	PASS	96	25	FAIL	M
(d12-Chrysene)	NA	124			% Recovery	100	0	124	50 - 150%	PASS	99	25	FAIL	M
(d8-Naphthalene)	NA	78			% Recovery	100	0	78	25 - 125%	PASS	74	25	FAIL	M
1-Methylnaphthalene	NA	293.6	1	5	ng/dry g	259.6	2.4	112	50 - 150%	PASS	49	25	FAIL	M
1-Methylphenanthrene	NA	322.7	1	5	ng/dry g	259.6	15.5	118	50 - 150%	PASS	59	25	FAIL	M
2,3,5-Trimethylnaphthalene	NA	338.5	1	5	ng/dry g	259.6	3.5	129	50 - 150%	PASS	63	25	FAIL	M
2,6-Dimethylnaphthalene	NA	303.2	1	5	ng/dry g	259.6	3.9	115	50 - 150%	PASS	61	25	FAIL	M
2-Methylnaphthalene	NA	303.5	1	5	ng/dry g	259.6	15.5	111	50 - 150%	PASS	69	25	FAIL	M
Acenaphthene	NA	233.1	1	5	ng/dry g	259.6	3.9	88	50 - 150%	PASS	33	25	FAIL	M
Acenaphthylene	NA	221.4	1	5	ng/dry g	259.6	23.1	76	50 - 150%	PASS	27	25	FAIL	R
Anthracene	NA	188.5	1	5	ng/dry g	259.6	211.7	-9	50 - 150%	FAIL	12	25	PASS	M
Benz[a]anthracene	NA	331.5	1	5	ng/dry g	259.6	154.1	68	50 - 150%	PASS	3	25	PASS	
Benzo[a]pyrene	NA	218.8	1	5	ng/dry g	259.6	98	47	50 - 150%	FAIL	0	25	PASS	M
Benzo[b]fluoranthene	NA	391.2	1	5	ng/dry g	259.6	203.6	72	50 - 150%	PASS	74	25	FAIL	M
Benzo[e]pyrene	NA	223.3	1	5	ng/dry g	259.6	158.9	25	50 - 150%	FAIL	0	25	PASS	M
Benzo[g,h,i]perylene	NA	327.4	1	5	ng/dry g	259.6	120.9	80	50 - 150%	PASS	10	25	PASS	
Benzo[k]fluoranthene	NA	314.1	1	5	ng/dry g	259.6	196	45	50 - 150%	FAIL	81	25	FAIL	M
Biphenyl	NA	258.8	1	5	ng/dry g	259.6	4.8	98	50 - 150%	PASS	24	25	PASS	
Chrysene	NA	735.4	1	5	ng/dry g	259.6	371.8	140	50 - 150%	PASS	43	25	FAIL	M
Dibenz[a,h]anthracene	NA	315.4	1	5	ng/dry g	259.6	41.7	105	50 - 150%	PASS	58	25	FAIL	M
Dibenzothiophene	NA	248.2	1	5	ng/dry g	259.6	5	94	50 - 150%	PASS	22	25	PASS	
Fluoranthene	NA	585.7	1	5	ng/dry g	259.6	164.9	162	50 - 150%	FAIL	65	25	FAIL	M
Fluorene	NA	28.3	1	5	ng/dry g	259.6	36.8	-3	50 - 150%	FAIL	219	25	FAIL	M
Indeno[1,2,3-c,d]pyrene	NA	379.8	1	5	ng/dry g	259.6	205.8	67	50 - 150%	PASS	41	25	FAIL	M
Naphthalene	NA	273.1	1	5	ng/dry g	259.6	17.4	98	25 - 125%	PASS	76	25	FAIL	M
Perylene	NA	209.8	1	5	ng/dry g	259.6	26.1	71	50 - 150%	PASS	6	25	PASS	
Phenanthrene	NA	492.2	1	5	ng/dry g	259.6	127.4	141	50 - 150%	PASS	32	25	FAIL	M
Pyrene	NA	614.7	1	5	ng/dry g	259.6	170.3	171	50 - 150%	FAIL	59	25	FAIL	M



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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Sample ID: 22628-R2		B13-8111 Grab		Matrix: Sediment		Sampled: 09-Sep-13 8:53		Received: 10-Sep-13		
		Method: EPA 8270C		Batch ID: O-5102		Prepared: 28-Feb-14		Analyzed: 07-Apr-14 10:37		
(d10-Acenaphthene)	NA	81			% Recovery	100	81	50 - 150%	PASS	17 25 PASS
(d10-Phenanthrene)	NA	86			% Recovery	100	86	50 - 150%	PASS	7 25 PASS
(d12-Chrysene)	NA	95			% Recovery	100	95	50 - 150%	PASS	2 25 PASS
(d8-Naphthalene)	NA	55			% Recovery	100	55	25 - 125%	PASS	33 25 FAIL M
1-Methylnaphthalene	NA	1.7	1	5	ng/dry g				PASS	58 25 FAIL J,SL
1-Methylphenanthrene	NA	12.2	1	5	ng/dry g				PASS	42 25 FAIL NH
2,3,5-Trimethylnaphthalene	NA	2.8	1	5	ng/dry g				PASS	40 25 FAIL J,SL
2,6-Dimethylnaphthalene	NA	1.9	1	5	ng/dry g				PASS	103 25 FAIL J,SL
2-Methylnaphthalene	NA	3.6	1	5	ng/dry g				PASS	154 25 FAIL J,SL
Acenaphthene	NA	2.8	1	5	ng/dry g				PASS	56 25 FAIL J,SL
Acenaphthylene	NA	19.2	1	5	ng/dry g				PASS	34 25 FAIL NH
Anthracene	NA	45.7	1	5	ng/dry g				PASS	157 25 FAIL NH
Benz[a]anthracene	NA	136.5	1	5	ng/dry g				PASS	23 25 PASS
Benzo[a]pyrene	NA	93.1	1	5	ng/dry g				PASS	10 25 PASS
Benzo[b]fluoranthene	NA	190.4	1	5	ng/dry g				PASS	13 25 PASS
Benzo[e]pyrene	NA	140.5	1	5	ng/dry g				PASS	23 25 PASS
Benzo[g,h,i]perylene	NA	107.4	1	5	ng/dry g				PASS	22 25 PASS
Benzo[k]fluoranthene	NA	171.9	1	5	ng/dry g				PASS	25 25 PASS
Biphenyl	NA	1.7	1	5	ng/dry g				PASS	128 25 FAIL J,SL
Chrysene	NA	306.5	1	5	ng/dry g				PASS	35 25 FAIL NH
Dibenz[a,h]anthracene	NA	35.9	1	5	ng/dry g				PASS	28 25 FAIL R
Dibenzothiophene	NA	3.6	1	5	ng/dry g				PASS	55 25 FAIL J,SL
Fluoranthene	NA	127.6	1	5	ng/dry g				PASS	45 25 FAIL NH
Fluorene	NA	9.9	1	5	ng/dry g				PASS	146 25 FAIL NH
Indeno[1,2,3-c,d]pyrene	NA	186.3	1	5	ng/dry g				PASS	19 25 PASS
Naphthalene	NA	7.1	1	5	ng/dry g				PASS	118 25 FAIL NH
Perylene	NA	18.2	1	5	ng/dry g				PASS	61 25 FAIL NH
Phenanthrene	NA	73.6	1	5	ng/dry g				PASS	84 25 FAIL NH
Pyrene	NA	139.3	1	5	ng/dry g				PASS	36 25 FAIL NH



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
<div> <div>Sample ID: 22644-CRM1</div> <div>QAQC CRM - SRM 1944</div> <div>Method: EPA 8270C</div> </div> <div> <div>Matrix: Sediment</div> <div>Batch ID: O-5102</div> </div> <div> <div>Sampled:</div> <div>Prepared: 28-Feb-14</div> </div> <div> <div>Received:</div> <div>Analyzed: 07-Apr-14 1:40</div> </div>										
(d10-Acenaphthene)	NA	91			% Recovery	100		91 60 - 140%	PASS	
(d10-Phenanthrene)	NA	102			% Recovery	100		102 60 - 140%	PASS	
(d12-Chrysene)	NA	95			% Recovery	100		95 60 - 140%	PASS	
(d8-Naphthalene)	NA	67			% Recovery	100		67 60 - 140%	PASS	
1-Methylnaphthalene	NA	566	1	5	ng/dry g	470		120 60 - 140%	PASS	
1-Methylphenanthrene	NA	1203	1	5	ng/dry g	1700		71 60 - 140%	PASS	
2,6-Dimethylnaphthalene	NA	855	1	5	ng/dry g	790		108 60 - 140%	PASS	
2-Methylnaphthalene	NA	1002	1	5	ng/dry g	740		135 60 - 140%	PASS	
Acenaphthene	NA	277	1	5	ng/dry g	390		71 60 - 140%	PASS	
Anthracene	NA	1858	1	5	ng/dry g	1130		164 60 - 140%	FAIL	R
Benz[a]anthracene	NA	4600	1	5	ng/dry g	4720		97 60 - 140%	PASS	
Benzo[a]pyrene	NA	4054	1	5	ng/dry g	4300		94 60 - 140%	PASS	
Benzo[b]fluoranthene	NA	3570	1	5	ng/dry g	3870		92 60 - 140%	PASS	
Benzo[e]pyrene	NA	3223	1	5	ng/dry g	3280		98 60 - 140%	PASS	
Benzo[g,h,i]perylene	NA	2363	1	5	ng/dry g	2840		83 60 - 140%	PASS	
Benzo[k]fluoranthene	NA	2326	1	5	ng/dry g	2300		101 60 - 140%	PASS	
Biphenyl	NA	313	1	5	ng/dry g	250		125 60 - 140%	PASS	
Chrysene	NA	4274	1	5	ng/dry g	4860		88 60 - 140%	PASS	
Dibenz[a,h]anthracene	NA	420	1	5	ng/dry g	424		99 60 - 140%	PASS	
Dibenzothiophene	NA	672	1	5	ng/dry g	500		134 60 - 140%	PASS	
Fluoranthene	NA	7974	1	5	ng/dry g	8920		89 60 - 140%	PASS	
Fluorene	NA	501	1	5	ng/dry g	480		104 60 - 140%	PASS	
Indeno[1,2,3-c,d]pyrene	NA	2537	1	5	ng/dry g	2780		91 60 - 140%	PASS	
Naphthalene	NA	1236	1	5	ng/dry g	1280		97 60 - 140%	PASS	
Perylene	NA	1029	1	5	ng/dry g	1170		88 60 - 140%	PASS	
Phenanthrene	NA	4440	1	5	ng/dry g	5270		84 60 - 140%	PASS	
Pyrene	NA	8701	1	5	ng/dry g	9700		90 60 - 140%	PASS	

Sample ID: 22653-B1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:



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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Method: EPA 625		Batch ID: O-5005		Prepared: 13-Sep-13		Analyzed: 22-Oct-13				
(d10-Acenaphthene)	Total	94			% Recovery	100		94 50 - 150% PASS		
(d10-Phenanthrene)	Total	92			% Recovery	100		92 50 - 150% PASS		
(d12-Chrysene)	Total	100			% Recovery	100		100 50 - 150% PASS		
(d8-Naphthalene)	Total	89			% Recovery	100		89 25 - 125% PASS		
1-Methylnaphthalene	Total	ND	1	5	ng/L				PASS	
1-Methylphenanthrene	Total	ND	1	5	ng/L				PASS	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L				PASS	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L				PASS	
2-Methylnaphthalene	Total	ND	1	5	ng/L				PASS	
Acenaphthene	Total	ND	1	5	ng/L				PASS	
Acenaphthylene	Total	ND	1	5	ng/L				PASS	
Anthracene	Total	ND	1	5	ng/L				PASS	
Benz[a]anthracene	Total	ND	1	5	ng/L				PASS	
Benzo[a]pyrene	Total	ND	1	5	ng/L				PASS	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L				PASS	
Benzo[e]pyrene	Total	ND	1	5	ng/L				PASS	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L				PASS	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L				PASS	
Biphenyl	Total	ND	1	5	ng/L				PASS	
Chrysene	Total	ND	1	5	ng/L				PASS	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L				PASS	
Dibenzothiophene	Total	ND	1	5	ng/L				PASS	
Fluoranthene	Total	ND	1	5	ng/L				PASS	
Fluorene	Total	ND	1	5	ng/L				PASS	
Indeno[1,2,3-c,d]pyrene	Total	ND	1	5	ng/L				PASS	
Naphthalene	Total	ND	1	5	ng/L				PASS	
Perylene	Total	ND	1	5	ng/L				PASS	
Phenanthrene	Total	ND	1	5	ng/L				PASS	
Pyrene	Total	ND	1	5	ng/L				PASS	

Sample ID: 22653-BS1

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

PHYSIS Project ID: 1307002-018

Client: AMEC

Project: RHMP Bight '13

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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Method: EPA 625		Batch ID: O-5005		Prepared: 13-Sep-13		Analyzed: 22-Oct-13				
(d10-Acenaphthene)	Total	94			% Recovery	100	0	94	70 - 130% PASS	
(d10-Phenanthrene)	Total	96			% Recovery	100	0	96	70 - 130% PASS	
(d12-Chrysene)	Total	107			% Recovery	100	0	107	70 - 130% PASS	
(d8-Naphthalene)	Total	90			% Recovery	100	0	90	70 - 130% PASS	
1-Methylnaphthalene	Total	921.9	1	5	ng/L	1000	0	92	70 - 130% PASS	
1-Methylphenanthrene	Total	994.4	1	5	ng/L	1000	0	99	70 - 130% PASS	
2,3,5-Trimethylnaphthalene	Total	973	1	5	ng/L	1000	0	97	70 - 130% PASS	
2,6-Dimethylnaphthalene	Total	948.8	1	5	ng/L	1000	0	95	70 - 130% PASS	
2-Methylnaphthalene	Total	933.1	1	5	ng/L	1000	0	93	70 - 130% PASS	
Acenaphthene	Total	944.9	1	5	ng/L	1000	0	94	70 - 130% PASS	
Acenaphthylene	Total	912.7	1	5	ng/L	1000	0	91	70 - 130% PASS	
Anthracene	Total	951	1	5	ng/L	1000	0	95	70 - 130% PASS	
Benz[a]anthracene	Total	1098.7	1	5	ng/L	1000	0	110	70 - 130% PASS	
Benzo[a]pyrene	Total	1038.9	1	5	ng/L	1000	0	104	70 - 130% PASS	
Benzo[b]fluoranthene	Total	1128.1	1	5	ng/L	1000	0	113	70 - 130% PASS	
Benzo[e]pyrene	Total	1067.1	1	5	ng/L	1000	0	107	70 - 130% PASS	
Benzo[g,h,i]perylene	Total	1029.7	1	5	ng/L	1000	0	103	70 - 130% PASS	
Benzo[k]fluoranthene	Total	1033.4	1	5	ng/L	1000	0	103	70 - 130% PASS	
Biphenyl	Total	952.2	1	5	ng/L	1000	0	95	70 - 130% PASS	
Chrysene	Total	1075.5	1	5	ng/L	1000	0	108	70 - 130% PASS	
Dibenz[a,h]anthracene	Total	1033.2	1	5	ng/L	1000	0	103	70 - 130% PASS	
Dibenzothiophene	Total	970.6	1	5	ng/L	1000	0	97	70 - 130% PASS	
Fluoranthene	Total	991.8	1	5	ng/L	1000	0	99	70 - 130% PASS	
Fluorene	Total	974.8	1	5	ng/L	1000	0	97	70 - 130% PASS	
Indeno[1,2,3-c,d]pyrene	Total	1054.2	1	5	ng/L	1000	0	105	70 - 130% PASS	
Naphthalene	Total	909.6	1	5	ng/L	1000	0	91	70 - 130% PASS	
Perylene	Total	1057.8	1	5	ng/L	1000	0	106	70 - 130% PASS	
Phenanthrene	Total	980.2	1	5	ng/L	1000	0	98	70 - 130% PASS	
Pyrene	Total	1006	1	5	ng/L	1000	0	101	70 - 130% PASS	

Sample ID: 22653-BS2

QAQC Procedural Blank

Matrix: DI Water

Sampled:

Received:

PHYSIS Project ID: 1307002-018

Client: AMEC

Project: RHMP Bight '13

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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Method: EPA 625		Batch ID: O-5005		Prepared: 13-Sep-13		Analyzed: 22-Oct-13				
(d10-Acenaphthene)	Total	84			% Recovery	100	0	84 70 - 130% PASS	11 25 PASS	
(d10-Phenanthrene)	Total	95			% Recovery	100	0	95 70 - 130% PASS	1 25 PASS	
(d12-Chrysene)	Total	104			% Recovery	100	0	104 70 - 130% PASS	3 25 PASS	
(d8-Naphthalene)	Total	75			% Recovery	100	0	75 70 - 130% PASS	18 25 PASS	
1-Methylnaphthalene	Total	787.4	1	5	ng/L	1000	0	79 70 - 130% PASS	15 25 PASS	
1-Methylphenanthrene	Total	1005	1	5	ng/L	1000	0	100 70 - 130% PASS	1 25 PASS	
2,3,5-Trimethylnaphthalene	Total	883	1	5	ng/L	1000	0	88 70 - 130% PASS	10 25 PASS	
2,6-Dimethylnaphthalene	Total	839	1	5	ng/L	1000	0	84 70 - 130% PASS	12 25 PASS	
2-Methylnaphthalene	Total	801.1	1	5	ng/L	1000	0	80 70 - 130% PASS	15 25 PASS	
Acenaphthene	Total	846.1	1	5	ng/L	1000	0	85 70 - 130% PASS	10 25 PASS	
Acenaphthylene	Total	813.2	1	5	ng/L	1000	0	81 70 - 130% PASS	12 25 PASS	
Anthracene	Total	956.9	1	5	ng/L	1000	0	96 70 - 130% PASS	1 25 PASS	
Benz[a]anthracene	Total	1069.6	1	5	ng/L	1000	0	107 70 - 130% PASS	3 25 PASS	
Benzo[a]pyrene	Total	1010.4	1	5	ng/L	1000	0	101 70 - 130% PASS	3 25 PASS	
Benzo[b]fluoranthene	Total	1107.1	1	5	ng/L	1000	0	111 70 - 130% PASS	2 25 PASS	
Benzo[e]pyrene	Total	1034.3	1	5	ng/L	1000	0	103 70 - 130% PASS	4 25 PASS	
Benzo[g,h,i]perylene	Total	1024.7	1	5	ng/L	1000	0	102 70 - 130% PASS	1 25 PASS	
Benzo[k]fluoranthene	Total	983.9	1	5	ng/L	1000	0	98 70 - 130% PASS	5 25 PASS	
Biphenyl	Total	822.3	1	5	ng/L	1000	0	82 70 - 130% PASS	15 25 PASS	
Chrysene	Total	1041.1	1	5	ng/L	1000	0	104 70 - 130% PASS	4 25 PASS	
Dibenz[a,h]anthracene	Total	1033.7	1	5	ng/L	1000	0	103 70 - 130% PASS	0 25 PASS	
Dibenzothiophene	Total	956.5	1	5	ng/L	1000	0	96 70 - 130% PASS	1 25 PASS	
Fluoranthene	Total	1038.3	1	5	ng/L	1000	0	104 70 - 130% PASS	5 25 PASS	
Fluorene	Total	904.8	1	5	ng/L	1000	0	90 70 - 130% PASS	7 25 PASS	
Indeno[1,2,3-c,d]pyrene	Total	1065.7	1	5	ng/L	1000	0	107 70 - 130% PASS	2 25 PASS	
Naphthalene	Total	759.8	1	5	ng/L	1000	0	76 70 - 130% PASS	18 25 PASS	
Perylene	Total	1028.6	1	5	ng/L	1000	0	103 70 - 130% PASS	3 25 PASS	
Phenanthrene	Total	971.4	1	5	ng/L	1000	0	97 70 - 130% PASS	1 25 PASS	
Pyrene	Total	1062.8	1	5	ng/L	1000	0	106 70 - 130% PASS	5 25 PASS	



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CA ELAP #2769

Pyrethroids**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	

Sample ID: 22627-B1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C-NCI

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 02-Mar-14 18:33

Allethrin	NA	ND	0.25	0.5	ng/dry g					PASS
Bifenthrin	NA	ND	0.25	0.5	ng/dry g					PASS
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g					PASS
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g					PASS
Cypermethrin	NA	ND	0.25	0.5	ng/dry g					PASS
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g					PASS
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g					PASS
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g					PASS
Fenvalerate	NA	ND	0.25	0.5	ng/dry g					PASS
Fluvalinate	NA	ND	0.25	0.5	ng/dry g					PASS
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g					PASS
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g					PASS
Prallethrin	NA	ND	0.25	0.5	ng/dry g					PASS
Resmethrin	NA	ND	0.25	0.5	ng/dry g					PASS

Sample ID: 22627-BS1**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C-NCI

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 02-Mar-14 6:37

Allethrin	NA	896.33	0.25	0.5	ng/dry g	1000	0	90	70 - 130%	PASS
Bifenthrin	NA	1065.6	0.25	0.5	ng/dry g	1000	0	107	70 - 130%	PASS
Cyfluthrin	NA	883.22	0.25	0.5	ng/dry g	1000	0	88	70 - 130%	PASS
Cyhalothrin, Total Lambda	NA	958.45	0.25	0.5	ng/dry g	1000	0	96	70 - 130%	PASS
Cypermethrin	NA	842.07	0.25	0.5	ng/dry g	1000	0	84	70 - 130%	PASS
Danitol (Fenpropathrin)	NA	1177.53	0.25	0.5	ng/dry g	1000	0	118	70 - 130%	PASS
Deltamethrin/Tralomethrin	NA	1648.86	0.25	0.5	ng/dry g	2000	0	82	70 - 130%	PASS
Esfenvalerate	NA	862.94	0.25	0.5	ng/dry g	1000	0	86	70 - 130%	PASS
Fenvalerate	NA	854.75	0.25	0.5	ng/dry g	1000	0	85	70 - 130%	PASS
Fluvalinate	NA	800	0.25	0.5	ng/dry g	1000	0	80	70 - 130%	PASS
Permethrin, cis-	NA	240.14	0.25	0.5	ng/dry g	267	0	90	70 - 130%	PASS
Permethrin, trans-	NA	688.03	0.25	0.5	ng/dry g	716	0	96	70 - 130%	PASS



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Pyrethroids**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
								LIMITS	LIMITS	
Prallethrin	NA	942.11	0.25	0.5	ng/dry g	1000	0	94 70 - 130%	PASS	
Resmethrin	NA	1333.9	0.25	0.5	ng/dry g	1000	0	133 70 - 130%	FAIL	*

Sample ID: 22627-BS2**QAQC Procedural Blank****Matrix: DI Water****Sampled:****Received:**

Method: EPA 8270C-NCI

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 02-Mar-14 7:40

Allethrin	NA	1044.7	0.25	0.5	ng/dry g	1000	0	104 70 - 130%	PASS	14 25 PASS	
Bifenthrin	NA	1253.4	0.25	0.5	ng/dry g	1000	0	125 70 - 130%	PASS	16 25 PASS	
Cyfluthrin	NA	834.35	0.25	0.5	ng/dry g	1000	0	83 70 - 130%	PASS	6 25 PASS	
Cyhalothrin, Total Lambda	NA	953.56	0.25	0.5	ng/dry g	1000	0	95 70 - 130%	PASS	1 25 PASS	
Cypermethrin	NA	822.4	0.25	0.5	ng/dry g	1000	0	82 70 - 130%	PASS	2 25 PASS	
Danitol (Fenpropathrin)	NA	1351.36	0.25	0.5	ng/dry g	1000	0	135 70 - 130%	FAIL	13 25 PASS	R
Deltamethrin/Tralomethrin	NA	1638.13	0.25	0.5	ng/dry g	2000	0	82 70 - 130%	PASS	0 25 PASS	
Esfenvalerate	NA	822.69	0.25	0.5	ng/dry g	1000	0	82 70 - 130%	PASS	5 25 PASS	
Fenvalerate	NA	821.84	0.25	0.5	ng/dry g	1000	0	82 70 - 130%	PASS	4 25 PASS	
Fluvalinate	NA	772.86	0.25	0.5	ng/dry g	1000	0	77 70 - 130%	PASS	4 25 PASS	
Permethrin, cis-	NA	249.39	0.25	0.5	ng/dry g	267	0	93 70 - 130%	PASS	3 25 PASS	
Permethrin, trans-	NA	610.34	0.25	0.5	ng/dry g	716	0	85 70 - 130%	PASS	12 25 PASS	
Prallethrin	NA	1151.85	0.25	0.5	ng/dry g	1000	0	115 70 - 130%	PASS	20 25 PASS	
Resmethrin	NA	1599	0.25	0.5	ng/dry g	1000	0	160 70 - 130%	FAIL	18 25 PASS	*

Sample ID: 22628-MS1**B13-8111 Grab****Matrix: Sediment****Sampled: 09-Sep-13 8:53****Received: 10-Sep-13**

Method: EPA 8270C-NCI

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 02-Mar-14 8:44

Allethrin	NA	318.26	0.25	0.5	ng/dry g	253.4	0	126 70 - 130%	PASS		
Bifenthrin	NA	364.2	0.25	0.5	ng/dry g	253.4	0	144 70 - 130%	FAIL		M
Cyfluthrin	NA	218.6	0.25	0.5	ng/dry g	253.4	0	86 70 - 130%	PASS		
Cyhalothrin, Total Lambda	NA	248.58	0.25	0.5	ng/dry g	253.4	0	98 70 - 130%	PASS		
Cypermethrin	NA	210.25	0.25	0.5	ng/dry g	253.4	0	83 70 - 130%	PASS		
Danitol (Fenpropathrin)	NA	379.66	0.25	0.5	ng/dry g	253.4	0	150 70 - 130%	FAIL		M
Deltamethrin/Tralomethrin	NA	398.54	0.25	0.5	ng/dry g	506.8	0	79 70 - 130%	PASS		
Esfenvalerate	NA	220.04	0.25	0.5	ng/dry g	253.4	0	87 70 - 130%	PASS		
Fenvalerate	NA	217.48	0.25	0.5	ng/dry g	253.4	0	86 70 - 130%	PASS		
Fluvalinate	NA	196.43	0.25	0.5	ng/dry g	253.4	0	78 70 - 130%	PASS		



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Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE
Permethrin, cis-	NA	72.15	0.25	0.5	ng/dry g	67.66	0	107	70 - 130%	PASS		
Permethrin, trans-	NA	184.9	0.25	0.5	ng/dry g	181.43	0	102	70 - 130%	PASS		
Prallethrin	NA	374.2	0.25	0.5	ng/dry g	253.4	0	148	70 - 130%	FAIL		M
Resmethrin	NA	244.95	0.25	0.5	ng/dry g	253.4	0	97	70 - 130%	PASS		

Sample ID: 22628-MS2

B13-8111 Grab

Matrix: Sediment

Sampled: 09-Sep-13 8:53

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 02-Mar-14 9:48

Allethrin	NA	324.25	0.25	0.5	ng/dry g	259.6	0	125	70 - 130%	PASS	1	25	PASS	
Bifenthrin	NA	367.53	0.25	0.5	ng/dry g	259.6	0	142	70 - 130%	FAIL	1	25	PASS	M
Cyfluthrin	NA	228.06	0.25	0.5	ng/dry g	259.6	0	88	70 - 130%	PASS	2	25	PASS	
Cyhalothrin, Total Lambda	NA	257.35	0.25	0.5	ng/dry g	259.6	0	99	70 - 130%	PASS	1	25	PASS	
Cypermethrin	NA	222.48	0.25	0.5	ng/dry g	259.6	0	86	70 - 130%	PASS	4	25	PASS	
Danitol (Fenpropathrin)	NA	365.58	0.25	0.5	ng/dry g	259.6	0	141	70 - 130%	FAIL	6	25	PASS	M
Deltamethrin/Tralomethrin	NA	428.77	0.25	0.5	ng/dry g	519.2	0	83	70 - 130%	PASS	5	25	PASS	
Esfenvalerate	NA	221.52	0.25	0.5	ng/dry g	259.6	0	85	70 - 130%	PASS	2	25	PASS	
Fenvalerate	NA	226.49	0.25	0.5	ng/dry g	259.6	0	87	70 - 130%	PASS	1	25	PASS	
Fluvalinate	NA	202.87	0.25	0.5	ng/dry g	259.6	0	78	70 - 130%	PASS	0	25	PASS	
Permethrin, cis-	NA	71.05	0.25	0.5	ng/dry g	69.31	0	103	70 - 130%	PASS	4	25	PASS	
Permethrin, trans-	NA	192.65	0.25	0.5	ng/dry g	185.87	0	104	70 - 130%	PASS	2	25	PASS	
Prallethrin	NA	364.06	0.25	0.5	ng/dry g	259.6	0	140	70 - 130%	FAIL	6	25	PASS	M
Resmethrin	NA	227.3	0.25	0.5	ng/dry g	259.6	0	88	70 - 130%	PASS	10	25	PASS	

Sample ID: 22628-R2

B13-8111 Grab

Matrix: Sediment

Sampled: 09-Sep-13 8:53

Received: 10-Sep-13

Method: EPA 8270C-NCI

Batch ID: O-5102

Prepared: 28-Feb-14

Analyzed: 02-Mar-14 13:30

Allethrin	NA	ND	0.25	0.5	ng/dry g					PASS	0	25	PASS	
Bifenthrin	NA	ND	0.25	0.5	ng/dry g					PASS	0	25	PASS	
Cyfluthrin	NA	ND	0.25	0.5	ng/dry g					PASS	0	25	PASS	
Cyhalothrin, Total Lambda	NA	ND	0.25	0.5	ng/dry g					PASS	0	25	PASS	
Cypermethrin	NA	ND	0.25	0.5	ng/dry g					PASS	0	25	PASS	
Danitol (Fenpropathrin)	NA	ND	0.25	0.5	ng/dry g					PASS	0	25	PASS	
Deltamethrin/Tralomethrin	NA	ND	0.25	0.5	ng/dry g					PASS	0	25	PASS	
Esfenvalerate	NA	ND	0.25	0.5	ng/dry g					PASS	0	25	PASS	



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Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODE
Fenvalerate	NA	ND	0.25	0.5	ng/dry g			PASS	0 25	PASS
Fluvalinate	NA	ND	0.25	0.5	ng/dry g			PASS	0 25	PASS
Permethrin, cis-	NA	ND	0.25	0.5	ng/dry g			PASS	0 25	PASS
Permethrin, trans-	NA	ND	0.25	0.5	ng/dry g			PASS	0 25	PASS
Prallethrin	NA	ND	0.25	0.5	ng/dry g			PASS	0 25	PASS
Resmethrin	NA	ND	0.25	0.5	ng/dry g			PASS	0 25	PASS

PHYSICS

CHAIN OF CUSTODY

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Analysis Request and Chain of Custody

RHMP
Bight '13

From:

AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8111	9/9/13	0853	General Chemistry	Grab	8 oz Glass	None	1
B13-8111			Metals	Grab	8 oz Glass	None	1
B13-8111			PBDE	Grab	8 oz Glass	None	1
B13-8111			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8111			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JS*

Relinquished By: *[Signature]*

Date/Time: 9/10/13 1900

Received By: *[Signature]*

Date/Time: 9/10/13 1900

Relinquished By: *[Signature]*

Date/Time: 9/10/13 2115

Received By: *[Signature]*

Date/Time: 9/10/13 2115

Analysis Request and Chain of Custody**RHMP**

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 9210 Sky Park Court, Suite 200
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To:

Physis Environmental Laboratories, Inc.
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 Anaheim, California 92806
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SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8112	9/9/13	0958	General Chemistry	Grab	8 oz Glass	None	1
B13-8112			Metals	Grab	8 oz Glass	None	1
B13-8112			PBDE	Grab	8 oz Glass	None	1
B13-8112			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8112			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JS*

Relinquished By: *[Signature]*

Date/Time:

9/10/13 1900

Received By: *[Signature]*

Date/Time:

9/10/13 1900

Relinquished By: *[Signature]*

Date/Time:

9/10/13 2115

Received By: *[Signature]*

Date/Time:

9/10/13 2115

Analysis Request and Chain of Custody**RHMP**

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SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8500	9/9/13	1104	General Chemistry	Grab	8 oz Glass	None	1
B13-8500			Metals	Grab	8 oz Glass	None	1
B13-8500			PBDE	Grab	8 oz Glass	None	1
B13-8500			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8500			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.Sampler's Initials: JSRelinquished By: [Signature]Date/Time: 9/10/13 1900Received By: [Signature]Date/Time: 9/10/13 1900Relinquished By: [Signature]Date/Time: 9/10/13 2115Received By: [Signature]Date/Time: 9/10/13 2115

Analysis Request and Chain of Custody**RHMP**

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SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8123	9/9/13	1203	General Chemistry	Grab	8 oz Glass	None	1
B13-8123			Metals	Grab	8 oz Glass	None	1
B13-8123			PBDE	Grab	8 oz Glass	None	1
B13-8123			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8123			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JS*

Relinquished By: *[Signature]*

Date/Time:

9/10/13 1800

Received By: *[Signature]*

Date/Time:

9/10/13 1900

Relinquished By: *[Signature]*

Date/Time:

9/10/13 2115

Received By: *[Signature]*

Date/Time:

9/10/13 2115

Analysis Request and Chain of Custody**RHMP**

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SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8124	9/9/13	1330	General Chemistry	Grab	8 oz Glass	None	1
B13-8124			Metals	Grab	8 oz Glass	None	1
B13-8124			PBDE	Grab	8 oz Glass	None	1
B13-8124			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8124			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JS*

Relinquished By: *[Signature]*

Date/Time: 9/10/13 1900

Received By: *[Signature]*

Date/Time: 9/10/13 1900

Relinquished By: *[Signature]*

Date/Time: 9/10/13 2115

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Date/Time: 9/10/13 2115

Analysis Request and Chain of Custody

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SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8128	9/9/13	1431	General Chemistry	Grab	8 oz Glass	None	1
B13-8128	↓	↓	Metals	Grab	8 oz Glass	None	1
B13-8128			PBDE	Grab	8 oz Glass	None	1
B13-8128			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8128			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JR*

Relinquished By: *[Signature]*

Date/Time: 9/10/13 1900

Received By: *[Signature]*

Date/Time: 9/10/13 1900

Relinquished By: *[Signature]*

Date/Time: 9/10/13 2115

Received By: *[Signature]*

Date/Time: 9/10/13 2115

Analysis Request and Chain of Custody**RHMP**

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SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8127	9/9/13	1607	General Chemistry	Grab	8 oz Glass	None	1
B13-8127	↓	↓	Metals	Grab	8 oz Glass	None	1
B13-8127			PBDE	Grab	8 oz Glass	None	1
B13-8127			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8127			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JR*

Relinquished By: *[Signature]*

Date/Time: *9/10/13 1900*

Received By: *[Signature]*

Date/Time: *9/10/13 1900*

Relinquished By: *[Signature]*

Date/Time: *9/10/13 2115*

Received By: *[Signature]*

Date/Time: *9/10/13 2115*

Analysis Request and Chain of Custody

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SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8121	9/9/13	1720	General Chemistry	Grab	8 oz Glass	None	1
B13-8121	↓	↓	Metals	Grab	8 oz Glass	None	1
B13-8121			PBDE	Grab	8 oz Glass	None	1
B13-8121			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8121			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JSR*

Relinquished By: *[Signature]*

Date/Time: 9/10/13 1900

Received By: *[Signature]*

Date/Time: 9/10/13 1900

Relinquished By: *[Signature]*

Date/Time: 9/10/13 2115

Received By: *[Signature]*

Date/Time: 9/10/13 2115

Analysis Request and Chain of Custody

RHMP
Bight '13

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Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8085	9/10/13	0838	General Chemistry	Grab	8 oz Glass	None	1
B13-8085			Metals	Grab	8 oz Glass	None	1
B13-8085			PBDE	Grab	8 oz Glass	None	1
B13-8085			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8085			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JSR*

Relinquished By: *[Signature]*

Date/Time: 9/10/13 1900

Received By: *[Signature]*

Date/Time: 9/10/13 1900

Relinquished By: *[Signature]*

Date/Time: 9/10/13 2115

Received By: *[Signature]*

Date/Time: 9/10/13 2115

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8105	9/10/13	0946	General Chemistry	Grab	8 oz Glass	None	1
B13-8105			Metals	Grab	8 oz Glass	None	1
B13-8105			PBDE	Grab	8 oz Glass	None	1
B13-8105			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8105			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JS*

Relinquished By: *[Signature]*

Date/Time: 9/10/13 1900

Received By: *[Signature]*

Date/Time: 9/10/13 1900

Relinquished By: *[Signature]*

Date/Time: 9/10/13 2115

Received By: *[Signature]*

Date/Time: 9/10/13 2115

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8117	9/10/13	1107	General Chemistry	Grab	8 oz Glass	None	1
B13-8117			Metals	Grab	8 oz Glass	None	1
B13-8117			PBDE	Grab	8 oz Glass	None	1
B13-8117			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8117			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JR

Relinquished By: [Signature]

Date/Time: 9/10/13 1900

Received By: [Signature]

Date/Time: 9/10/13 1900

Relinquished By: [Signature]

Date/Time: 9/10/13 2115

Received By: [Signature]

Date/Time: 9/10/13 2115

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8113	9/10/13	1210	General Chemistry	Grab	8 oz Glass	None	1
B13-8113			Metals	Grab	8 oz Glass	None	1
B13-8113			PBDE	Grab	8 oz Glass	None	1
B13-8113			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8113			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JS*

Relinquished By: *[Signature]*

Date/Time: 9/10/13 1900

Received By: *[Signature]*

Date/Time: 9/10/13 1800

Relinquished By: *[Signature]*

Date/Time: 9/10/13 2115

Received By: *[Signature]*

Date/Time: 9/10/13 2115

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8116	9/10/13	1305	General Chemistry	Grab	8 oz Glass	None	1
B13-8116	↓	↓	Metals	Grab	8 oz Glass	None	1
B13-8116			PBDE	Grab	8 oz Glass	None	1
B13-8116			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8116			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *CR*

Relinquished By: *[Signature]*

Date/Time: 9/10/13 1900

Received By: *[Signature]*

Date/Time: 9/10/13 1900

Relinquished By: *[Signature]*

Date/Time: 9/10/13 2115

Received By: *[Signature]*

Date/Time: 9/10/13 2115

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8108	9/10/13	1446	General Chemistry	Grab	8 oz Glass	None	1
B13-8108			Metals	Grab	8 oz Glass	None	1
B13-8108			PBDE	Grab	8 oz Glass	None	1
B13-8108			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8108			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: JS

Relinquished By: [Signature]

Date/Time: 9/10/13 1800

Received By: [Signature]

Date/Time: 9/10/13 1900

Relinquished By: [Signature]

Date/Time: 9/10/13 2115

Received By: [Signature]

Date/Time: 9/10/13 2115

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8106	9/10/13	1549	General Chemistry	Grab	8 oz Glass	None	1
B13-8106	↓	↓	Metals	Grab	8 oz Glass	None	1
B13-8106			PBDE	Grab	8 oz Glass	None	1
B13-8106			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8106			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JS*

Relinquished By: *[Signature]*

Date/Time: 9/10/13 1900

Received By: *[Signature]*

Date/Time: 9/10/13 1900

Relinquished By: *[Signature]*

Date/Time: 9/10/13 215

Received By: *[Signature]*

Date/Time: 9/10/13 215

Analysis Request and Chain of Custody**RHMP**

Bight '13

From:

AMEC Environment & Infrastructure
 Attn: Chris Stransky
 9210 Sky Park Court, Suite 200
 San Diego, CA 92123
 Phone: 858-300-4350 Fax: 858-300-4301

To:

Physis Environmental Laboratories, Inc.
 Attn: Misty Mercier
 1904 East Wright Circle
 Anaheim, California 92806
 Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-8102	9/10/13	1650	General Chemistry	Grab	8 oz Glass	None	1
B13-8102	↓	↓	Metals	Grab	8 oz Glass	None	1
B13-8102			PBDE	Grab	8 oz Glass	None	1
B13-8102			PCBs, PAHs, and Chlorinated Hydrocarbons	Grab	8 oz Glass	None	1
B13-8102			Pyrethroid Pesticides	Grab	8 oz Glass	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JS*

Relinquished By: *[Signature]*

Date/Time:

9/10/13 1900

Received By: *[Signature]*

Date/Time:

9/10/13 1900

Relinquished By: *[Signature]*

Date/Time:

9/10/13 2115

Received By: *[Signature]*

Date/Time:

9/10/13 2115

Port of San Diego
Final Work Plan
Regional Harbor Monitoring Program
AMEC Project No. 1015101932
August 2013

to physir

Table 4-2.
Chemical Analyses of Sediment Samples

Analyte	Analysis Method	Sediment Target Reporting Limits ^{a,b}	Units
Total Solids	SM 2540 B ^c	0.1	%
Total Organic Carbon	9060	0.01	%
Grain Size	SM2560	0.1	%
Aluminum	6020/6010B ^d	5.0	mg/kg
Antimony	6020/6010B ^d	0.05	mg/kg
Arsenic	6020/6010B ^d	0.05	mg/kg
Barium	6020/6010B ^d	0.05	mg/kg
Beryllium	6020/6010B ^d	0.05	mg/kg
Cadmium	6020/6010B ^d	0.01	mg/kg
Chromium	6020/6010B ^d	0.05	mg/kg
Copper	6020/6010B ^d	0.01	mg/kg
Iron	6020/6010B ^d	5.0	mg/kg
Lead	6020/6010B ^d	0.01	mg/kg
Mercury	6020/6010B ^d	0.02	mg/kg
Nickel	6020/6010B ^d	0.02	mg/kg
Selenium	6020/6010B ^d	0.05	mg/kg
Silver	6020/6010B ^d	0.02	mg/kg
Zinc	6020/6010B ^d	0.05	mg/kg
Total Nitrogen	TKN / SM 4500-NO ³ E(M) / SM 4500-NO ² B(M)	4.0	mg/kg
Total Phosphorus	SM 4500-P B/E(M)	4.0	mg/kg
Ammonia	SM 4500-NH ³	0.2	mg/kg
Acid Volatile Sulfides	Plumb 1981 and TERL	0.1	mg/kg
Simultaneous Extracted Metals	EPA 200.8	0.0004-0.0124	µmol/g
PAHs ^e	EPA 8270C ^d	5.0	µg/kg
Chlorinated Pesticides	EPA 8270C ^d	0.5-50	µg/kg
Pyrethroid Pesticides	EPA 8270 C NCI	0.5-10	µg/kg
PCB Congeners ^g	EPA 8270C ^d	0.2	µg/kg
PBDEs ^h	EPA 8270 C NCI	0.1	µg/kg
Alkylphenol ^{i,j,k,l}	GC/MS SIM	0.02-0.6	mg/kg
Perfluorinated Compounds ^{l,m,n}	EPA 537M	5.0	µg/kg

Notes:

^a Sediment minimum detection limits are on a dry-weight basis.

^b Reporting limits provided by Physis Environmental Laboratories.

^c Standard Methods for the Examination of Water and Wastewater, 19th Ed. American Public Health Association, 1995.

^d USEPA, 1986-1996. SW-846. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 3rd Ed.

^e Includes: Acenaphthene, Acenaphthylene, Anthracene, Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[e]pyrene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Biphenyl, Chrysene, Dibenzo[a,h]anthracene, Di benzo[ghi]perylene, Fluoranthene, Fluorene, Indeno(1,2,3-c,d)pyrene, Naphthalene, Perylene, Phenanthrene, Pyrene, 2,6-Dimethylnaphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene, 1-Methylphenanthrene, 2,3,5-Trimethylnaphthalene, and 1,6,7-Trimethylnaphthalene.

^f Includes: cis-chlordane, trans-chlordane, o,p'-DDT, p,p'-DDT, o,p'-DDD, p,p'-DDD, o,p'-DDE, p,p'-DDE, p,p'-DDMU, aldrin, BHC-alpha, BHC-beta, BHC-gamma, cis-nonachlor, trans-nonachlor, oxychlordane, DCPA (Dacthal), dicofol, dieldrin, toxaphene, endosulfan sulfate, endosulfan-I, endosulfan-II, endrin, endrin aldehyde, endrin ketone, heptachlor, heptachlor epoxide, methoxychlor, mirex, and perthane.

^g Includes congeners: PCB-3, 5, 8, 15, 18, 27-29, 31, 33, 37, 44, 49, 52, 56, 60, 66, 70, 74, 77, 81, 87, 95, 97, 99, 101, 105, 110, 114, 118-119, 123, 126, 128, 137-138, 141, 142, 151, 153, 156-158, 167-170, 174, 177, 180, 183, 187, 189, 194-195, 200-201, 203, 206, and 209.

^h Includes BDE-17, 28, 47, 49, 66, 85, 99, 100, 138, 153, 154, 183, and 209.

ⁱ Collected only at stations B13-8163, B13-8040, B13-8077; transferred to SCCWHIP for analysis.

^j Includes nonylphenol, nonylphenol diethoxylate, nonylphenol monoethoxylate, 4-tert-octylphenol, and bisphenol A.

^k Includes perfluorooctanoic acid and perfluorooctane sulfonate.

µg/kg - micrograms per kilogram (parts per billion) SM - Standard Methods.

mg/kg - milligrams per kilogram (parts per million) SOP - standard operating procedure

N/A - not applicable

Analysis Request and Chain of CustodyRHMP
Bight '13**From:**AMEC Environment & Infrastructure
Attn: Chris Stransky
9210 Sky Park Court, Suite 200
San Diego, CA 92123
Phone: 858-300-4350 Fax: 858-300-4301**To:**Physis Environmental Laboratories, Inc.
Attn: Misty Mercier
1904 East Wright Circle
Anaheim, California 92806
Phone: 714-602-5320 Fax: 714-602-5321

SampleID	Date	Time	Analyses	Sample Type	Bottle Size	Preservative	Bottle Count
B13-VVEB	9/10/13	1800	Nitrite, Nitrate, Total Sulfides	Grab	500 mL HDPE	None	1
B13-VVEB			Organics	Grab	1 L Glass	None	2
B13-VVEB			TKN	Grab	1 L HDPE 500 mL	H2SO4	1
B13-VVEB			TOC	Grab	40 mL VOA	H2SO4	2
B13-VVEB			Total Metals	Grab	1 L HDPE	None	1
B13-VVEB			Total Phosphorus, Ammonia	Grab	250 mL Glass	H2SO4	1
B13-VVEB			TSS	Grab	1 L HDPE	None	1

Comments: See attachment for detailed analytical list.

Sampler's Initials: *JS*Relinquished By: *[Signature]*

Date/Time:

9/10/13 1800

Received By: *[Signature]* (Nigel Denton)

Date/Time:

9/10/13 1900

Relinquished By: *[Signature]*

Date/Time:

9/10/13 2115

Received By: *[Signature]*

Date/Time:

9/10/13 2115

SAMPLE RECEIPT SUMMARY

CLIENT: AMEC Date Received: 9/10/13 Received By: RGH Inspected By: RGH

COURIER

☒ PHYSIS ☐ CLIENT ☐ FEDEX ☐ UPS
start 14:00 end 21:15 ☐ OTHER: Nigel Benton

COOLER

☒ COOLER ☐ BOX total #
☐ OTHER: 2

TEMPERATURE

2.4 °C ☒ WET ICE ☐ BLUE ICE
☐ DRY ICE ☐ NONE

SAMPLE INTEGRITY UPON RECEIPT

1. COC(s) included and completely filled out..... **YES**
2. All sample containers arrived intact..... **YES**
3. All samples listed on COC(s) are present..... **YES**
4. Information on containers consistent with information on COC(s)..... **YES**
5. Correct containers and volume for all analyses indicated..... **YES**
6. All samples received within method holding time..... **YES**
7. Correct preservation used for all analyses indicated..... **YES**

NOTES

PHYSIS

LEVEL 3

DELIVERABLES

Innovative Solutions for Nature

PHYSIS

Conventionals

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Summary of Initial Calibration Data and

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

ICV/CCV

Innovative Solutions for Nature

1307002-018 AMEC RHMP General Chemistry Calibration Data - Sediment							
Analysis	Method	Batch ID	Co-efficient	Equation	Slope	ICV/True Value	CCV/True Value
Acid Volatile Sulfides	Plumb, 1981	C-14076	0.9998	0.196x-0.001702	NA	NA	NA
Percent Solids	SM2540 B	C-14074	NA	NA	NA	NA	NA
Ammonia	SM 4500-NH3 D	C-14075	NA	NA	-58.63	.225/.25	.24/.25

1307002-018 AMEC RHMP General Chemistry Calibration Data - Water							
Analysis	Method	Batch ID	Co-efficient	Equation	Slope	ICV/True Value	CCV/True Value
Ammonia	SM 4500-NH3 D	C-14052	NA	NA	-50.09	.240/.25	.236/.25
Nitrate	SM 4500-NO3 E	C-14053	0.9997	0.1087x-0.001614	NA	.1/.11	.1/.11
Nitrite	SM 4500-NO2 B	C-14003	0.9999	0.882x-0.005611	NA	.4989/.5	.453/.5
Total Suspended Solids	SM2540 D	C-13153	NA	NA	NA	NA	NA

(EPA 6020 – High Metals)

PHYSIS

Instrument Blank

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name 0MIX_2131101A.D
File Path D:\DATA\2131101B.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 11/1/2013 11:10
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.000	ug/g	---	13.33	3.120E-05	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	---	7.78	1.813E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	430,772.49	0.91	100.0	Pulse	0.30	3

PHYSIS

Initial Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Batch Folder: D:\DATA\2131101B.B\

 Analysis File: 2131101B.batch.xml

 DA Date-Time: 11/4/2013 10:28:56 AM

 Calibration Title:

 Calibration Method: External Calibration

 VIS Interpolation Fit:

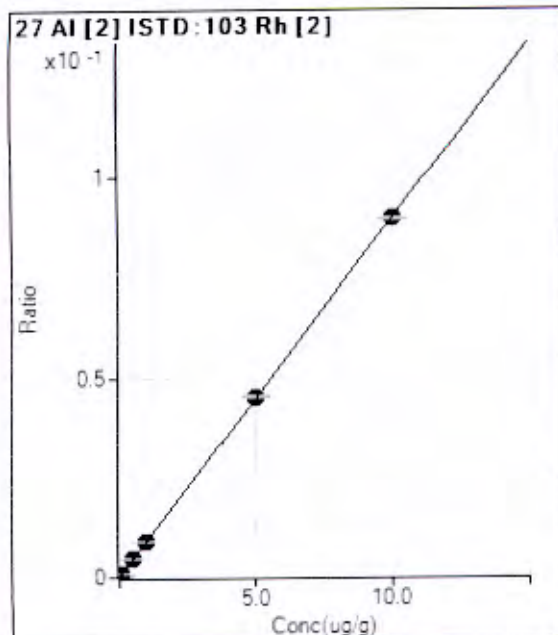
 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX_2131101A.D	0 ppb mix	11/1/2013 11:10:54 AM
2	1MIX_2131101A.D	1 ppb mix	11/1/2013 11:15:41 AM
3	5MIX_2131101A.D	5 ppb mix	11/1/2013 11:20:28 AM
4	10MIX_2131101A.D	10 ppb mix	11/1/2013 11:25:15 AM
5	50MIX_2131101A.D	50 ppb mix	11/1/2013 11:30:00 AM
6	100MIX_2131101A.D	100 ppb mix	11/1/2013 11:34:46 AM
7	500MIX_2131101A.D	500 ppb mix	11/1/2013 11:39:31 AM
8	1000MIX_2131101A.D	1000 ppb mix	11/1/2013 11:44:07 AM
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

Calibration for 2P_2131101A.D



$$y = 0.0090 * x + 3.1202E-005$$

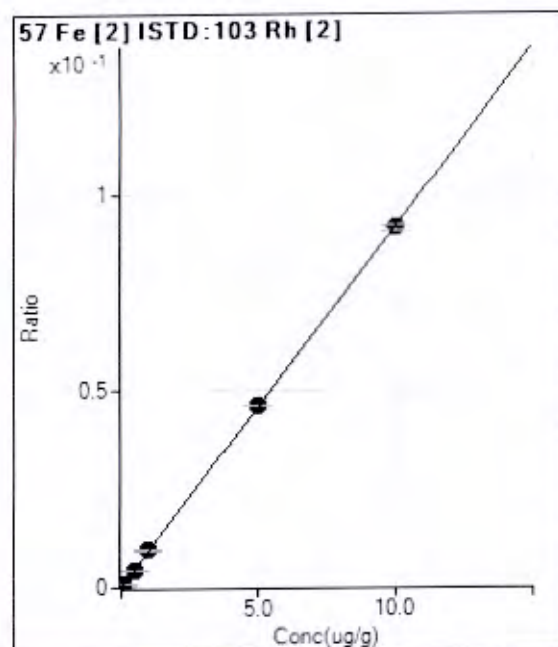
R = 1.0000

DL = 0.01385

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	13.33	0.0000	P	132.7
2	<input type="checkbox"/>	0.010	0.009	45.56	0.0001	P	49.3
3	<input type="checkbox"/>	0.050	0.056	215.57	0.0005	P	9.6
4	<input type="checkbox"/>	0.100	0.101	377.80	0.0009	P	13.3
5	<input type="checkbox"/>	0.500	0.526	1840.18	0.0047	P	6.3
6	<input type="checkbox"/>	1.000	0.983	3323.77	0.0088	P	1.1
7	<input type="checkbox"/>	5.000	5.034	15571.66	0.0452	P	1.3
8	<input type="checkbox"/>	10.00	9.984	29875.22	0.0895	P	0.8
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0092 * x + 1.8126E-005$$

R = 1.0000

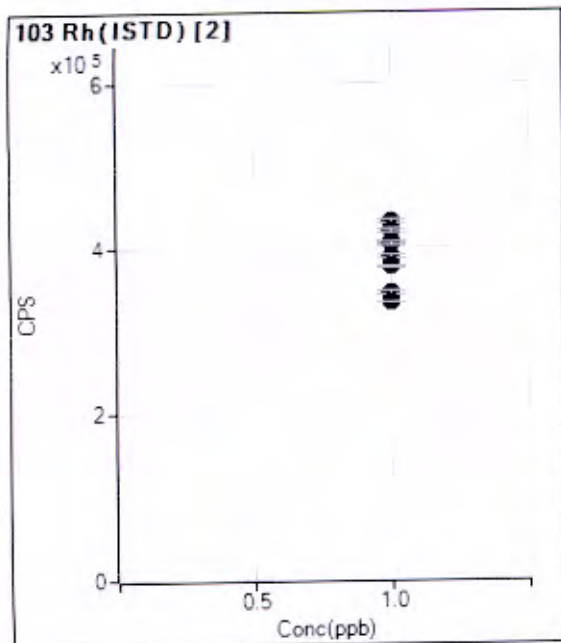
DL = 0.003934

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	7.78	0.0000	P	66.3
2	<input type="checkbox"/>	0.010	0.010	46.67	0.0001	P	36.6
3	<input type="checkbox"/>	0.050	0.049	188.90	0.0005	P	24.8
4	<input type="checkbox"/>	0.100	0.101	382.24	0.0009	P	7.0
5	<input type="checkbox"/>	0.500	0.487	1739.05	0.0045	P	2.4
6	<input type="checkbox"/>	1.000	1.035	3573.84	0.0095	P	3.6
7	<input type="checkbox"/>	5.000	5.025	15886.50	0.0461	P	0.1
8	<input type="checkbox"/>	10.00	9.985	30542.53	0.0915	P	1.3
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 2P_2131101A.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		430772.49		P	0.9
2	<input type="checkbox"/>	1.000		420256.20		P	1.1
3	<input type="checkbox"/>	1.000		406234.40		P	0.8
4	<input type="checkbox"/>	1.000		403692.37		P	1.1
5	<input type="checkbox"/>	1.000		388043.81		P	0.7
6	<input type="checkbox"/>	1.000		375971.31		P	0.8
7	<input type="checkbox"/>	1.000		344834.80		P	1.2
8	<input type="checkbox"/>	1.000		333709.14		P	0.4
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

PHYSIS

Continuing Calibration Data

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PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV.D
File Path D:\data\2131101B.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 11/2/2013 15:32
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.101	ug/g	0.47	3,507.14	9.049E-03	Pulse	0.30	3
Fe	57	103	2	0.104	ug/g	0.39	3,690.54	9.522E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	387,585.00	0.37	90.0	Pulse	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV2.D
File Path D:\data\21311018.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 11/2/2013 17:31
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Al	27	103	2	0.105	ug/g	3.12	3,663.86	9.455E-03	Pulse	0.30	3
Fe	57	103	2	0.103	ug/g	0.88	3,649.40	9.417E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	387,510.28	0.20	90.0	Pulse	0.30	3

PHYSIS

Instrument Run Log

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H16H METALS

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1	C:\CPMH\1\METHOD S\Physis.m	Sample	1	Rinse9			1.000							
2	C:\CPMH\1\METHOD S\Physis.m	Sample	1	Rinse10			1.000							
3	C:\CPMH\1\METHOD S\Physis.m	Sample	1	Rinse11			1.000							
4	C:\CPMH\1\METHOD S\Physis.m	Sample	3101	22598	QAQC Procedural Blank B1	22598,NA,B1,10/23/2013,E-7012	10.00							
5	C:\CPMH\1\METHOD S\Physis.m	Sample	3102	22599	B13-8018 Grab	22598,NA,R1,10/23/2013,E-7012	338.0							
6	C:\CPMH\1\METHOD S\Physis.m	Sample	3103	22599a2	B13-8018 Grab Dup	22599,NA,R2,10/23/2013,E-7012	273.0							
7	C:\CPMH\1\METHOD S\Physis.m	Sample	3104	22600	B13-8053 Grab	22600,NA,R1,10/23/2013,E-7012	332.0							
8	C:\CPMH\1\METHOD S\Physis.m	Sample	3105	22602cm	QAQC CRM - RTC 815-0501	22602,NA,CRM1,10/23/2013,E-7012	1.000E+03							
9	C:\CPMH\1\METHOD S\Physis.m	Sample	3106	22603cm	QAQC CRM - ERA 5491	22603,NA,CRM1,10/23/2013,E-7012	655.0							
10	C:\CPMH\1\METHOD S\Physis.m	Sample	1	Rinse12			1.000							
11	C:\CPMH\1\METHOD S\Physis.m	Sample	3107	22598a1	QAQC Procedural Blank BS1	22598,NA,BS1,10/23/2013,E-7012	1.000							
12	C:\CPMH\1\METHOD S\Physis.m	Sample	3108	22598a2	QAQC Procedural Blank BS2	22598,NA,BS2,10/23/2013,E-7012	1.000							
13	C:\CPMH\1\METHOD S\Physis.m	Sample	3109	22599ms	B13-8018 Grab MS	22599,NA,MS1,10/23/2013,E-7012	1.000							
14	C:\CPMH\1\METHOD S\Physis.m	Sample	3110	22599msd	B13-8018 Grab MSD	22599,NA,MS2,10/23/2013,E-7012	1.000							
15	C:\CPMH\1\METHOD S\Physis.m	Sample	1	Rinse13			1.000							
16	C:\CPMH\1\METHOD S\Physis.m	Sample	1	Rinse14			1.000							
17	C:\CPMH\1\METHOD S\Physis.m	Sample	1	Rinse15			1.000							
18	C:\CPMH\1\METHOD S\Physis.m	Sample	3101	22626	QAQC Procedural Blank B1	22626,NA,B1,10/23/2013,E-7012	10.00							
19	C:\CPMH\1\METHOD S\Physis.m	Sample	3111	22628	B13-8111 Grab	22628,NA,R1,10/23/2013,E-7012	691.0							
20	C:\CPMH\1\METHOD S\Physis.m	Sample	3112	22628a2	B13-8111 Grab Dup	22628,NA,R2,10/23/2013,E-7012	675.0							
21	C:\CPMH\1\METHOD S\Physis.m	Sample	3201	22628	B13-8112 Grab	22629,NA,R1,10/23/2013,E-7012	666.0							
22	C:\CPMH\1\METHOD S\Physis.m	Sample	3202	22630	B13-8500 Grab	22630,NA,R1,10/23/2013,E-7012	487.0							
23	C:\CPMH\1\METHOD S\Physis.m	Sample	3203	22631	B13-8123 Grab	22631,NA,R1,10/23/2013,E-7012	457.0							
24	C:\CPMH\1\METHOD S\Physis.m	Sample	3204	22632	B13-8124 Grab	22632,NA,R1,10/23/2013,E-7012	512.0							
25	C:\CPMH\1\METHOD S\Physis.m	Sample	3205	22633	B13-8126 Grab	22633,NA,R1,10/23/2013,E-7012	396.0							
26	C:\CPMH\1\METHOD S\Physis.m	Sample	3105	22645cm	QAQC CRM - RTC 815-0501	22645,NA,CRM1,10/23/2013,E-7012	1.000E+03							
27	C:\CPMH\1\METHOD S\Physis.m	Sample	3106	22647cm	QAQC CRM - ERA 5491	22647,NA,CRM1,10/23/2013,E-7012	655.0							
28	C:\CPMH\1\METHOD S\Physis.m	Sample	1	Rinse16			1.000							
29	C:\CPMH\1\METHOD S\Physis.m	Sample	3107	22626a1	QAQC Procedural Blank BS1	22626,NA,BS1,10/23/2013,E-7012	1.000							
30	C:\CPMH\1\METHOD S\Physis.m	Sample	3108	22628a2	QAQC Procedural Blank BS1	22628,NA,BS2,10/23/2013,E-7012	1.000							
31	C:\CPMH\1\METHOD S\Physis.m	Sample	3206	22628ms	B13-8111 Grab MS	22628,NA,MS1,10/23/2013,E-7012	1.000							
32	C:\CPMH\1\METHOD S\Physis.m	Sample	3207	22628msd	B13-8111 Grab MSD	22628,NA,MS2,10/23/2013,E-7012	1.000							
33	C:\CPMH\1\METHOD S\Physis.m	Sample	1	Rinse19			1.000							
34	C:\CPMH\1\METHOD S\Physis.m	Sample	1	Rinse20			1.000							
35	C:\CPMH\1\METHOD S\Physis.m	Sample	1201	CCV			1.000E-01							
36	C:\CPMH\1\METHOD S\Physis.m	Sample	1	Rinse25			1.000							
37	C:\CPMH\1\METHOD S\Physis.m	Sample	1	Rinse26			1.000							
38	C:\CPMH\1\METHOD S\Physis.m	Sample	1	Rinse27			1.000							
39	C:\CPMH\1\METHOD S\Physis.m	Sample	3101	22627	QAQC Procedural Blank B1	22627,NA,B1,10/23/2013,E-7012	10.00							

	Method	Type	Vial	Data File	Sample	Comment	DilLvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
40	C:\CPMH\1\METHOD S\Physis.m	Sample	3208	22634	B13-8127 Grab	22634.NA.R1.10/23/2013.E-7013	827.0							
41	C:\CPMH\1\METHOD S\Physis.m	Sample	3209	22634d	B13-8127 Grab Dup	22634.NA.R2.10/23/2013.E-7013	863.0							
42	C:\CPMH\1\METHOD S\Physis.m	Sample	3210	22635	B13-8121 Grab	22635.NA.R1.10/23/2013.E-7013	587.0							
43	C:\CPMH\1\METHOD S\Physis.m	Sample	3211	22636	B13-8026 Grab	22636.NA.R1.10/23/2013.E-7013	762.0							
44	C:\CPMH\1\METHOD S\Physis.m	Sample	3212	22637	B13-8105 Grab	22637.NA.R1.10/23/2013.E-7013	421.0							
45	C:\CPMH\1\METHOD S\Physis.m	Sample	3301	22638	B13-8117 Grab	22638.NA.R1.10/23/2013.E-7013	550.0							
46	C:\CPMH\1\METHOD S\Physis.m	Sample	3302	22639	B13-8113 Grab	22639.NA.R1.10/23/2013.E-7013	612.0							
47	C:\CPMH\1\METHOD S\Physis.m	Sample	3303	22640	B13-8116 Grab	22640.NA.R1.10/23/2013.E-7013	512.0							
48	C:\CPMH\1\METHOD S\Physis.m	Sample	3304	22641	B13-8108 Grab	22641.NA.R1.10/23/2013.E-7013	535.0							
49	C:\CPMH\1\METHOD S\Physis.m	Sample	3305	22642	B13-8108 Grab	22642.NA.R1.10/23/2013.E-7013	486.0							
50	C:\CPMH\1\METHOD S\Physis.m	Sample	3306	22643	B13-8102 Grab	22643.NA.R1.10/23/2013.E-7013	660.0							
51	C:\CPMH\1\METHOD S\Physis.m	Sample	3307	22648cm	QAQC CRM - RTC 019-0501	22646.NA.CRM1.10/23/2013.E-7013	540.0							
52	C:\CPMH\1\METHOD S\Physis.m	Sample	3308	22648cm	QAQC CRM - ERA 5401	22646.NA.CRM1.10/23/2013.E-7013	577.0							
53	C:\CPMH\1\METHOD S\Physis.m	Sample	1	Rinse25			1.000							
54	C:\CPMH\1\METHOD S\Physis.m	Sample	3107	22627bs1	QAQC Procedural Blank BS1	22627.NA.BS1.10/23/2013.E-7013	1.000							
55	C:\CPMH\1\METHOD S\Physis.m	Sample	3108	22627bs2	QAQC Procedural Blank BS2	22627.NA.BS2.10/23/2013.E-7013	1.000							
56	C:\CPMH\1\METHOD S\Physis.m	Sample	3309	22634ms	B13-8127 Grab MS	22634.NA.MS1.10/23/2013.E-7013	1.000							
57	C:\CPMH\1\METHOD S\Physis.m	Sample	3310	22634msd	B13-8127 Grab MSD	22634.NA.MS2.10/23/2013.E-7013	1.000							
58	C:\CPMH\1\METHOD S\Physis.m	Sample	3311	22634ms	B13-8127 Grab MS	22634.NA.MS1.10/23/2013.E-7013	1.000							
59	C:\CPMH\1\METHOD S\Physis.m	Sample	3312	22634msd	B13-8127 Grab MSD	22634.NA.MS2.10/23/2013.E-7013	1.000							
60	C:\CPMH\1\METHOD S\Physis.m	Sample	1	Rinse29			1.000							
61	C:\CPMH\1\METHOD S\Physis.m	Sample	1	Rinse30			1.000							
62	C:\CPMH\1\METHOD S\Physis.m	Sample	1201	GC02			1.000E-01							
63	C:\CPMH\1\METHOD S\Physis.m	Sample	1	Rinse31			1.000							
64	C:\CPMH\1\METHOD S\Physis.m	Sample	1	Rinse32			1.000							
65		Keyword		StandBy										

Elements –

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**(EPA 6020 – Low Metals &
Phosphorous)**

PHYSIS

Instrument Blank

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ICPMS 7700x DATA REPORT

File Name 0MIX.D
File Path D:\DATA\2131101A.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 11/1/2013 11:10
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.000	ug/g	---	26.67	2.830E-05	Pulse	0.30	3
Al	27	103	2	0.000	ug/g	---	13.33	3.120E-05	Pulse	0.30	3
P	31	103	2		ug/g	---	23.33	5.428E-05	Pulse	0.30	3
Cr	52	103	2	0.000	ug/g	---	88.89	2.061E-04	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	---	7.78	1.813E-05	Pulse	0.30	3
Ni	60	103	2	0.000	ug/g	---	13.33	3.083E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	---	381.13	8.847E-04	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	---	15.56	3.603E-05	Pulse	0.30	3
As	75	103	2	0.000	ug/g	---	0.00		Pulse	0.30	3
Se	78	103	1	0.000	ug/g	---	2.22	3.339E-05	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	---	95.56	2.220E-04	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	---	3.33	7.816E-06	Pulse	0.30	3
Sb	121	169	2	0.000	ug/g	---	2.22	4.319E-06	Pulse	0.30	3
Ba	137	169	2	0.000	ug/g	---	0.00		Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	---	193.34	3.724E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	64,520.44	2.95	100.0	Pulse	0.30	3
2	Rh	103	430,772.49	0.91	100.0	Pulse	0.30	3
3	Rh	103	948,131.27	3.45	100.0	Analog	0.30	3
2	Tm	169	521,790.77	4.77	100.0	Analog	0.30	3

PHYSIS

Initial Calibration Data

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Calibration for 10P.D

Batch Folder: D:\DATA\2131101A.B\

 Analysis File: 2131101A.batch.xml

 DA Date-Time: 4/8/2014 4:50:40 PM

 Calibration Title:

 Calibration Method: External Calibration

 VIS Interpolation Fit:

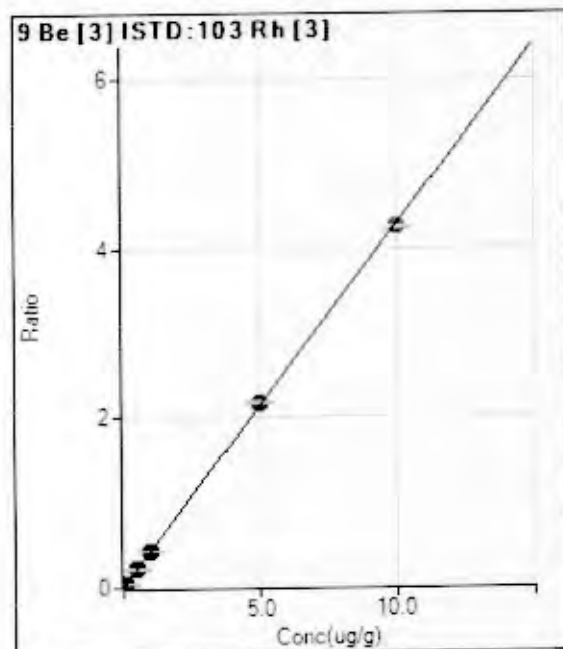
 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX.D	0 ppb mix	11/1/2013 11:10:54 AM
2	1MIX.D	1 ppb mix	11/1/2013 11:15:41 AM
3	5MIX.D	5 ppb mix	11/1/2013 11:20:28 AM
4	10MIX.D	10 ppb mix	11/1/2013 11:25:15 AM
5	50MIX.D	50 ppb mix	11/1/2013 11:30:00 AM
6	100MIX.D	100 ppb mix	11/1/2013 11:34:46 AM
7	500MIX.D	500 ppb mix	11/1/2013 11:39:31 AM
8	1000MIX.D	1000 ppb mix	11/1/2013 11:44:07 AM
9	1P.D	1 ppm P	11/1/2013 12:00:29 PM
10	2P.D	2 ppm P	11/1/2013 12:05:17 PM
11	5P.D	5 ppm P	11/1/2013 12:10:07 PM
12	10P.D	10 ppm P	11/1/2013 12:14:56 PM
13			
14			
15			
16			
17			
18			

Calibration for 10P.D



$$y = 0.4280 * x + 2.8305E-005$$

$$R = 0.9999$$

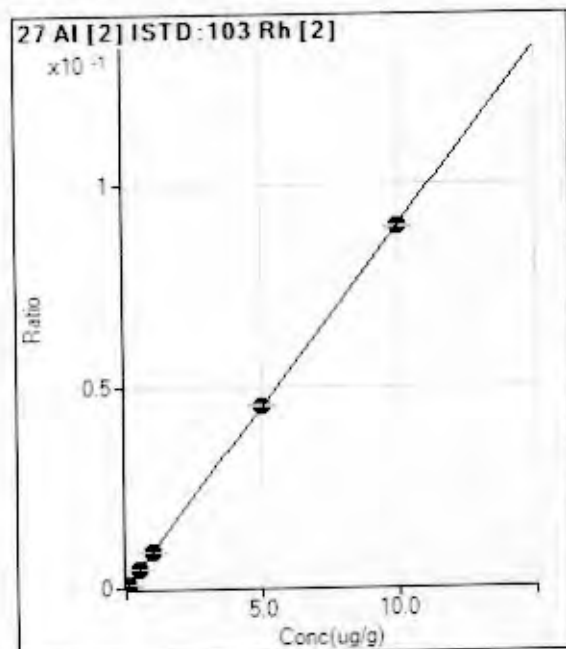
$$DL = 0.0001148$$

$$BEC = 6.613E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	26.67	0.0000	P	57.9
2	<input type="checkbox"/>	0.010	0.010	4078.40	0.0043	P	1.3
3	<input type="checkbox"/>	0.050	0.051	20012.63	0.0218	P	2.5
4	<input type="checkbox"/>	0.100	0.103	39604.50	0.0440	P	1.9
5	<input type="checkbox"/>	0.500	0.505	188291.54	0.2163	P	1.6
6	<input type="checkbox"/>	1.000	1.001	355454.84	0.4283	P	0.8
7	<input type="checkbox"/>	5.000	5.089	1711155.48	2.1784	A	0.4
8	<input type="checkbox"/>	10.00	9.955	3295432.69	4.2612	A	0.2
9	<input type="checkbox"/>			63.34	0.0001	P	17.2
10	<input type="checkbox"/>			62.22	0.0001	P	41.9
11	<input type="checkbox"/>			58.89	0.0001	P	29.9
12	<input type="checkbox"/>			43.33	0.0001	P	36.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0090 * x + 3.1202E-005$$

$$R = 1.0000$$

$$DL = 0.01385$$

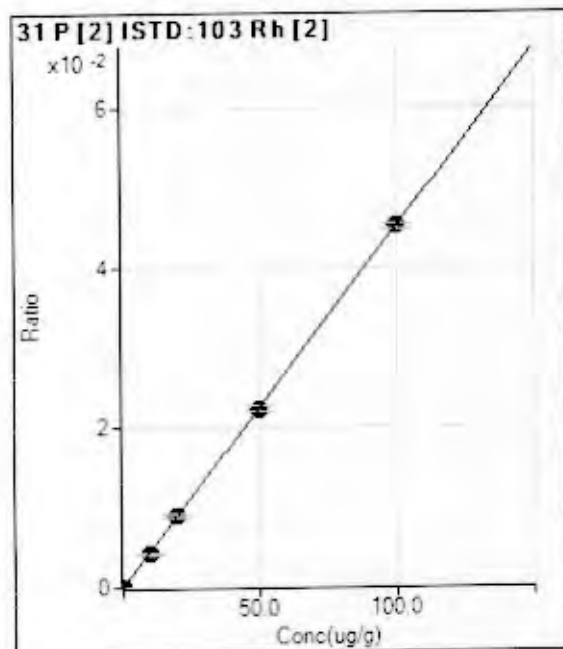
$$BEC = 0.003481$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	13.33	0.0000	P	132.7
2	<input type="checkbox"/>	0.010	0.009	45.56	0.0001	P	49.3
3	<input type="checkbox"/>	0.050	0.056	215.57	0.0005	P	9.6
4	<input type="checkbox"/>	0.100	0.101	377.80	0.0009	P	13.3
5	<input type="checkbox"/>	0.500	0.526	1840.18	0.0047	P	6.3
6	<input type="checkbox"/>	1.000	0.983	3323.77	0.0088	P	1.1
7	<input type="checkbox"/>	5.000	5.034	15571.66	0.0452	P	1.3
8	<input type="checkbox"/>	10.00	9.984	29875.22	0.0895	P	0.8
9	<input type="checkbox"/>			10.00	0.0000	P	0.4
10	<input type="checkbox"/>			10.00	0.0000	P	99.9
11	<input type="checkbox"/>			12.22	0.0000	P	62.9
12	<input type="checkbox"/>			18.89	0.0001	P	38.0
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 4.4999E-004 * x + 5.4276E-005$$

$$R = 1.0000$$

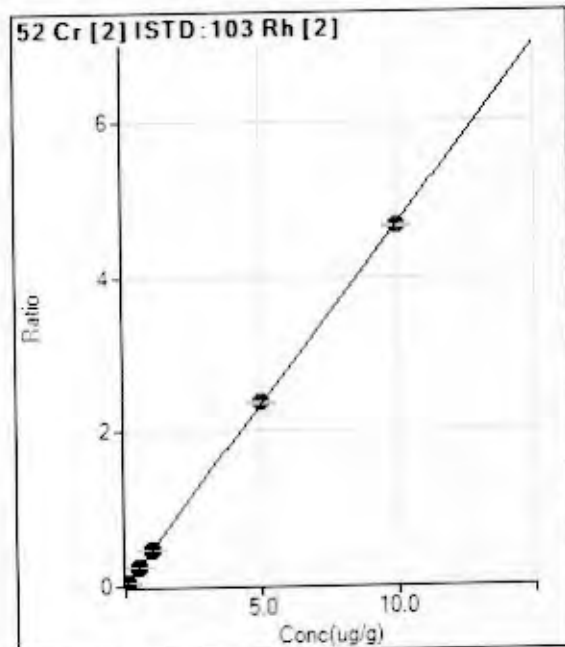
$$DL = 0.1391$$

$$BEC = 0.1206$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	23.33	0.0001	P	38.4
2	<input type="checkbox"/>			35.56	0.0001	P	13.7
3	<input type="checkbox"/>			37.78	0.0001	P	42.7
4	<input type="checkbox"/>			54.44	0.0001	P	61.8
5	<input type="checkbox"/>			45.56	0.0001	P	51.8
6	<input type="checkbox"/>			55.56	0.0001	P	15.9
7	<input type="checkbox"/>			48.89	0.0001	P	33.9
8	<input type="checkbox"/>			27.78	0.0001	P	24.7
9	<input type="checkbox"/>	10.00	9.307	1511.	0.0042	P	4.9
10	<input type="checkbox"/>	20.00	20.026	3201.	0.0091	P	4.5
11	<input type="checkbox"/>	50.00	49.541	7979.	0.0223	P	3.0
12	<input type="checkbox"/>	100.0	100.294	1620	0.0452	P	1.6
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.4681 * x + 2.0614E-004$$

$$R = 1.0000$$

$$DL = 0.000295$$

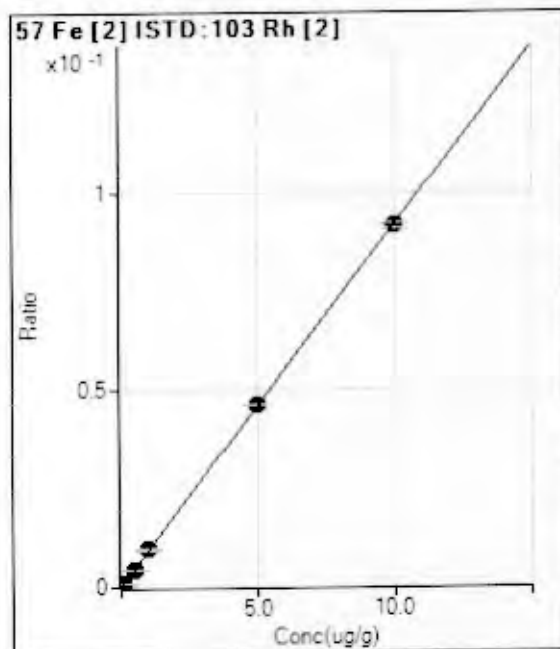
$$BEC = 0.0004404$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	88.89	0.0002	P	22.3
2	<input type="checkbox"/>	0.010	0.011	2182.46	0.0052	P	1.5
3	<input type="checkbox"/>	0.050	0.051	9863.09	0.0243	P	3.4
4	<input type="checkbox"/>	0.100	0.103	19495.68	0.0483	P	1.9
5	<input type="checkbox"/>	0.500	0.518	94156.81	0.2426	P	0.5
6	<input type="checkbox"/>	1.000	1.022	179957.43	0.4786	P	0.4
7	<input type="checkbox"/>	5.000	5.051	815322.47	2.3643	A	0.5
8	<input type="checkbox"/>	10.00	9.972	1557611.3	4.6676	A	0.3
9	<input type="checkbox"/>			132.23	0.0004	P	17.5
10	<input type="checkbox"/>			131.12	0.0004	P	30.3
11	<input type="checkbox"/>			137.79	0.0004	P	20.9
12	<input type="checkbox"/>			125.56	0.0004	P	9.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.0092 * x + 1.8126E-005$$

$$R = 1.0000$$

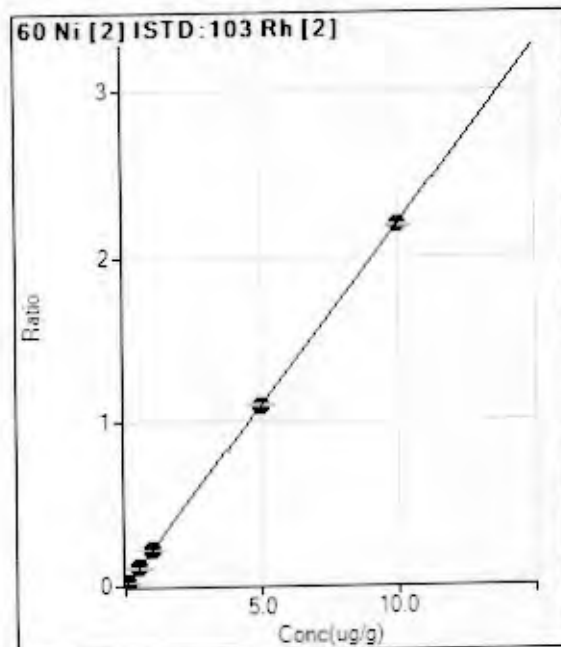
$$DL = 0.003934$$

$$BEC = 0.001978$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	7.78	0.0000	P	66.3
2	<input type="checkbox"/>	0.010	0.010	46.67	0.0001	P	36.6
3	<input type="checkbox"/>	0.050	0.049	188.90	0.0005	P	24.8
4	<input type="checkbox"/>	0.100	0.101	382.24	0.0009	P	7.0
5	<input type="checkbox"/>	0.500	0.487	1739.05	0.0045	P	2.4
6	<input type="checkbox"/>	1.000	1.035	3573.84	0.0095	P	3.6
7	<input type="checkbox"/>	5.000	5.025	15886.50	0.0461	P	0.1
8	<input type="checkbox"/>	10.00	9.985	30542.53	0.0915	P	1.3
9	<input type="checkbox"/>			8.89	0.0000	P	21.8
10	<input type="checkbox"/>			11.11	0.0000	P	105.
11	<input type="checkbox"/>			5.55	0.0000	P	69.2
12	<input type="checkbox"/>			13.33	0.0000	P	1.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2189 * x + 3.0830E-005$$

$$R = 1.0000$$

$$DL = 0.0002779$$

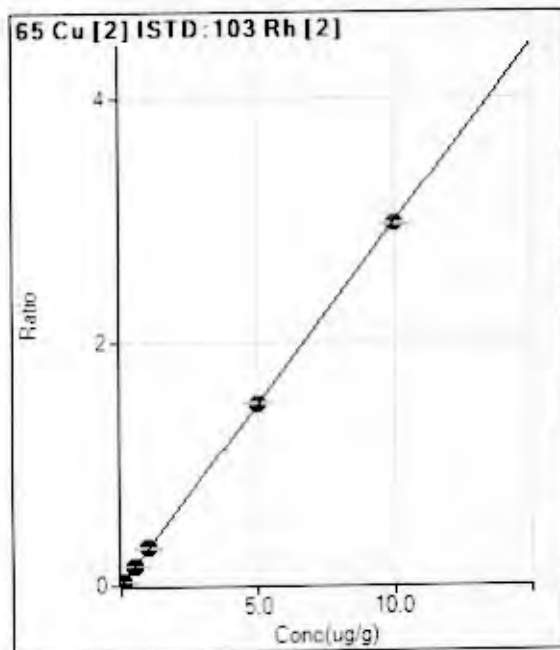
$$BEC = 0.0001408$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	13.33	0.0000	P	65.8
2	<input type="checkbox"/>	0.010	0.010	937.84	0.0022	P	7.3
3	<input type="checkbox"/>	0.050	0.051	4526.31	0.0111	P	2.2
4	<input type="checkbox"/>	0.100	0.104	9218.30	0.0228	P	4.0
5	<input type="checkbox"/>	0.500	0.505	42919.40	0.1106	P	2.0
6	<input type="checkbox"/>	1.000	1.014	83505.41	0.2221	P	0.5
7	<input type="checkbox"/>	5.000	4.996	377244.04	1.0939	P	0.7
8	<input type="checkbox"/>	10.00	10.000	730647.53	2.1895	A	0.3
9	<input type="checkbox"/>			6.67	0.0000	P	49.9
10	<input type="checkbox"/>			16.67	0.0000	P	103.
11	<input type="checkbox"/>			11.11	0.0000	P	17.1
12	<input type="checkbox"/>			6.67	0.0000	P	86.6
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.2969 * x + 8.8471E-004$$

$$R = 1.0000$$

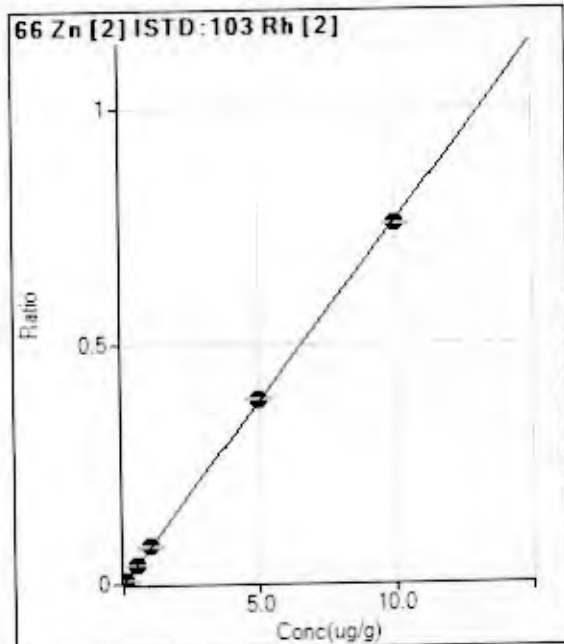
$$DL = 0.0004841$$

$$BEC = 0.00298$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	381.13	0.0009	P	5.4
2	<input type="checkbox"/>	0.010	0.012	1822.40	0.0043	P	10.0
3	<input type="checkbox"/>	0.050	0.076	9495.12	0.0234	P	2.3
4	<input type="checkbox"/>	0.100	0.124	15243.74	0.0378	P	2.1
5	<input type="checkbox"/>	0.500	0.531	61521.69	0.1586	P	1.6
6	<input type="checkbox"/>	1.000	1.034	115766.37	0.3079	P	1.8
7	<input type="checkbox"/>	5.000	5.040	516323.88	1.4973	A	0.4
8	<input type="checkbox"/>	10.00	9.975	988604.26	2.9625	A	0.5
9	<input type="checkbox"/>			266.68	0.0007	P	8.7
10	<input type="checkbox"/>			202.24	0.0006	P	11.0
11	<input type="checkbox"/>			157.79	0.0004	P	25.3
12	<input type="checkbox"/>			176.68	0.0005	P	27.7
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.0760 * x + 3.6026E-005$$

$$R = 1.0000$$

$$DL = 0.000762$$

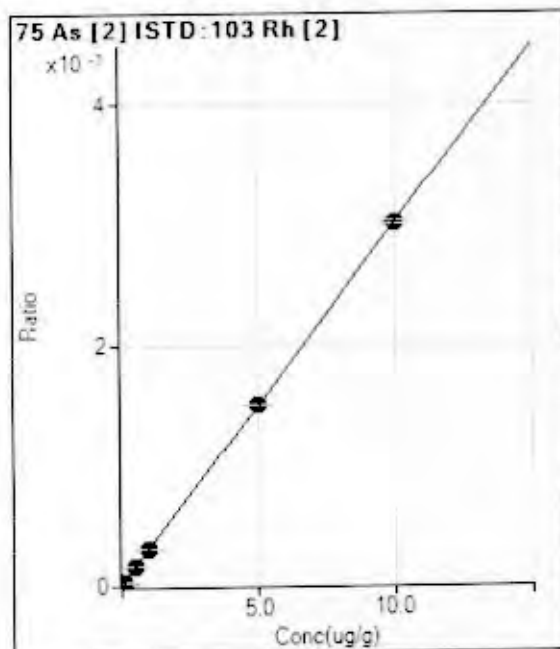
$$BEC = 0.0004739$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	15.56	0.0000	P	53.6
2	<input type="checkbox"/>	0.010	0.012	400.02	0.0010	P	1.9
3	<input type="checkbox"/>	0.050	0.052	1606.81	0.0040	P	1.9
4	<input type="checkbox"/>	0.100	0.105	3251.55	0.0081	P	3.6
5	<input type="checkbox"/>	0.500	0.517	15270.47	0.0393	P	3.2
6	<input type="checkbox"/>	1.000	1.031	29468.66	0.0784	P	1.1
7	<input type="checkbox"/>	5.000	5.083	133271.31	0.3864	P	1.1
8	<input type="checkbox"/>	10.00	9.955	252544.63	0.7568	P	0.6
9	<input type="checkbox"/>			32.22	0.0001	P	15.9
10	<input type="checkbox"/>			15.55	0.0000	P	44.6
11	<input type="checkbox"/>			37.78	0.0001	P	22.5
12	<input type="checkbox"/>			85.56	0.0002	P	17.7
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.0300 * x + 0.0000E+000$$

$$R = 1.0000$$

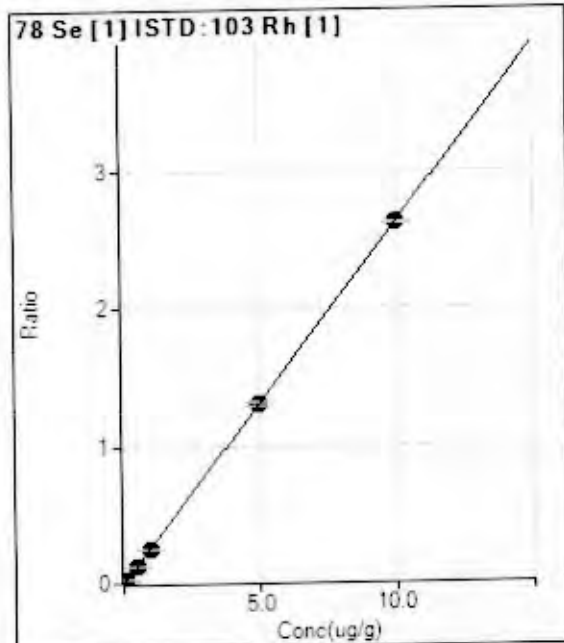
$$DL = 0$$

$$BEC = 0$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	0.00	0.0000	P	
2	<input type="checkbox"/>	0.010	0.013	162.23	0.0004	P	23.8
3	<input type="checkbox"/>	0.050	0.054	658.93	0.0016	P	2.0
4	<input type="checkbox"/>	0.100	0.099	1193.43	0.0030	P	1.6
5	<input type="checkbox"/>	0.500	0.529	6152.44	0.0159	P	2.8
6	<input type="checkbox"/>	1.000	1.001	11278.48	0.0300	P	1.3
7	<input type="checkbox"/>	5.000	5.033	52007.72	0.1508	P	0.3
8	<input type="checkbox"/>	10.00	9.982	99812.00	0.2991	P	1.2
9	<input type="checkbox"/>			5.55	0.0000	P	124.
10	<input type="checkbox"/>			5.56	0.0000	P	173.
11	<input type="checkbox"/>			0.00	0.0000	P	
12	<input type="checkbox"/>			4.44	0.0000	P	173.
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2616 * x + 3.3392E-005$$

$$R = 1.0000$$

$$DL = 0.0006633$$

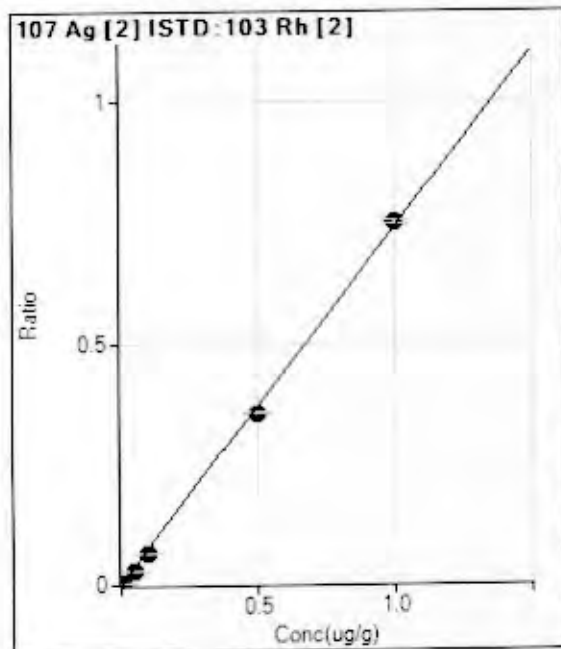
$$BEC = 0.0001277$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	2.22	0.0000	P	173.2
2	<input type="checkbox"/>	0.010	0.008	125.56	0.0020	P	21.7
3	<input type="checkbox"/>	0.050	0.046	677.82	0.0120	P	7.8
4	<input type="checkbox"/>	0.100	0.091	1323.44	0.0237	P	1.8
5	<input type="checkbox"/>	0.500	0.492	6958.36	0.1286	P	1.7
6	<input type="checkbox"/>	1.000	0.946	13023.11	0.2474	P	1.0
7	<input type="checkbox"/>	5.000	4.979	63545.77	1.3025	P	1.5
8	<input type="checkbox"/>	10.00	10.016	120205.8	2.6201	P	0.8
9	<input type="checkbox"/>			5.55	0.0001	P	69.6
10	<input type="checkbox"/>			7.78	0.0001	P	66.2
11	<input type="checkbox"/>			4.45	0.0001	P	66.6
12	<input type="checkbox"/>			2.22	0.0000	P	173.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 0.7395 * x + 2.2199E-004$$

$$R = 0.9996$$

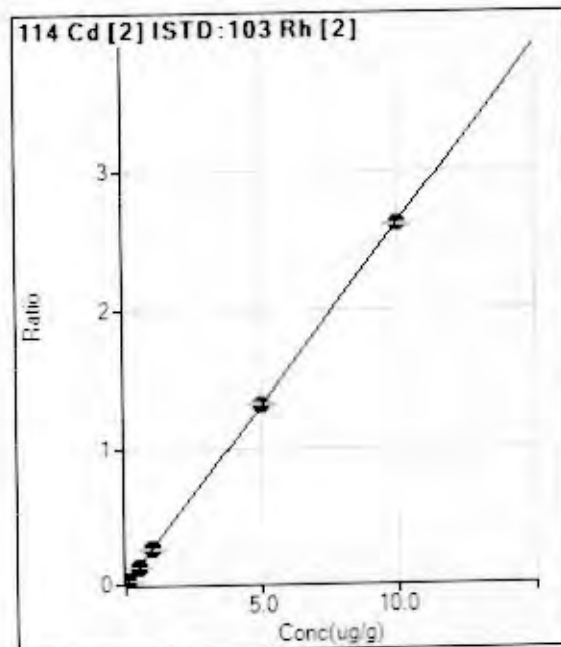
$$DL = 0.0001044$$

$$BEC = 0.0003002$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	95.56	0.0002	P	11.6
2	<input type="checkbox"/>	0.001	0.000	142.23	0.0003	P	19.6
3	<input type="checkbox"/>	0.005	0.004	1311.22	0.0032	P	3.4
4	<input type="checkbox"/>	0.010	0.007	2284.69	0.0057	P	2.6
5	<input type="checkbox"/>	0.050	0.039	11366.43	0.0293	P	2.1
6	<input type="checkbox"/>	0.100	0.086	23952.00	0.0637	P	2.1
7	<input type="checkbox"/>	0.500	0.479	122135.03	0.3542	P	1.2
8	<input type="checkbox"/>	1.000	1.013	249964.15	0.7490	P	1.0
9	<input type="checkbox"/>			291.13	0.0008	P	4.0
10	<input type="checkbox"/>			255.57	0.0007	P	1.8
11	<input type="checkbox"/>			210.01	0.0006	P	23.6
12	<input type="checkbox"/>			138.90	0.0004	P	36.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2618 * x + 7.8162E-006$$

$$R = 1.0000$$

$$DL = 0.0001551$$

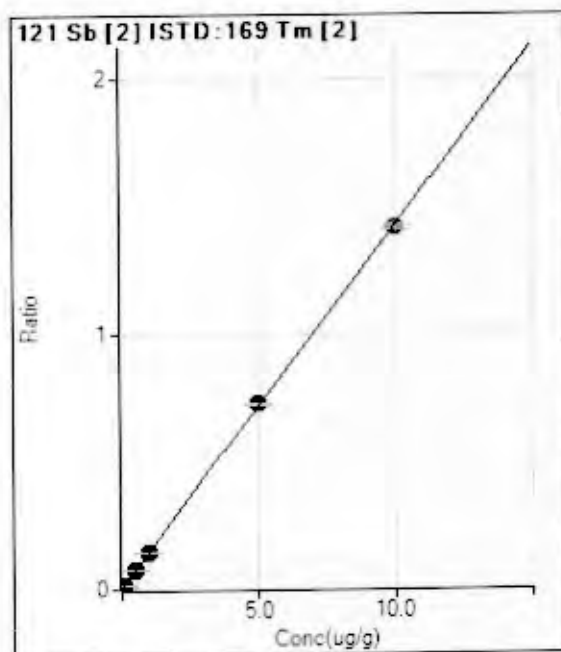
$$BEC = 2.986E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	3.33	0.0000	P	173.2
2	<input type="checkbox"/>	0.010	0.010	1117.86	0.0027	P	4.9
3	<input type="checkbox"/>	0.050	0.049	5246.57	0.0129	P	3.4
4	<input type="checkbox"/>	0.100	0.098	10348.00	0.0256	P	2.4
5	<input type="checkbox"/>	0.500	0.485	49260.92	0.1270	P	0.8
6	<input type="checkbox"/>	1.000	0.981	96519.53	0.2567	P	1.0
7	<input type="checkbox"/>	5.000	5.048	455755.51	1.3216	A	0.5
8	<input type="checkbox"/>	10.00	9.978	871736.71	2.6122	A	0.8
9	<input type="checkbox"/>			5.56	0.0000	P	91.5
10	<input type="checkbox"/>			12.22	0.0000	P	56.9
11	<input type="checkbox"/>			5.56	0.0000	P	91.6
12	<input type="checkbox"/>			4.44	0.0000	P	114.5
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

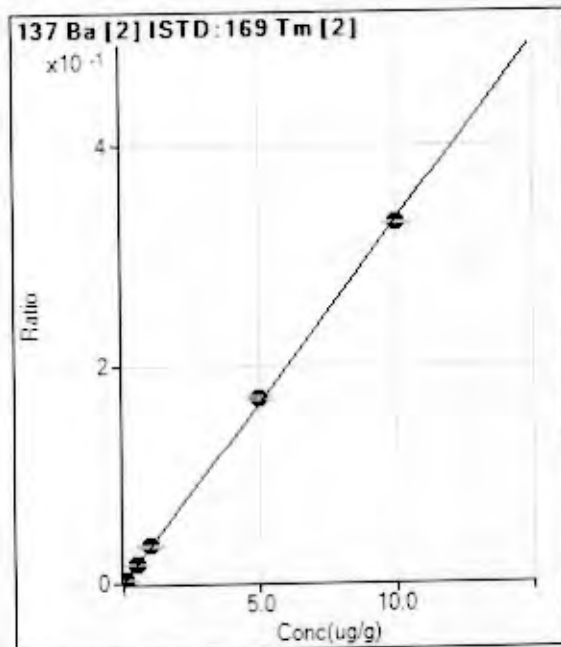
Calibration for 10P.D



Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	2.22	0.0000	P	86.8
2	<input type="checkbox"/>	0.010	0.011	802.28	0.0016	P	6.2
3	<input type="checkbox"/>	0.050	0.055	3801.69	0.0079	P	8.4
4	<input type="checkbox"/>	0.100	0.106	7340.79	0.0151	P	0.9
5	<input type="checkbox"/>	0.500	0.526	35457.94	0.0749	P	1.5
6	<input type="checkbox"/>	1.000	1.025	68072.73	0.1460	P	0.2
7	<input type="checkbox"/>	5.000	5.052	319051.52	0.7198	P	0.6
8	<input type="checkbox"/>	10.00	9.970	622212.94	1.4203	A	1.2
9	<input type="checkbox"/>			11.11	0.0000	P	95.2
10	<input type="checkbox"/>			17.78	0.0000	P	64.3
11	<input type="checkbox"/>			41.11	0.0001	P	31.6
12	<input type="checkbox"/>			88.89	0.0006	P	22.8
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

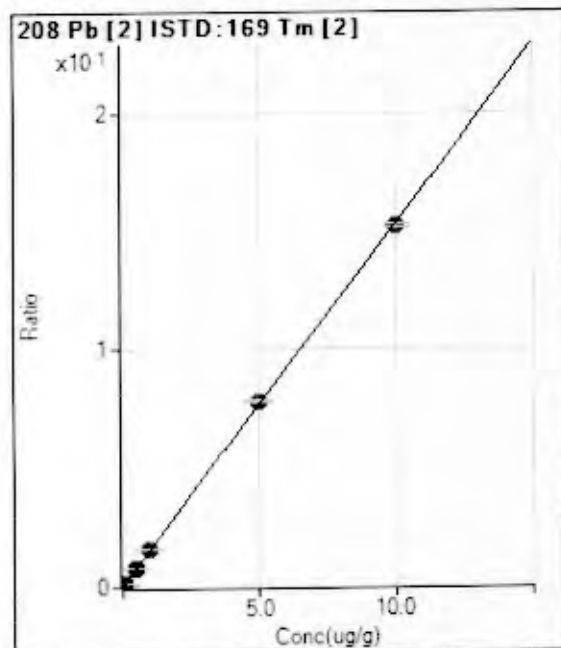


Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	0.00	0.0000	P	
2	<input type="checkbox"/>	0.010	0.011	178.90	0.0004	P	23.3
3	<input type="checkbox"/>	0.050	0.056	892.29	0.0018	P	15.1
4	<input type="checkbox"/>	0.100	0.120	1922.41	0.0040	P	1.1
5	<input type="checkbox"/>	0.500	0.546	8553.67	0.0181	P	2.2
6	<input type="checkbox"/>	1.000	1.028	15872.50	0.0340	P	1.0
7	<input type="checkbox"/>	5.000	5.137	75375.76	0.1701	P	1.9
8	<input type="checkbox"/>	10.00	9.926	143948.1	0.3286	P	0.6
9	<input type="checkbox"/>			0.00	0.0000	P	
10	<input type="checkbox"/>			0.00	0.0000	P	
11	<input type="checkbox"/>			2.22	0.0000	P	87.4
12	<input type="checkbox"/>			5.56	0.0000	P	41.2
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 10P.D



$$y = 1.5338 * x + 3.7240E-004$$

$$R = 1.0000$$

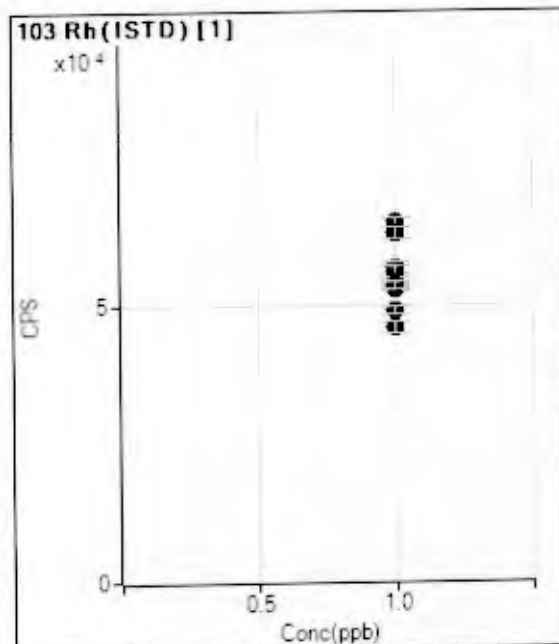
$$DL = 0.0001152$$

$$BEC = 0.0002428$$

Weight: None

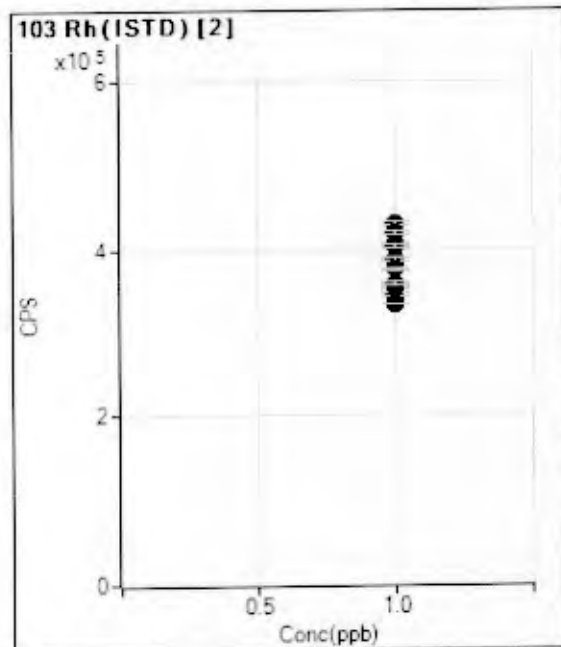
Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	193.34	0.0004	P	15.8
2	<input type="checkbox"/>	0.010	0.011	8291.20	0.0165	P	2.0
3	<input type="checkbox"/>	0.050	0.052	39017.16	0.0806	P	0.8
4	<input type="checkbox"/>	0.100	0.105	78626.33	0.1619	P	0.8
5	<input type="checkbox"/>	0.500	0.525	381188.74	0.8055	P	0.4
6	<input type="checkbox"/>	1.000	1.035	740432.69	1.5880	A	0.6
7	<input type="checkbox"/>	5.000	5.081	3454796.36	7.7938	A	0.6
8	<input type="checkbox"/>	10.00	9.955	6688965.34	15.268	A	0.9
9	<input type="checkbox"/>			192.23	0.0004	P	9.0
10	<input type="checkbox"/>			171.12	0.0003	P	30.7
11	<input type="checkbox"/>			143.35	0.0003	P	22.4
12	<input type="checkbox"/>			126.68	0.0008	P	19.3
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

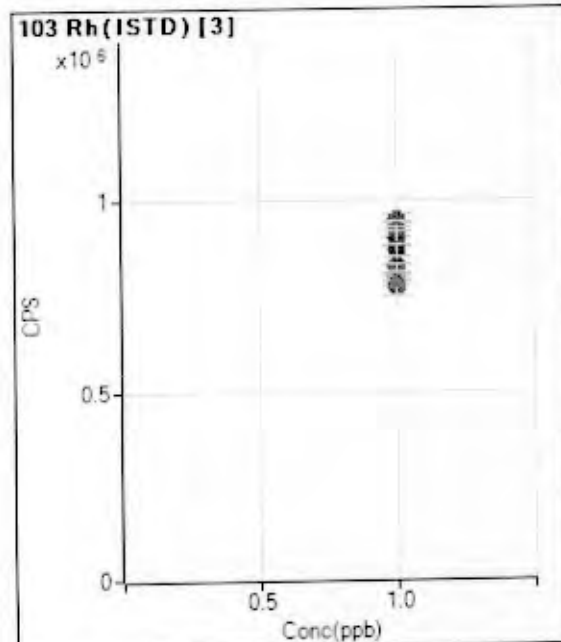


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		64520.44		P	2.9
2	<input type="checkbox"/>	1.000		62633.54		P	2.9
3	<input type="checkbox"/>	1.000		56400.01		P	4.0
4	<input type="checkbox"/>	1.000		55793.55		P	3.9
5	<input type="checkbox"/>	1.000		54091.47		P	2.6
6	<input type="checkbox"/>	1.000		52644.76		P	0.9
7	<input type="checkbox"/>	1.000		48778.97		P	2.9
8	<input type="checkbox"/>	1.000		45881.95		P	4.1
9	<input type="checkbox"/>	1.000		53756.93		P	1.2
10	<input type="checkbox"/>	1.000		53529.52		P	0.8
11	<input type="checkbox"/>	1.000		54143.55		P	1.8
12	<input type="checkbox"/>	1.000		53455.04		P	2.4
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for 10P.D



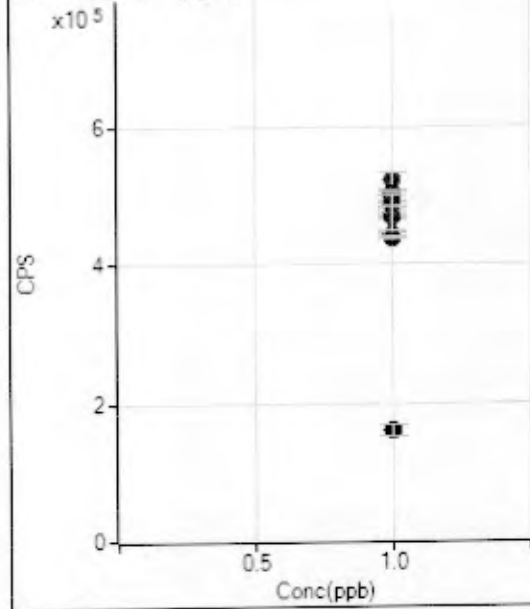
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		430772.49		P	0.9
2	<input type="checkbox"/>	1.000		420256.20		P	1.1
3	<input type="checkbox"/>	1.000		406234.40		P	0.8
4	<input type="checkbox"/>	1.000		403692.37		P	1.1
5	<input type="checkbox"/>	1.000		388043.81		P	0.7
6	<input type="checkbox"/>	1.000		375971.31		P	0.8
7	<input type="checkbox"/>	1.000		344834.80		P	1.2
8	<input type="checkbox"/>	1.000		333709.14		P	0.4
9	<input type="checkbox"/>	1.000		356221.54		P	0.4
10	<input type="checkbox"/>	1.000		353122.83		P	0.2
11	<input type="checkbox"/>	1.000		357071.59		P	0.3
12	<input type="checkbox"/>	1.000		358645.07		P	1.1
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		948131.27		A	3.5
2	<input type="checkbox"/>	1.000		943510.36		A	0.6
3	<input type="checkbox"/>	1.000		918439.66		A	2.9
4	<input type="checkbox"/>	1.000		900312.96		A	4.2
5	<input type="checkbox"/>	1.000		870304.80		A	3.6
6	<input type="checkbox"/>	1.000		829625.20		A	6.0
7	<input type="checkbox"/>	1.000		785516.87		A	1.1
8	<input type="checkbox"/>	1.000		773378.40		A	4.9
9	<input type="checkbox"/>	1.000		795742.79		A	2.0
10	<input type="checkbox"/>	1.000		799666.71		A	1.8
11	<input type="checkbox"/>	1.000		809306.26		A	1.4
12	<input type="checkbox"/>	1.000		825296.07		A	2.6
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for 10P.D

169 Tm (ISTD) [2]



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		521790.77		A	4.8
2	<input type="checkbox"/>	1.000		503131.75		A	0.9
3	<input type="checkbox"/>	1.000		483877.82		A	0.5
4	<input type="checkbox"/>	1.000		485522.39		A	1.3
5	<input type="checkbox"/>	1.000		473225.69		A	0.8
6	<input type="checkbox"/>	1.000		466275.28		A	0.8
7	<input type="checkbox"/>	1.000		443288.42		A	1.2
8	<input type="checkbox"/>	1.000		438122.42		A	1.1
9	<input type="checkbox"/>	1.000		498574.26		A	2.5
10	<input type="checkbox"/>	1.000		492993.08		A	3.3
11	<input type="checkbox"/>	1.000		466604.71		A	7.6
12	<input type="checkbox"/>	1.000		159476.80		P	10.
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

PHYSIS

Continuing Calibration Data

TERRA

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ICPMS 7700x DATA REPORT

File Name CCVP.D
File Path D:\DATA\2131101A.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 11/1/2013 12:29
Sample Name 5 PPM Phosphorus
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.000	ug/g	42.05	128.89	1.568E-04	Pulse	0.30	3
Al	27	103	2	0.000	ug/g	-3852.42	11.11	3.060E-05	Pulse	0.30	3
P	31	103	2	5.055	ug/g	2.32	8,267.76	2.280E-02	Pulse	0.30	3
Cr	52	103	2	0.000	ug/g	30.31	132.23	3.648E-04	Pulse	0.30	3
Fe	57	103	2	0.000	ug/g	437.04	8.89	2.458E-05	Pulse	0.30	3
Ni	60	103	2	0.000	ug/g	-124.24	5.55	1.536E-05	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	-84.82	246.68	6.801E-04	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	42.43	57.78	1.594E-04	Pulse	0.30	3
As	75	103	2	0.000	ug/g	86.60	2.22	6.129E-06	Pulse	0.30	3
Se	78	103	1	0.000	ug/g	69.59	8.89	1.616E-04	Pulse	0.30	3
Ag	107	103	2	0.000	ug/g	19.55	400.02	1.104E-03	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	173.97	6.67	1.843E-05	Pulse	0.30	3
Sb	121	169	2	0.000	ug/g	18.51	90.00	1.791E-04	Pulse	0.30	3
Ba	137	169	2	0.000	ug/g	86.61	2.22	4.319E-06	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	141.44	200.01	3.962E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	54,279.93	3.59	84.1	Pulse	0.30	3
2	Rh	103	362,552.53	0.34	84.2	Pulse	0.30	3
3	Rh	103	822,530.42	0.76	86.8	Analog	0.30	3
2	Tm	169	503,954.07	3.50	96.6	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name ICV.D
File Path D:\DATA\2131101A.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 11/1/2013 12:24
Sample Name 100 ppb (10 ppb Ag)
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.102	ug/g	0.58	362,352.84	4.363E-01	Pulse	0.30	3
Al	27	103	2	0.105	ug/g	3.65	3,500.49	9.429E-03	Pulse	0.30	3
P	31	103	2		ug/g	---	40.00	1.077E-04	Pulse	0.30	3
Cr	52	103	2	0.103	ug/g	0.88	178,718.13	4.815E-01	Pulse	0.30	3
Fe	57	103	2	0.104	ug/g	3.98	3,559.39	9.587E-03	Pulse	0.30	3
Ni	60	103	2	0.102	ug/g	0.61	83,213.91	2.242E-01	Pulse	0.30	3
Cu	65	103	2	0.103	ug/g	1.06	113,700.52	3.063E-01	Pulse	0.30	3
Zn	66	103	2	0.104	ug/g	1.38	29,240.48	7.877E-02	Pulse	0.30	3
As	75	103	2	0.103	ug/g	0.95	11,498.61	3.098E-02	Pulse	0.30	3
Se	78	103	1	0.097	ug/g	1.39	13,459.02	2.545E-01	Pulse	0.30	3
Ag	107	103	2	0.009	ug/g	3.44	23,598.07	6.358E-02	Pulse	0.30	3
Cd	114	103	2	0.101	ug/g	0.60	98,057.43	2.642E-01	Pulse	0.30	3
Sb	121	169	2	0.101	ug/g	3.15	68,506.52	1.441E-01	Pulse	0.30	3
Ba	137	169	2	0.104	ug/g	0.92	16,393.01	3.447E-02	Pulse	0.30	3
Pb	208	169	2	0.103	ug/g	0.66	752,687.22	1.583E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	52,875.40	4.51	82.0	Pulse	0.30	3
2	Rh	103	371,196.07	0.67	86.2	Pulse	0.30	3
3	Rh	103	830,332.27	4.24	87.6	Analog	0.30	3
2	Tm	169	475,591.35	0.95	91.1	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV.D
File Path D:\DATA\2131101A.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 11/1/2013 16:06
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.094	ug/g	1.11	390,117.08	4.024E-01	Pulse	0.30	3
Al	27	103	2	0.098	ug/g	2.88	3,678.31	8.834E-03	Pulse	0.30	3
P	31	103	2		ug/g	---	18.89	4.537E-05	Pulse	0.30	3
Cr	52	103	2	0.102	ug/g	0.52	198,726.67	4.772E-01	Pulse	0.30	3
Fe	57	103	2	0.100	ug/g	3.14	3,825.01	9.184E-03	Pulse	0.30	3
Ni	60	103	2	0.101	ug/g	1.05	91,962.31	2.208E-01	Pulse	0.30	3
Cu	65	103	2	0.101	ug/g	0.40	124,682.12	2.994E-01	Pulse	0.30	3
Zn	66	103	2	0.102	ug/g	1.42	32,280.25	7.751E-02	Pulse	0.30	3
As	75	103	2	0.105	ug/g	1.55	13,162.12	3.160E-02	Pulse	0.30	3
Se	78	103	1	0.092	ug/g	1.80	15,489.60	2.397E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	1.78	29,600.76	7.108E-02	Pulse	0.30	3
Cd	114	103	2	0.097	ug/g	0.77	105,710.75	2.538E-01	Pulse	0.30	3
Sb	121	169	2	0.108	ug/g	2.09	77,840.07	1.545E-01	Pulse	0.30	3
Ba	137	169	2	0.114	ug/g	1.10	19,011.44	3.773E-02	Pulse	0.30	3
Pb	208	169	2	0.104	ug/g	1.56	801,047.18	1.590E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	64,609.51	1.81	100.1	Pulse	0.30	3
2	Rh	103	416,450.12	0.79	96.7	Pulse	0.30	3
3	Rh	103	969,276.58	1.28	102.2	Analog	0.30	3
2	Tm	169	503,796.16	0.80	96.6	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV2.D
File Path D:\DATA\2131101A.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 11/1/2013 18:31
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.088	ug/g	0.77	396,534.77	3.769E-01	Pulse	0.30	3
Al	27	103	2	0.100	ug/g	3.45	3,885.02	8.983E-03	Pulse	0.30	3
P	31	103	2		ug/g	---	25.56	5.904E-05	Pulse	0.30	3
Cr	52	103	2	0.099	ug/g	0.86	199,593.12	4.615E-01	Pulse	0.30	3
Fe	57	103	2	0.102	ug/g	3.74	4,062.84	9.394E-03	Pulse	0.30	3
Ni	60	103	2	0.098	ug/g	0.53	92,935.90	2.149E-01	Pulse	0.30	3
Cu	65	103	2	0.098	ug/g	0.16	126,033.02	2.914E-01	Pulse	0.30	3
Zn	66	103	2	0.099	ug/g	1.28	32,671.98	7.555E-02	Pulse	0.30	3
As	75	103	2	0.102	ug/g	0.91	13,165.39	3.044E-02	Pulse	0.30	3
Se	78	103	1	0.095	ug/g	2.74	16,888.74	2.486E-01	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	2.61	31,393.01	7.259E-02	Pulse	0.30	3
Cd	114	103	2	0.100	ug/g	0.24	112,769.07	2.608E-01	Pulse	0.30	3
Sb	121	169	2	0.102	ug/g	0.10	81,331.44	1.457E-01	Pulse	0.30	3
Ba	137	169	2	0.109	ug/g	1.17	20,180.61	3.615E-02	Pulse	0.30	3
Pb	208	169	2	0.105	ug/g	0.36	897,254.61	1.607E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	67,937.76	0.87	105.3	Pulse	0.30	3
2	Rh	103	432,462.73	0.39	100.4	Pulse	0.30	3
3	Rh	103	1,052,051.05	1.83	111.0	Analog	0.30	3
2	Tm	169	558,178.01	0.65	107.0	Analog	0.30	3

PHYSIS

Instrument Run Log

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LOW METALS

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1	C:\ICPMH\1\METHODS\IPhysis.m	Keyword		CALBEG	Start of CALIB									
2	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	Rinse1				1.000						
3	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	Rinse2				1.000						
4	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1101	Rinse				1.000						
5	C:\ICPMH\1\METHODS\IPhysis.m	CalStd	1101	0MIX	0 ppb mix	0 ng	0 ng Ag	Level 1						
6	C:\ICPMH\1\METHODS\IPhysis.m	CalStd	1102	1MIX	1 ppb mix	10 ng	1 ng Ag	Level 2						
7	C:\ICPMH\1\METHODS\IPhysis.m	CalStd	1103	5MIX	5 ppb mix	50 ng	5 ng Ag	Level 3						
8	C:\ICPMH\1\METHODS\IPhysis.m	CalStd	1104	10MIX	10 ppb mix	100 ng	10 ng Ag	Level 4						
9	C:\ICPMH\1\METHODS\IPhysis.m	CalStd	1105	50MIX	50 ppb mix	500 ng	50 ng Ag	Level 5						
10	C:\ICPMH\1\METHODS\IPhysis.m	CalStd	1106	100MIX	100 ppb mix	1000 ng	100 ng Ag	Level 6						
11	C:\ICPMH\1\METHODS\IPhysis.m	CalStd	1107	500MIX	500 ppb mix	5000 ng	500 ng Ag	Level 7						
12	C:\ICPMH\1\METHODS\IPhysis.m	CalStd	1108	1000MIX	1000 ppb mix	10000 ng	1000 ng Ag	Level 8						
13	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	Rinse3				1.000						
14	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	Rinse4				1.000						
15	C:\ICPMH\1\METHODS\IPhysis.m	CalStd	1109	1P	1 ppm P	10 ug P		Level 9						
16	C:\ICPMH\1\METHODS\IPhysis.m	CalStd	1110	2P	2 ppm P	20 ug P		Level 10						
17	C:\ICPMH\1\METHODS\IPhysis.m	CalStd	1111	5P	5 ppm P	50 ug P		Level 11						
18	C:\ICPMH\1\METHODS\IPhysis.m	CalStd	1112	10P	10 ppm P	100 ug P		Level 12						
19	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	Rinse5				1.000						
20	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1201	ICV	100 ppb (10 ppb Ag)			1.000E-01						
21	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1111	CCVP	5 PPM Phosphorus			1.000E-01						
22	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1202	2ndP	ERA Phosphorus 9.71 PPM			1.000E-01						
23	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	Rinse6				1.000						
24	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	Rinse7				1.000						
25		Keyword		CALEND	End of CALIB									
26		Keyword		SMPLSEG	Start of SMPL									
27	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	Rinse8				1.000						
28	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	Rinse9				1.000						
29	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	Rinse10				1.000						
30	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	Rinse11				1.000						
31	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2101	22598	QAQC Procedural Blank B1	22599.NA.B1,10/23/2013.E-7012		10.00						
32	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2102	22599	B13-8018 Grab	22599.NA.R1,10/23/2013.E-7012		16.81						
33	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2103	22599r2	B13-8018 Grab Dup	22599.NA.R2,10/23/2013.E-7012		13.67						
34	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2104	22600	B13-8053 Grab	22600.NA.R1,10/23/2013.E-7012		16.58						
35	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2105	22602crm	QAQC CRM - RTC 016-0501	22602.NA.CRM1,10/23/2013.E-7012		54.83						
36	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2106	22603crm	QAQC CRM - ERA 5401	22603.NA.CRM1,10/23/2013.E-7012		42.74						
37	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	Rinse12				1.000						

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
38	C:\ICPMH\1\METHODS (Physis.m)	Sample	2107	22598bs1	QAQC Procedural Blank BS1	22598,NA,BS1,10/23/2013,E-7012	1.000							
39	C:\ICPMH\1\METHODS (Physis.m)	Sample	2108	22598bs2	QAQC Procedural Blank BS2	22598,NA,BS2,10/23/2013,E-7012	1.000							
40	C:\ICPMH\1\METHODS (Physis.m)	Sample	2109	22598ms	B13-8018 Grab MS	22598,NA,MS1,10/23/2013,E-7012	1.000							
41	C:\ICPMH\1\METHODS (Physis.m)	Sample	2110	22598msd	B13-8018 Grab MSD	22598,NA,MS2,10/23/2013,E-7012	1.000							
42	C:\ICPMH\1\METHODS (Physis.m)	Sample	2111	22598Ps1	B13-8018 Grab MS	22598,NA,MS1,10/23/2013,E-7012	1.000							
43	C:\ICPMH\1\METHODS (Physis.m)	Sample	2112	22598Ps2	B13-8018 Grab MSD	22598,NA,MS2,10/23/2013,E-7012	1.000							
44	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse13			1.000							
45	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse14			1.000							
46	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse15			1.000							
47	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse16			1.000							
48	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse17			1.000							
49	C:\ICPMH\1\METHODS (Physis.m)	Sample	2101	22626	QAQC Procedural Blank B1	22626,NA,B1,10/23/2013,E-7012	10.00							
50	C:\ICPMH\1\METHODS (Physis.m)	Sample	2201	22626	B13-8111 Grab	22626,NA,R1,10/23/2013,E-7012	34.53							
51	C:\ICPMH\1\METHODS (Physis.m)	Sample	2202	22626r2	B13-8111 Grab Dup	22626,NA,R2,10/23/2013,E-7012	33.73							
52	C:\ICPMH\1\METHODS (Physis.m)	Sample	2203	22626	B13-8112 Grab	22626,NA,R1,10/23/2013,E-7012	33.29							
53	C:\ICPMH\1\METHODS (Physis.m)	Sample	2204	22630	B13-8500 Grab	22630,NA,R1,10/23/2013,E-7012	24.35							
54	C:\ICPMH\1\METHODS (Physis.m)	Sample	2205	22631	B13-8123 Grab	22631,NA,R1,10/23/2013,E-7012	22.83							
55	C:\ICPMH\1\METHODS (Physis.m)	Sample	2206	22632	B13-8124 Grab	22632,NA,R1,10/23/2013,E-7012	25.58							
56	C:\ICPMH\1\METHODS (Physis.m)	Sample	2207	22633	B13-8128 Grab	22633,NA,R1,10/23/2013,E-7012	29.80							
57	C:\ICPMH\1\METHODS (Physis.m)	Sample	2208	22645crm	QAQC CRM - RTC 016 0501	22645,NA,CRM1,10/23/2013,E-7012	54.63							
58	C:\ICPMH\1\METHODS (Physis.m)	Sample	2209	22647crm	QAQC CRM - FRA 5401	22647,NA,CRM1,10/23/2013,E-7012	42.74							
59	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse18			1.000							
60	C:\ICPMH\1\METHODS (Physis.m)	Sample	2107	22626bs1	QAQC Procedural Blank BS1	22626,NA,BS1,10/23/2013,E-7012	1.000							
61	C:\ICPMH\1\METHODS (Physis.m)	Sample	2108	22626bs2	QAQC Procedural Blank BS1	22626,NA,BS2,10/23/2013,E-7012	1.000							
62	C:\ICPMH\1\METHODS (Physis.m)	Sample	2210	22628ms	B13-8111 Grab MS	22628,NA,MS1,10/23/2013,E-7012	1.000							
63	C:\ICPMH\1\METHODS (Physis.m)	Sample	2211	22628msd	B13-8111 Grab MSD	22628,NA,MS2,10/23/2013,E-7012	1.000							
64	C:\ICPMH\1\METHODS (Physis.m)	Sample	2212	22628Ps1	B13-8111 Grab MS	22628,NA,MS1,10/23/2013,E-7012	1.000							
65	C:\ICPMH\1\METHODS (Physis.m)	Sample	2301	22628Ps2	B13-8111 Grab MSD	22628,NA,MS2,10/23/2013,E-7012	1.000							
66	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse19			1.000							
67	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse20			1.000							
68	C:\ICPMH\1\METHODS (Physis.m)	Sample	1201	CCV			1.000E-01							
69	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse21			1.000							
70	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse22			1.000							
71	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse23			1.000							
72	C:\ICPMH\1\METHODS (Physis.m)	Sample	1	Rinse24			1.000							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
73	C:\NCPMH\1\METHODS (Physis.m)	Sample	1	Rinse25			1.000							
74	C:\NCPMH\1\METHODS (Physis.m)	Sample	1	Rinse26			1.000							
75	C:\NCPMH\1\METHODS (Physis.m)	Sample	1	Rinse27			1.000							
76	C:\NCPMH\1\METHODS (Physis.m)	Sample	2101	22627	QAQC Procedural Blank B1	22627,NA,B1,10/23/2013,E-7013,	10.00							
77	C:\NCPMH\1\METHODS (Physis.m)	Sample	2307	22634	B13-8127 Grab	22634,NA,R1,10/23/2013,E-7013,	41.35							
78	C:\NCPMH\1\METHODS (Physis.m)	Sample	2303	22634r	B13-8127 Grab Dup	22634,NA,R2,10/23/2013,E-7013,	43.17							
79	C:\NCPMH\1\METHODS (Physis.m)	Sample	2304	22635	B13-8121 Grab	22635,NA,R1,10/23/2013,E-7013,	29.34							
80	C:\NCPMH\1\METHODS (Physis.m)	Sample	2305	22636	B13-8065 Grab	22636,NA,R1,10/23/2013,E-7013,	35.08							
81	C:\NCPMH\1\METHODS (Physis.m)	Sample	2306	22637	B13-8105 Grab	22637,NA,R1,10/23/2013,E-7013,	21.03							
82	C:\NCPMH\1\METHODS (Physis.m)	Sample	2307	22638	B13-8117 Grab	22638,NA,R1,10/23/2013,E-7013,	27.52							
83	C:\NCPMH\1\METHODS (Physis.m)	Sample	2308	22639	B13-8113 Grab	22639,NA,R1,10/23/2013,E-7013,	30.59							
84	C:\NCPMH\1\METHODS (Physis.m)	Sample	2308	22640	B13-8116 Grab	22640,NA,R1,10/23/2013,E-7013,	25.61							
85	C:\NCPMH\1\METHODS (Physis.m)	Sample	2310	22641	B13-8108 Grab	22641,NA,R1,10/23/2013,E-7013,	26.73							
86	C:\NCPMH\1\METHODS (Physis.m)	Sample	2311	22642	B13-8109 Grab	22642,NA,R1,10/23/2013,E-7013,	24.38							
87	C:\NCPMH\1\METHODS (Physis.m)	Sample	2312	22643	B13-8102 Grab	22643,NA,R1,10/23/2013,E-7013,	33.00							
88	C:\NCPMH\1\METHODS (Physis.m)	Sample	2401	22646cm	QAQC CRM - RTC 018-0501	22646,NA,CRM1,10/23/2013,E-7013,	42.02							
89	C:\NCPMH\1\METHODS (Physis.m)	Sample	2402	22648cm	QAQC CRM - ERA 5401	22648,NA,CRM1,10/23/2013,E-7013,	48.83							
90	C:\NCPMH\1\METHODS (Physis.m)	Sample	1	Rinse28			1.000							
91	C:\NCPMH\1\METHODS (Physis.m)	Sample	2107	22627ns1	QAQC Procedural Blank BS1	22627,NA,BS1,10/23/2013,E-7013,	1.000							
92	C:\NCPMH\1\METHODS (Physis.m)	Sample	2108	22627ns2	QAQC Procedural Blank BS2	22627,NA,BS2,10/23/2013,E-7013,	1.000							
93	C:\NCPMH\1\METHODS (Physis.m)	Sample	2403	22634ms	B13-8127 Grab MS	22634,NA,MS1,10/23/2013,E-7013,	1.000							
94	C:\NCPMH\1\METHODS (Physis.m)	Sample	2404	22634mad	B13-8127 Grab MSD	22634,NA,MS2,10/23/2013,E-7013,	1.000							
95	C:\NCPMH\1\METHODS (Physis.m)	Sample	1	Rinse29			1.000							
96	C:\NCPMH\1\METHODS (Physis.m)	Sample	1	Rinse30			1.000							
97	C:\NCPMH\1\METHODS (Physis.m)	Sample	1201	CCV2			1.000E-01							
98	C:\NCPMH\1\METHODS (Physis.m)	Sample	1	Rinse31			1.000							
99	C:\NCPMH\1\METHODS (Physis.m)	Sample	1	Rinse32			1.000							
100	C:\NCPMH\1\METHODS (Physis.m)	Sample	1	Rinse33			1.000							
101		Keyword		StandBy										
102		Keyword		SAMPLED	End of SMPL									
103		Keyword		END	End of Sequence									
104		Keyword		BLKBEG	Start of BLANK									
105		Keyword		BLKEND	End of BLANK									
106		Keyword		ERRBEG	Start of ERRTERM									
107		Keyword		ERREND	End of ERRTERM									

Elements -

ICP-MS

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

(EPA 200.8 - SEM)

PHYSIS

Instrument Blank

TERRA FAUNA FLORA AQUA AURORA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name 0MIX.D
File Path D:\data\2131031.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/31/2013 13:52
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.000	ug/g	---	51.11	1.185E-04	Pulse	0.30	3
Cu	65	103	2	0.000	ug/g	---	2,289.13	5.309E-03	Pulse	0.30	3
Zn	66	103	2	0.000	ug/g	---	42.22	9.786E-05	Pulse	0.30	3
Ag	107	103	2	0.003	ug/g	4.19	122.23	2.836E-04	Pulse	0.30	3
Cd	114	103	2	0.000	ug/g	---	6.67	1.547E-05	Pulse	0.30	3
Pb	208	169	2	0.000	ug/g	---	100.00	2.156E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	60,752.14	1.96	100.0	Pulse	0.30	3
2	Rh	103	431,207.42	0.20	100.0	Pulse	0.30	3
3	Rh	103	958,789.25	1.41	100.0	Analog	0.30	3
2	Tm	169	463,098.25	1.39	100.0	Analog	0.30	3

PHYSIS

Initial Calibration Data

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Calibration for 1000MIX.D

Batch Folder: D:\DATA\2131031.B\

 Analysis File: 2131031.batch.xml

 DA Date-Time: 10/31/2013 3:41:33 PM

 Calibration Title:

 Calibration Method: External Calibration

 VIS Interpolation Fit:

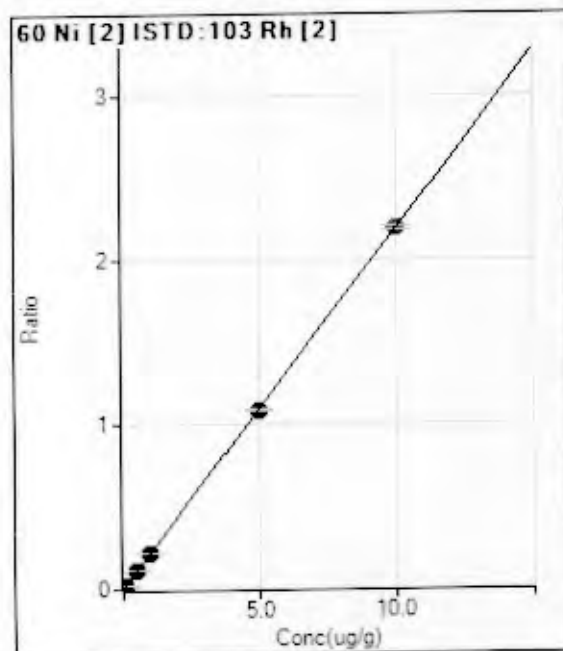
 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX.D	0 ppb mix	10/31/2013 1:52:35 PM
2	1MIX.D	1 ppb mix	10/31/2013 1:57:22 PM
3	5MIX.D	5 ppb mix	10/31/2013 2:02:07 PM
4	10MIX.D	10 ppb mix	10/31/2013 2:06:54 PM
5	50MIX.D	50 ppb mix	10/31/2013 2:11:40 PM
6	100MIX.D	100 ppb mix	10/31/2013 2:16:27 PM
7	500MIX.D	500 ppb mix	10/31/2013 2:21:12 PM
8	1000MIX.D	1000 ppb mix	10/31/2013 2:25:46 PM
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

Calibration for 1000MIX.D



$$y = 0.2190 * x + 1.1848E-004$$

$$R = 1.0000$$

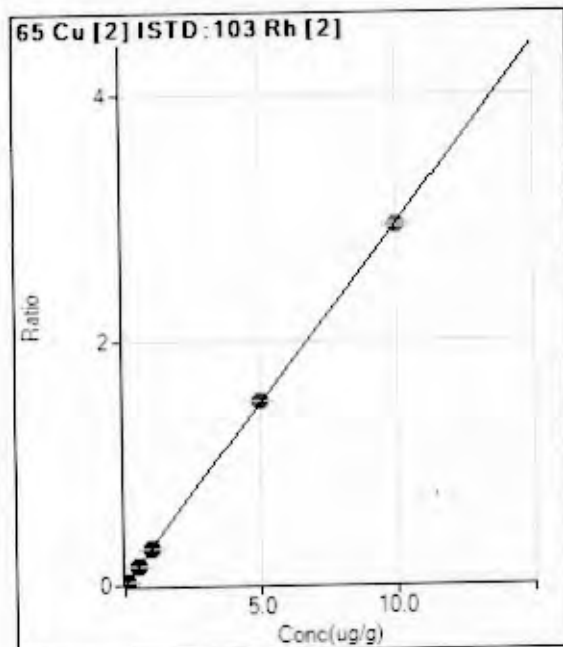
$$DL = 0.0006442$$

$$BEC = 0.0005411$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	51.11	0.0001	P	39.7
2	<input type="checkbox"/>	0.010	0.014	1346.77	0.0031	P	3.3
3	<input type="checkbox"/>	0.050	0.068	6519.27	0.0150	P	3.3
4	<input type="checkbox"/>	0.100	0.101	9514.01	0.0223	P	0.1
5	<input type="checkbox"/>	0.500	0.508	46540.70	0.1113	P	0.6
6	<input type="checkbox"/>	1.000	1.006	89186.98	0.2204	P	1.1
7	<input type="checkbox"/>	5.000	4.958	399899.43	1.0857	P	0.9
8	<input type="checkbox"/>	10.00	10.020	760598.71	2.1940	A	1.0
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.2941 * x + 0.0053$$

$$R = 1.0000$$

$$DL = 0.00661$$

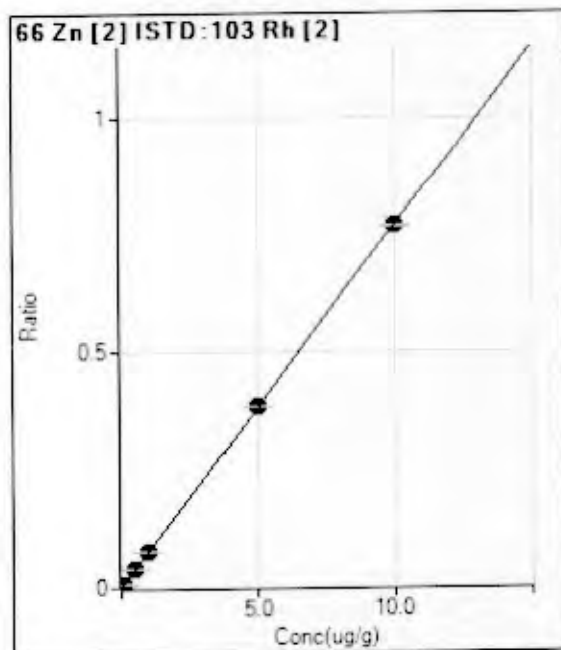
$$BEC = 0.01805$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	2289.13	0.0053	P	12.2
2	<input type="checkbox"/>	0.010	0.014	4061.75	0.0093	P	4.5
3	<input type="checkbox"/>	0.050	0.068	10947.15	0.0252	P	1.4
4	<input type="checkbox"/>	0.100	0.104	15268.23	0.0358	P	0.2
5	<input type="checkbox"/>	0.500	0.510	64975.94	0.1554	P	1.6
6	<input type="checkbox"/>	1.000	1.006	121918.48	0.3013	P	0.7
7	<input type="checkbox"/>	5.000	5.061	550189.59	1.4937	A	0.9
8	<input type="checkbox"/>	10.00	9.968	1018142.4	2.9369	A	1.0
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D



$$y = 0.0769 * x + 9.7864E-005$$

$$R = 1.0000$$

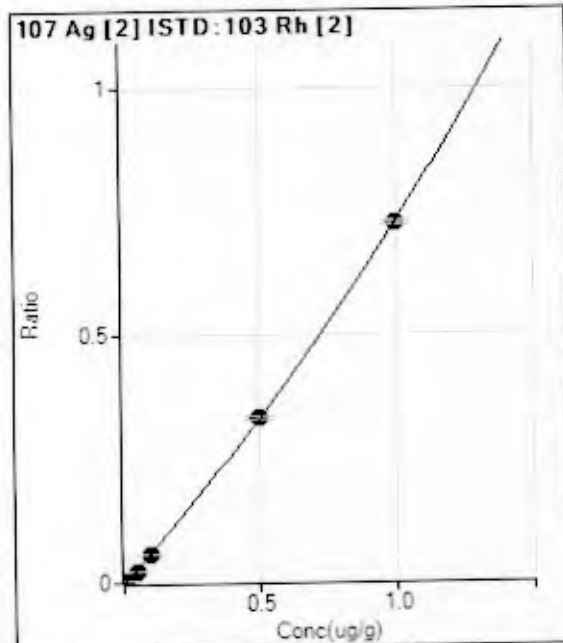
$$DL = 0.001932$$

$$BEC = 0.001273$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	42.22	0.0001	P	50.6
2	<input type="checkbox"/>	0.010	0.014	524.48	0.0012	P	10.0
3	<input type="checkbox"/>	0.050	0.068	2306.92	0.0053	P	3.7
4	<input type="checkbox"/>	0.100	0.103	3402.69	0.0080	P	2.2
5	<input type="checkbox"/>	0.500	0.513	16523.78	0.0395	P	1.4
6	<input type="checkbox"/>	1.000	1.005	31316.26	0.0774	P	0.5
7	<input type="checkbox"/>	5.000	5.031	142511.84	0.3869	P	0.8
8	<input type="checkbox"/>	10.00	9.983	266090.49	0.7675	P	0.5
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 0.1354 * x^2 + 0.5945 * x - 0.0017$$

$$DL = 0.0004196$$

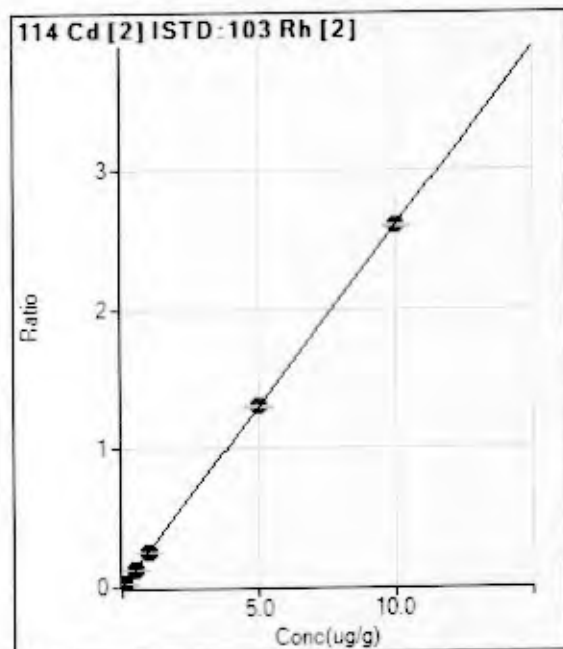
$$BEC = -0.002858$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.003	122.23	0.0003	P	29.3
2	<input type="checkbox"/>	0.001	0.004	305.57	0.0007	P	19.1
3	<input type="checkbox"/>	0.005	0.007	1144.53	0.0026	P	5.9
4	<input type="checkbox"/>	0.010	0.010	1815.73	0.0043	P	4.6
5	<input type="checkbox"/>	0.050	0.043	10197.84	0.0244	P	2.3
6	<input type="checkbox"/>	0.100	0.096	22943.95	0.0567	P	1.4
7	<input type="checkbox"/>	0.500	0.502	121898.56	0.3310	P	1.9
8	<input type="checkbox"/>	1.000	1.000	252297.58	0.7278	P	1.2
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D



$$y = 0.2601 * x + 1.5467E-005$$

$$R = 1.0000$$

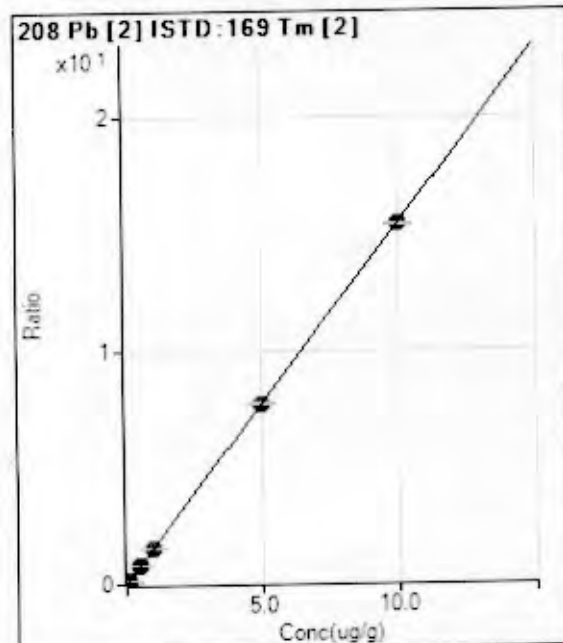
$$DL = 8.951E-05$$

$$BEC = 5.947E-05$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	6.67	0.0000	P	50.2
2	<input type="checkbox"/>	0.010	0.013	1466.79	0.0034	P	5.7
3	<input type="checkbox"/>	0.050	0.062	6971.71	0.0160	P	3.7
4	<input type="checkbox"/>	0.100	0.097	10742.72	0.0252	P	3.0
5	<input type="checkbox"/>	0.500	0.487	52934.20	0.1266	P	0.9
6	<input type="checkbox"/>	1.000	0.975	102596.27	0.2535	P	0.7
7	<input type="checkbox"/>	5.000	5.014	480329.16	1.3041	A	1.1
8	<input type="checkbox"/>	10.00	9.996	901384.69	2.6001	A	0.8
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



$$y = 1.5415 * x + 2.1563E-004$$

$$R = 1.0000$$

$$DL = 8.802E-05$$

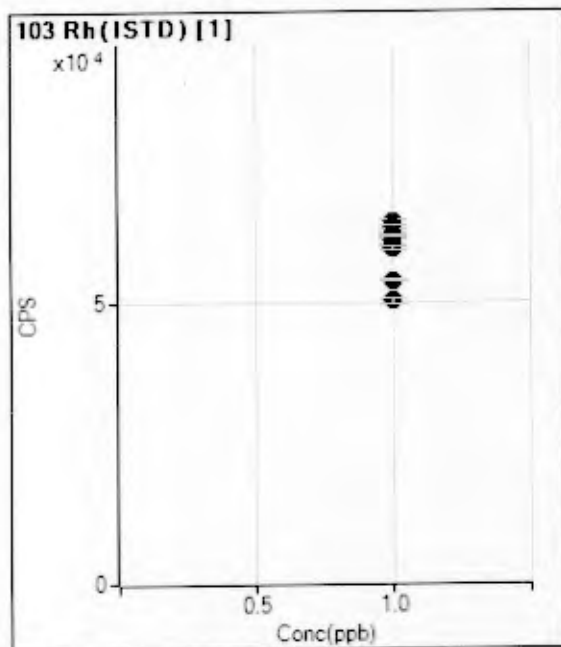
$$BEC = 0.0001399$$

Weight: None

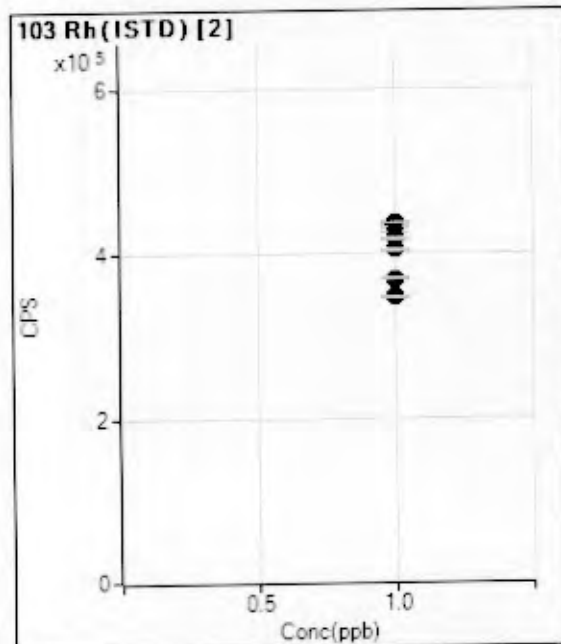
Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	100.00	0.0002	P	21.0
2	<input type="checkbox"/>	0.010	0.014	10486.26	0.0220	P	3.3
3	<input type="checkbox"/>	0.050	0.069	52044.31	0.1072	P	0.8
4	<input type="checkbox"/>	0.100	0.105	78001.48	0.1614	P	2.2
5	<input type="checkbox"/>	0.500	0.513	395221.34	0.7915	P	1.2
6	<input type="checkbox"/>	1.000	1.007	768293.07	1.5526	A	1.8
7	<input type="checkbox"/>	5.000	5.002	3601940.82	7.7114	A	0.6
8	<input type="checkbox"/>	10.00	9.997	6940516.08	15.410	A	0.7
9	<input type="checkbox"/>						
10	<input type="checkbox"/>						
11	<input type="checkbox"/>						
12	<input type="checkbox"/>						
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						

Calibration for 1000MIX.D

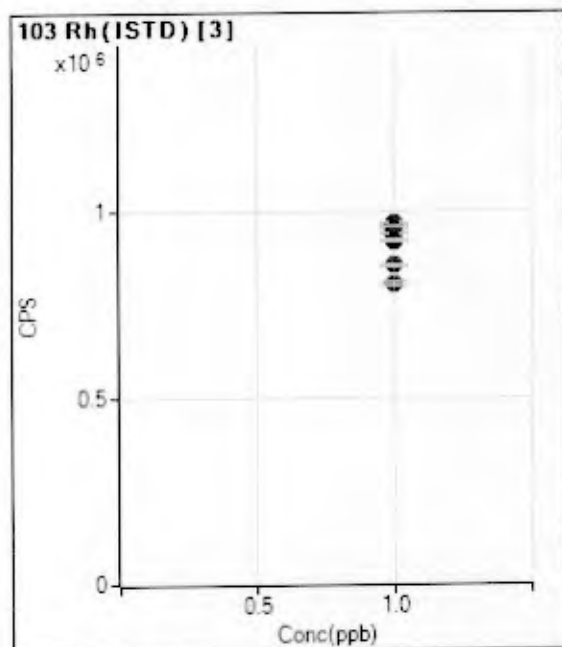


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	1.000		60752.14		P	2.0
2	<input type="checkbox"/>	1.000		62966.03		P	2.4
3	<input type="checkbox"/>	1.000		64131.18		P	1.3
4	<input type="checkbox"/>	1.000		63146.41		P	1.3
5	<input type="checkbox"/>	1.000		61704.45		P	1.0
6	<input type="checkbox"/>	1.000		59512.66		P	1.0
7	<input type="checkbox"/>	1.000		53803.79		P	0.7
8	<input type="checkbox"/>	1.000		50147.29		P	1.7
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

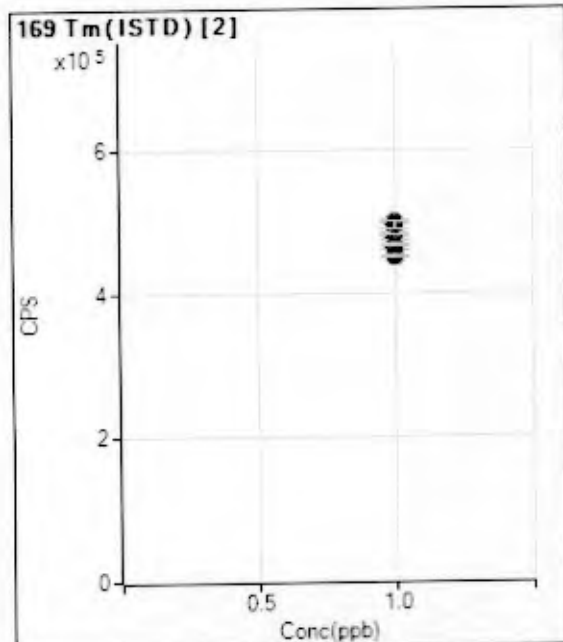


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	1.000		431207.42		P	0.2
2	<input type="checkbox"/>	1.000		436687.93		P	1.0
3	<input type="checkbox"/>	1.000		434848.12		P	0.8
4	<input type="checkbox"/>	1.000		425905.61		P	0.5
5	<input type="checkbox"/>	1.000		418094.33		P	0.9
6	<input type="checkbox"/>	1.000		404698.33		P	0.6
7	<input type="checkbox"/>	1.000		368342.23		P	0.7
8	<input type="checkbox"/>	1.000		346682.82		P	0.5
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

Calibration for 1000MIX.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		958789.25		A	1.4
2	<input type="checkbox"/>	1.000		966667.99		A	0.5
3	<input type="checkbox"/>	1.000		963227.28		A	1.3
4	<input type="checkbox"/>	1.000		949414.78		A	1.7
5	<input type="checkbox"/>	1.000		930749.16		A	1.4
6	<input type="checkbox"/>	1.000		918820.81		A	0.5
7	<input type="checkbox"/>	1.000		854762.05		A	0.5
8	<input type="checkbox"/>	1.000		805945.31		A	1.0
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		463098.25		A	1.4
2	<input type="checkbox"/>	1.000		477039.62		A	1.1
3	<input type="checkbox"/>	1.000		485593.76		A	1.3
4	<input type="checkbox"/>	1.000		483365.88		A	0.7
5	<input type="checkbox"/>	1.000		499403.68		A	1.2
6	<input type="checkbox"/>	1.000		494930.45		A	1.9
7	<input type="checkbox"/>	1.000		467107.86		A	0.7
8	<input type="checkbox"/>	1.000		450388.58		A	0.7
9	<input type="checkbox"/>	1.000					
10	<input type="checkbox"/>	1.000					
11	<input type="checkbox"/>	1.000					
12	<input type="checkbox"/>	1.000					
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

PHYSIS

Continuing Calibration Data

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ICPMS 7700x DATA REPORT

File Name ICV.D
File Path D:\data\2131031.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/31/2013 14:44
Sample Name 100 ppb (10 ppb Ag)
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.099	ug/g	1.77	77,702.65	2.164E-01	Pulse	0.30	3
Cu	65	103	2	0.100	ug/g	0.51	107,996.55	3.008E-01	Pulse	0.30	3
Zn	66	103	2	0.099	ug/g	0.99	27,311.73	7.607E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	2.84	21,288.39	5.929E-02	Pulse	0.30	3
Cd	114	103	2	0.100	ug/g	0.68	93,498.77	2.604E-01	Pulse	0.30	3
Pb	208	169	2	0.102	ug/g	0.19	725,045.07	1.576E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	50,238.92	2.49	82.7	Pulse	0.30	3
2	Rh	103	359,055.35	0.11	83.3	Pulse	0.30	3
3	Rh	103	824,724.01	0.95	86.0	Analog	0.30	3
2	Tm	169	460,142.67	0.06	99.4	Analog	0.30	3

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ICPMS 7700x DATA REPORT

File Name CCV.D
File Path D:\data\2131031.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/31/2013 18:05
Sample Name
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Ni	60	103	2	0.099	ug/g	0.98	79,372.15	2.175E-01	Pulse	0.30	3
Cu	65	103	2	0.100	ug/g	1.51	109,604.23	3.004E-01	Pulse	0.30	3
Zn	66	103	2	0.102	ug/g	1.88	28,695.14	7.864E-02	Pulse	0.30	3
Ag	107	103	2	0.010	ug/g	0.44	22,245.20	6.096E-02	Pulse	0.30	3
Cd	114	103	2	0.098	ug/g	1.02	93,394.86	2.559E-01	Pulse	0.30	3
Pb	208	169	2	0.102	ug/g	0.69	706,257.40	1.575E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	54,922.74	1.61	90.4	Pulse	0.30	3
2	Rh	103	364,913.61	0.60	84.6	Pulse	0.30	3
3	Rh	103	822,212.88	0.31	85.8	Analog	0.30	3
2	Tm	169	448,432.58	0.32	96.8	Analog	0.30	3

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Instrument Run Log

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	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1		Keyword		CAL.BEG	Start of CALIB									
2	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1101	Rinse			1.000							
3	C:\ICPMH\1\METHODS\IPhysis.m	CalBk	1101	0MIX	0 ppb mix	0 ng	0 ng Ag	Level 1						
4	C:\ICPMH\1\METHODS\IPhysis.m	CalStd	1102	1MIX	1 ppb mix	10 ng	1 ng Ag	Level 2						
5	C:\ICPMH\1\METHODS\IPhysis.m	CalStd	1103	5MIX	5 ppb mix	50 ng	5 ng Ag	Level 3						
6	C:\ICPMH\1\METHODS\IPhysis.m	CalStd	1104	10MIX	10 ppb mix	100 ng	10 ng Ag	Level 4						
7	C:\ICPMH\1\METHODS\IPhysis.m	CalStd	1105	50MIX	50 ppb mix	500 ng	50 ng Ag	Level 5						
8	C:\ICPMH\1\METHODS\IPhysis.m	CalStd	1106	100MIX	100 ppb mix	1000 ng	100 ng Ag	Level 6						
9	C:\ICPMH\1\METHODS\IPhysis.m	CalStd	1107	500MIX	500 ppb mix	5000 ng	500 ng Ag	Level 7						
10	C:\ICPMH\1\METHODS\IPhysis.m	CalStd	1108	1000MIX	1000 ppb mix	10000 ng	1000 ng Ag	Level 8						
11	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	Rinse1			1.000							
12	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	Rinse2			1.000							
13	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	Rinse3			1.000							
14	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1201	ICV	100 ppb (10 ppb Ag)		1.000E-01							
15	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	Rinse4			1.000							
16	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	Rinse5			1.000							
17	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	Rinse6			1.000							
18		Keyword		CALEND	End of CALIB									
19		Keyword		SAMPLE.BEG	Start of SMPLE									
20	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	Rinse7			1.000							
21	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	Rinse8			1.000							
22	C:\ICPMH\1\METHODS\IPhysis.m	Sample	1	Rinse9			1.000							
23	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2101	Rinse10			1.000							
24	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2101	22596	QAQC Procedural Blank B1	22596,NA,B1,10/31/2013,E-7018,	10.00							
25	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2101	22626	QAQC Procedural Blank B1	22626,NA,B1,10/31/2013,E-7018,	10.00							
26	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2101	22627	QAQC Procedural Blank B1	22627,NA,B1,10/31/2013,E-7018,	10.00							
27	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2102	22599	B13-8018 Grab	22599,NA,R1,10/31/2013,E-7018,	10.93							
28	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2103	22599r2	B13-8018 Grab Dup	22599,NA,R2,10/31/2013,E-7018,	12.48							
29	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2104	22600	B13-8053 Grab	22600,NA,R1,10/31/2013,E-7018,	14.29							
30	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2105	22628	B13-8111 Grab	22628,NA,R1,10/31/2013,E-7018,	28.74							
31	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2106	22628r2	B13-8111 Grab Dup	22628,NA,R2,10/31/2013,E-7018,	22.63							
32	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2107	22629	B13-8112 Grab	22629,NA,R1,10/31/2013,E-7018,	22.36							
33	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2108	22630	B13-8500 Grab	22630,NA,R1,10/31/2013,E-7018,	17.47							
34	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2109	22631	B13-8123 Grab	22631,NA,R1,10/31/2013,E-7018,	15.53							
35	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2110	22632	B13-8124 Grab	22632,NA,R1,10/31/2013,E-7018,	19.01							
36	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2111	22633	B13-8126 Grab	22633,NA,R1,10/31/2013,E-7018,	21.50							
37	C:\ICPMH\1\METHODS\IPhysis.m	Sample	2112	22634	B13-8127 Grab	22634,NA,R1,10/31/2013,E-7018,	22.58							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc.	Action on Failure	Skip	Result
1	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse1			1.000							
2	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse6			1.000							
3	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse9			1.000							
4	C:\CPMH1\METHOD S\Physis.m	Sample	2101	Rinse10			1.000							
5	C:\CPMH1\METHOD S\Physis.m	Sample	2101	22508	QAQC Procedural Blank B1	22508 NA,B1,10/31/2013,E-7018	10.00							
6	C:\CPMH1\METHOD S\Physis.m	Sample	2101	22520	QAQC Procedural Blank B1	22520 NA,B1,10/31/2013,E-7018	10.00							
7	C:\CPMH1\METHOD S\Physis.m	Sample	2101	22827	QAQC Procedural Blank B1	22827 NA,B1,10/31/2013,E-7018	10.00							
8	C:\CPMH1\METHOD S\Physis.m	Sample	2102	22509	B13-8018 Grab	22509 NA,R1,10/31/2013,E-7018	10.93							
9	C:\CPMH1\METHOD S\Physis.m	Sample	2103	22509/2	B13-8018 Grab Dup	22509 NA,R2,10/31/2013,E-7018	12.48							
10	C:\CPMH1\METHOD S\Physis.m	Sample	2104	22530	B13-8053 Grab	22530 NA,R1,10/31/2013,E-7018	14.29							
11	C:\CPMH1\METHOD S\Physis.m	Sample	2105	22628	B13-8111 Grab	22628 NA,R1,10/31/2013,E-7018	28.74							
12	C:\CPMH1\METHOD S\Physis.m	Sample	2105	22628/2	B13-8111 Grab Dup	22628 NA,R2,10/31/2013,E-7018	22.63							
13	C:\CPMH1\METHOD S\Physis.m	Sample	2107	22629	B13-8112 Grab	22629 NA,R1,10/31/2013,E-7018	22.39							
14	C:\CPMH1\METHOD S\Physis.m	Sample	2108	22630	B13-8500 Grab	22630 NA,R1,10/31/2013,E-7018	17.47							
15	C:\CPMH1\METHOD S\Physis.m	Sample	2109	22631	B13-8121 Grab	22631 NA,R1,10/31/2013,E-7018	15.53							
16	C:\CPMH1\METHOD S\Physis.m	Sample	2110	22632	B13-8124 Grab	22632 NA,R1,10/31/2013,E-7018	18.01							
17	C:\CPMH1\METHOD S\Physis.m	Sample	2111	22633	B13-8128 Grab	22633 NA,R1,10/31/2013,E-7018	21.85							
18	C:\CPMH1\METHOD S\Physis.m	Sample	2112	22634	B13-8127 Grab	22634 NA,R1,10/31/2013,E-7018	22.58							
19	C:\CPMH1\METHOD S\Physis.m	Sample	2201	22635	B13-8121 Grab	22635 NA,R1,10/31/2013,E-7018	23.97							
20	C:\CPMH1\METHOD S\Physis.m	Sample	2202	22636	B13-8085 Grab	22636 NA,R1,10/31/2013,E-7018	30.32							
21	C:\CPMH1\METHOD S\Physis.m	Sample	2203	22637	B13-8105 Grab	22637 NA,R1,10/31/2013,E-7018	19.48							
22	C:\CPMH1\METHOD S\Physis.m	Sample	2204	22638	B13-8117 Grab	22638 NA,R1,10/31/2013,E-7018	17.85							
23	C:\CPMH1\METHOD S\Physis.m	Sample	2205	22639	B13-8113 Grab	22639 NA,R1,10/31/2013,E-7018	17.65							
24	C:\CPMH1\METHOD S\Physis.m	Sample	2206	22640	B13-8116 Grab	22640 NA,R1,10/31/2013,E-7018	17.89							
25	C:\CPMH1\METHOD S\Physis.m	Sample	2207	22641	B13-8105 Grab	22641 NA,R1,10/31/2013,E-7018	19.97							
26	C:\CPMH1\METHOD S\Physis.m	Sample	2208	22642	B13-8106 Grab	22642 NA,R1,10/31/2013,E-7018	15.55							
27	C:\CPMH1\METHOD S\Physis.m	Sample	2209	22643	B13-8102 Grab	22643 NA,R1,10/31/2013,E-7018	28.65							
28	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse11			1.000							
29	C:\CPMH1\METHOD S\Physis.m	Sample	2210	22508b1	QAQC Procedural Blank B51	22508 NA,B51,10/31/2013,E-7018	1.000							
30	C:\CPMH1\METHOD S\Physis.m	Sample	2211	22508b2	QAQC Procedural Blank B52	22508 NA,B52,10/31/2013,E-7018	1.000							
31	C:\CPMH1\METHOD S\Physis.m	Sample	2210	22628b1	QAQC Procedural Blank B51	22628 NA,B51,10/31/2013,E-7018	1.000							
32	C:\CPMH1\METHOD S\Physis.m	Sample	2211	22628b2	QAQC Procedural Blank B52	22628 NA,B52,10/31/2013,E-7018	1.000							
33	C:\CPMH1\METHOD S\Physis.m	Sample	2212	22599ms	B13-8018 Grab MS	22599 NA,MS1,10/31/2013,E-7018	1.000							
34	C:\CPMH1\METHOD S\Physis.m	Sample	2301	22599msd	B13-8018 Grab MSD	22599 NA,MS2,10/31/2013,E-7018	1.000							
35	C:\CPMH1\METHOD S\Physis.m	Sample	2302	22628ms	B13-8111 Grab MS	22628 NA,MS1,10/31/2013,E-7018	1.000							
36	C:\CPMH1\METHOD S\Physis.m	Sample	2303	22628msd	B13-8111 Grab MSD	22628 NA,MS2,10/31/2013,E-7018	1.000							
37	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse12			1.000							
38	C:\CPMH1\METHOD S\Physis.m	Sample	1	Rinse13			1.000							
39	C:\CPMH1\METHOD S\Physis.m	Sample	1201	CCV			1.000E-01							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
40	C:\CPMH\1\METHOD S\Phys6.m	Sample	1	Rinse14			1.000							
41	C:\CPMH\1\METHOD S\Phys6.m	Sample	1	Rinse15			1.000							
42	C:\CPMH\1\METHOD S\Phys6.m	Sample	1	Rinse16			1.000							
43		Keyword		StandBy										

Elements -

ICP-MS

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(EPA 200.8)

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Instrument Blank

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ICPMS 7700x DATA REPORT

File Name OMIX.D
File Path D:\DATA\2131019A.b
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/29/2013 17:24
Sample Name 0 ppb mix
Sample Type CalBlk
Comment 0 ng 0 ng Ag

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	0.000	ug/l	---	12.22	1.196E-05	Pulse	0.30	3
Al	27	103	2	0.000	ug/l	---	7.78	1.692E-05	Pulse	0.30	3
Ti	48	103	2	0.000	ug/l	---	7.78	1.691E-05	Pulse	0.30	3
V	51	103	2	0.000	ug/l	---	2.22	4.816E-06	Pulse	0.30	3
Cr	52	103	2	0.000	ug/l	---	75.56	1.645E-04	Pulse	0.30	3
Mn	55	103	2	0.000	ug/l	---	40.00	8.705E-05	Pulse	0.30	3
Fe	57	103	2	0.000	ug/l	---	17.78	3.860E-05	Pulse	0.30	3
Co	59	103	2	0.000	ug/l	---	16.67	3.621E-05	Pulse	0.30	3
Ni	60	103	2	0.000	ug/l	---	3.33	7.264E-06	Pulse	0.30	3
Cu	65	103	2	0.000	ug/l	---	194.45	4.227E-04	Pulse	0.30	3
Zn	66	103	2	0.000	ug/l	---	14.44	3.140E-05	Pulse	0.30	3
As	75	103	2	0.000	ug/l	---	2.22	4.816E-06	Pulse	0.30	3
Se	78	103	1	0.000	ug/l	---	0.00		Pulse	0.30	3
Sr	88	103	2	0.000	ug/l	---	1.11	2.420E-06	Pulse	0.30	3
Mo	98	103	2	0.000	ug/l	---	6.67	1.448E-05	Pulse	0.30	3
Ag	107	103	2	0.000	ug/l	---	4.44	9.638E-06	Pulse	0.30	3
Cd	114	103	2	0.000	ug/l	---	0.00		Pulse	0.30	3
Sn	118	103	2	0.000	ug/l	---	31.11	6.769E-05	Pulse	0.30	3
Sb	121	169	2	0.000	ug/l	---	0.00		Pulse	0.30	3
Ba	137	169	2	0.000	ug/l	---	2.22	3.568E-06	Pulse	0.30	3
Hg	202	169	2		ug/l	---	17.78	2.849E-05	Pulse	0.30	3
Tl	205	169	2	0.000	ug/l	---	42.22	6.737E-05	Pulse	0.30	3
Pb	208	169	2	0.000	ug/l	---	124.45	1.991E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	80,166.48	1.90	100.0	Pulse	0.30	3
2	Rh	103	459,850.53	0.34	100.0	Analog	0.30	3
3	Rh	103	1,026,737.74	1.09	100.0	Analog	0.30	3
2	Tm	169	625,412.63	0.94	100.0	Analog	0.30	3

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Initial Calibration Data

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B13-VVEB

STD: 22623

Batch Folder: D:\DATA\2131029E.B\

Analysis File: 2131029E.batch.xml

DA Date-Time: 11/4/2013 4:35:55 PM

Calibration Title:

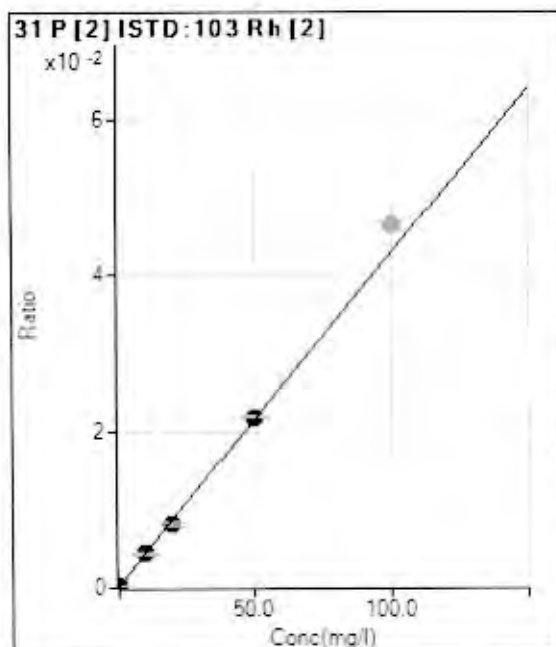
Calibration Method: External Calibration

VIS Interpolation Fit:

Tune Step: #1 h2.u
#2 he.u
#3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX_2131021.D	0 ppb mix	10/21/2013 11:04:00 AM
2	1MIX_2131021.D	1 ppb mix	10/21/2013 11:08:45 AM
3	5MIX_2131021.D	5 ppb mix	10/21/2013 11:13:28 AM
4	10MIX_2131021.D	10 ppb mix	10/21/2013 11:18:12 AM
5	50MIX_2131021.D	50 ppb mix	10/21/2013 11:22:57 AM
6	100MIX_2131021.D	100 ppb mix	10/21/2013 11:27:42 AM
7	500MIX_2131021.D	500 ppb mix	10/21/2013 11:32:25 AM
8	1000MIX_2131021.D	1000 ppb mix	10/21/2013 11:36:58 AM
9	1P_2131021.D	1 ppm P	10/21/2013 11:51:09 AM
10	2P_2131021.D	2 ppm P	10/21/2013 11:55:56 AM
11	5P_2131021.D	5 ppm P	10/21/2013 12:00:43 PM
12	10P_2131021.D	10 ppm P	10/21/2013 12:05:32 PM
13			
14			
15			
16			
17			
18			

Calibration for IOP_2131021.D



$$y = 4.2759E-004 * x + 1.3745E-004$$

R = 0.9994

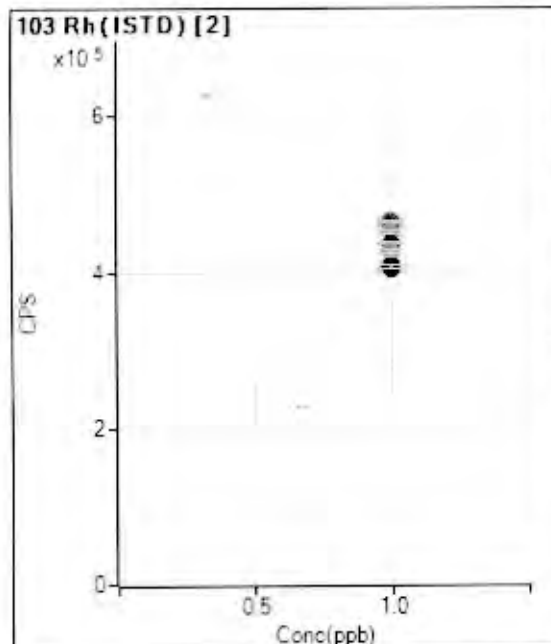
DL = 0.09514

BEC = 0.3214

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	63.34	0.0001	P	9.9
2	<input type="checkbox"/>			61.11	0.0001	P	28.7
3	<input type="checkbox"/>			42.22	0.0001	P	46.1
4	<input type="checkbox"/>			58.89	0.0001	P	28.7
5	<input type="checkbox"/>			56.67	0.0001	P	11.0
6	<input type="checkbox"/>			48.89	0.0001	P	21.5
7	<input type="checkbox"/>			65.56	0.0002	P	24.9
8	<input type="checkbox"/>			46.67	0.0001	P	26.2
9	<input type="checkbox"/>	10.00	10.001	1781.	0.0044	P	5.4
10	<input type="checkbox"/>	20.00	18.705	3293.	0.0081	P	4.1
11	<input type="checkbox"/>	50.00	50.518	8801.	0.0217	P	0.8
12	<input checked="" type="checkbox"/>	100.0		1885	0.0464	P	2.7
13	<input type="checkbox"/>						
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		460663.99		A	1.6
2	<input type="checkbox"/>	1.000		464124.60		A	1.6
3	<input type="checkbox"/>	1.000		464686.11		A	0.4
4	<input type="checkbox"/>	1.000		464132.26		A	0.7
5	<input type="checkbox"/>	1.000		451285.23		M	1.2
6	<input type="checkbox"/>	1.000		436689.54		P	0.5
7	<input type="checkbox"/>	1.000		408265.57		P	0.4
8	<input type="checkbox"/>	1.000		426483.79		M	1.0
9	<input type="checkbox"/>	1.000		403562.38		P	0.5
10	<input type="checkbox"/>	1.000		404920.21		P	0.6
11	<input type="checkbox"/>	1.000		404872.53		P	0.5
12	<input type="checkbox"/>	1.000		406024.27		P	0.9
13	<input type="checkbox"/>	1.000					
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					

B13-VVEB

SID 22623

Batch Folder: D:\DATA\2131019A.b\

 Analysis File: 2131019A.batch.xml

 DA Date-Time: 6/25/2014 4:30:19 PM

 Calibration Title:

 Calibration Method: External Calibration

 VIS Interpolation Fit:

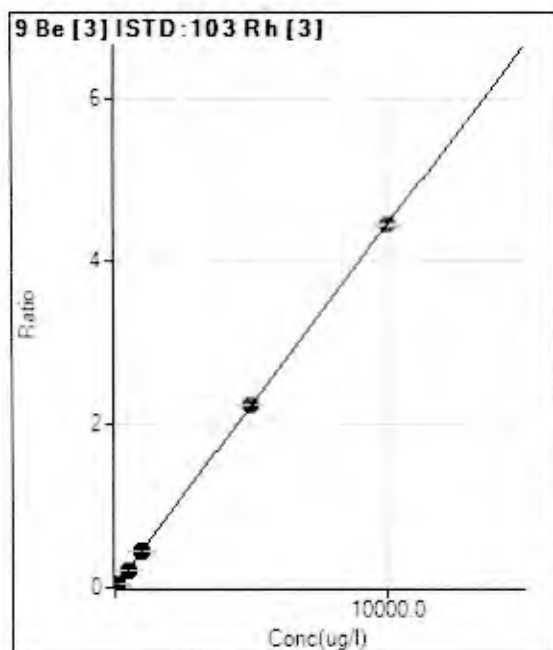
 Tune Step: #1 h2.u

 #2 he.u

 #3 nogas.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	0MIX.D	0 ppb mix	10/29/2013 5:24:50 PM
2	1MIX.D	1 ppb mix	10/29/2013 5:29:38 PM
3	5MIX.D	5 ppb mix	10/29/2013 5:34:23 PM
4	10MIX.D	10 ppb mix	10/29/2013 5:39:08 PM
5	50MIX.D	50 ppb mix	10/29/2013 5:43:56 PM
6	100MIX.D	100 ppb mix	10/29/2013 5:48:43 PM
7	500MIX.D	500 ppb mix	10/29/2013 5:53:28 PM
8	1000MIX.D	1000 ppb mix	10/29/2013 5:58:00 PM
9	HG1.D	1 ppb Hg	10/29/2013 6:12:11 PM
10	HG2.D	2 ppb Hg	10/29/2013 6:16:58 PM
11	HG5.D	5 ppb Hg	10/29/2013 6:21:44 PM
12	HG10.D	10 ppb Hg	10/29/2013 6:26:32 PM
13	HG100.D	100 ppb Hg	10/29/2013 6:31:18 PM
14			
15			
16			
17			
18			
19			
20			

Calibration for HG100.D



$$y = 4.4475E-004 * x + 1.1960E-005$$

$$R = 1.0000$$

$$DL = 0.05595$$

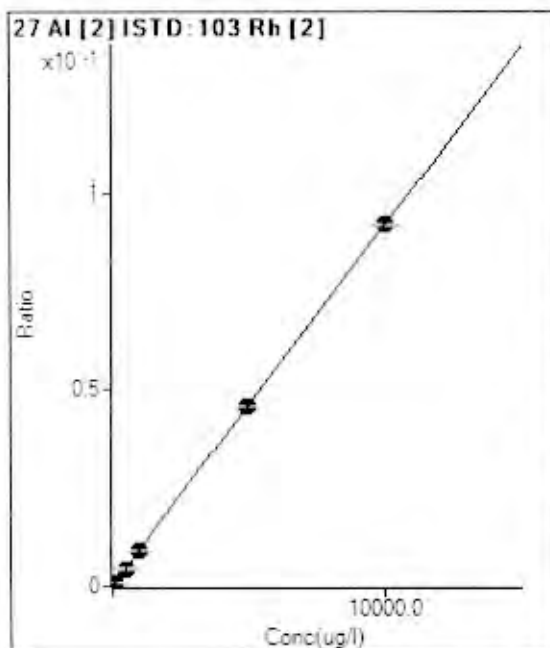
$$BEC = 0.02689$$

Weight: None

Min Conc: <None>

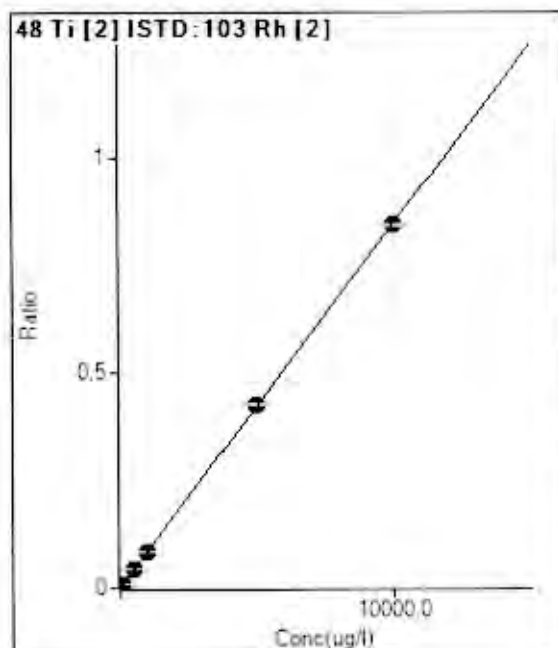
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	12.22	0.0000	P	69.4
2	<input type="checkbox"/>	10.000	9.943	4406.25	0.0044	P	1.6
3	<input type="checkbox"/>	50.000	49.403	22007.17	0.0220	P	1.8
4	<input type="checkbox"/>	100.000	100.842	43003.03	0.0449	P	0.5
5	<input type="checkbox"/>	500.000	498.775	211092.85	0.2218	P	1.1
6	<input type="checkbox"/>	1000.000	992.103	411245.31	0.4412	P	0.4
7	<input type="checkbox"/>	5000.000	5017.590	1938969.02	2.2316	A	0.2
8	<input type="checkbox"/>	10000.00	9992.050	3763079.39	4.4440	A	0.4
9	<input type="checkbox"/>			108.89	0.0001	P	27.3
10	<input type="checkbox"/>			120.01	0.0001	P	49.1
11	<input type="checkbox"/>			88.89	0.0001	P	12.2
12	<input type="checkbox"/>			86.67	0.0001	P	24.5
13	<input type="checkbox"/>			75.56	0.0001	P	25.9
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for HG100.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	7.78	0.0000	P	65.7
2	<input type="checkbox"/>	10.000	15.040	70.00	0.0002	P	20.1
3	<input type="checkbox"/>	50.000	54.997	233.34	0.0005	P	12.7
4	<input type="checkbox"/>	100.000	108.330	436.69	0.0010	P	10.8
5	<input type="checkbox"/>	500.000	501.272	1973.52	0.0046	P	9.0
6	<input type="checkbox"/>	1000.000	1021.110	3915.03	0.0094	P	2.0
7	<input type="checkbox"/>	5000.000	4979.599	17486.69	0.0458	P	0.3
8	<input type="checkbox"/>	10000.00	10007.91	33753.15	0.0920	P	0.4
9	<input type="checkbox"/>			23.33	0.0001	P	25.0
10	<input type="checkbox"/>			31.11	0.0001	P	43.7
11	<input type="checkbox"/>			21.11	0.0001	P	63.4
12	<input type="checkbox"/>			27.78	0.0001	P	25.7
13	<input type="checkbox"/>			20.00	0.0001	P	0.5
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for HG100.D



$$y = 8.4535E-005 * x + 1.6912E-005$$

R = 1.0000

DL = 0.3936

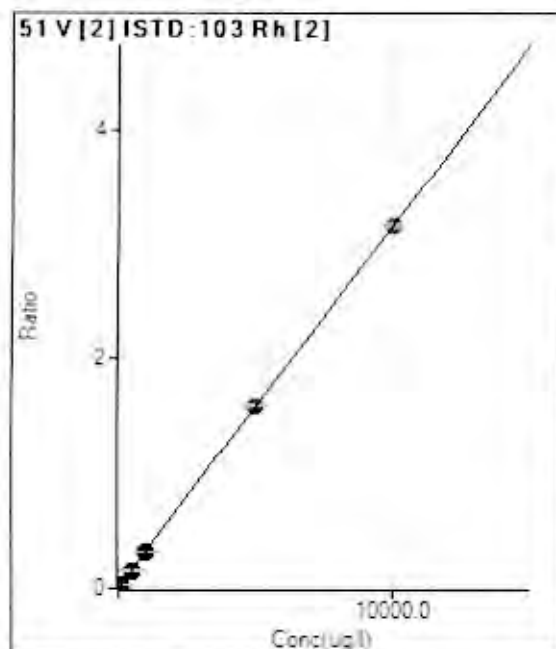
BEC = 0.2001

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	7.78	0.0000	P	65.6
2	<input type="checkbox"/>	10.000	11.109	431.14	0.0010	P	10.7
3	<input type="checkbox"/>	50.000	50.930	1930.18	0.0043	P	7.5
4	<input type="checkbox"/>	100.000	102.234	3733.88	0.0087	P	4.0
5	<input type="checkbox"/>	500.000	506.755	18286.62	0.0429	P	0.5
6	<input type="checkbox"/>	1000.000	1019.152	35871.12	0.0862	P	1.3
7	<input type="checkbox"/>	5000.000	5037.454	162617.07	0.4259	P	1.1
8	<input type="checkbox"/>	10000.00	9978.992	309441.67	0.8436	P	0.5
9	<input type="checkbox"/>			24.44	0.0001	P	91.0
10	<input type="checkbox"/>			21.11	0.0001	P	56.0
11	<input type="checkbox"/>			25.56	0.0001	P	8.1
12	<input type="checkbox"/>			11.11	0.0000	P	62.9
13	<input type="checkbox"/>			14.44	0.0000	P	104
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for HG100.D



$$y = 3.1633E-004 * x + 4.8163E-006$$

$$R = 1.0000$$

$$DL = 0.07912$$

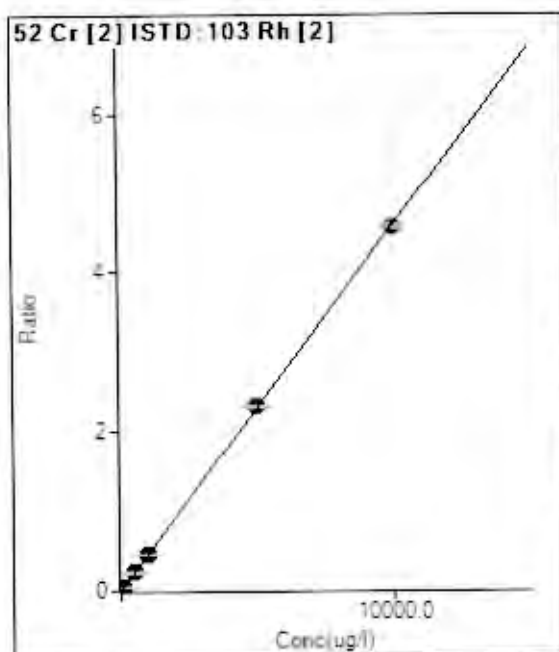
$$BEC = 0.01523$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	2.22	0.0000	P	173.2
2	<input type="checkbox"/>	10.000	10.854	1549.02	0.0034	P	8.5
3	<input type="checkbox"/>	50.000	51.939	7337.33	0.0164	P	1.5
4	<input type="checkbox"/>	100.000	99.876	13625.67	0.0316	P	2.8
5	<input type="checkbox"/>	500.000	502.346	67807.52	0.1589	P	1.3
6	<input type="checkbox"/>	1000.000	992.171	130658.77	0.3139	P	0.3
7	<input type="checkbox"/>	5000.000	5040.741	608879.06	1.5945	A	1.2
8	<input type="checkbox"/>	10000.00	9980.286	1158024.1	3.1570	A	1.1
9	<input type="checkbox"/>			52.23	0.0001	P	18.7
10	<input type="checkbox"/>			54.45	0.0001	P	40.9
11	<input type="checkbox"/>			66.67	0.0002	P	29.7
12	<input type="checkbox"/>			63.34	0.0002	P	48.0
13	<input type="checkbox"/>			58.89	0.0001	P	26.4
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for HG100.D



$$y = 4.5705E-004 * x + 1.6449E-004$$

$$R = 1.0000$$

$$DL = 0.5293$$

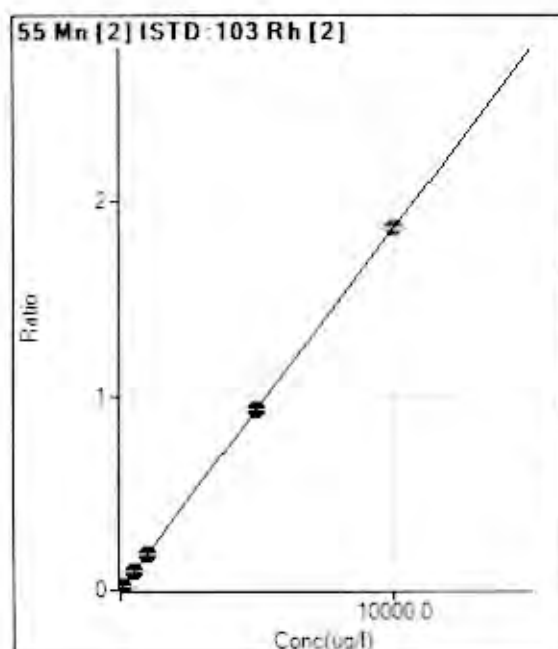
$$BEC = 0.3599$$

Weight: None

Min Conc: <None>

	Rjet	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	75.56	0.0002	P	49.0
2	<input type="checkbox"/>	10.000	10.259	2188.01	0.0049	P	4.4
3	<input type="checkbox"/>	50.000	51.059	10491.25	0.0235	P	3.7
4	<input type="checkbox"/>	100.000	100.924	19960.74	0.0463	P	1.8
5	<input type="checkbox"/>	500.000	502.038	97979.35	0.2296	P	0.4
6	<input type="checkbox"/>	1000.000	1012.790	192768.04	0.4631	P	0.7
7	<input type="checkbox"/>	5000.000	5048.782	881195.47	2.3077	A	1.2
8	<input type="checkbox"/>	10000.00	9974.213	1672218.3	4.5588	A	1.0
9	<input type="checkbox"/>			327.80	0.0008	P	11.7
10	<input type="checkbox"/>			123.34	0.0003	P	31.1
11	<input type="checkbox"/>			127.78	0.0003	P	36.4
12	<input type="checkbox"/>			90.00	0.0002	P	41.6
13	<input type="checkbox"/>			165.56	0.0004	P	26.7
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for HG100.D



$$y = 1.8601E-004 * x + 8.7049E-005$$

$$R = 1.0000$$

$$DL = 0.715$$

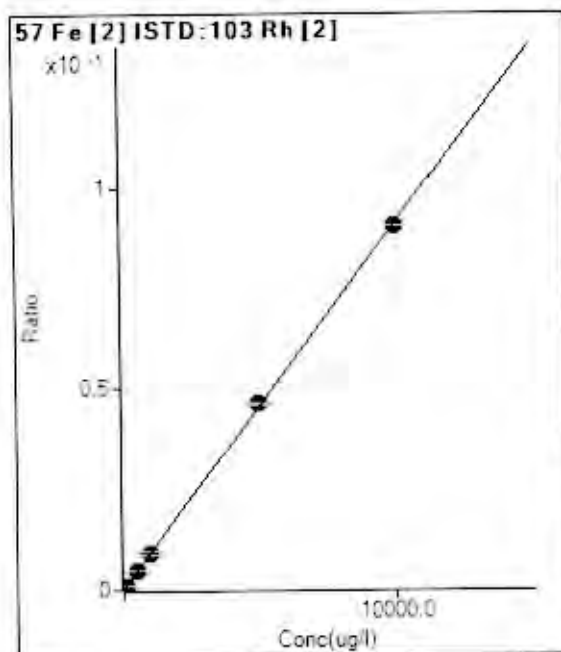
$$BEC = 0.468$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	40.00	0.0001	P	50.9
2	<input type="checkbox"/>	10.000	9.399	827.84	0.0018	P	11.3
3	<input type="checkbox"/>	50.000	48.475	4065.08	0.0091	P	6.1
4	<input type="checkbox"/>	100.000	98.278	7919.85	0.0184	P	1.7
5	<input type="checkbox"/>	500.000	506.434	40232.77	0.0943	P	0.6
6	<input type="checkbox"/>	1000.000	1005.865	77919.80	0.1872	P	1.5
7	<input type="checkbox"/>	5000.000	4984.310	354076.73	0.9272	P	0.4
8	<input type="checkbox"/>	10000.00	10006.96	682820.53	1.8614	A	0.2
9	<input type="checkbox"/>			36.67	0.0001	P	40.3
10	<input type="checkbox"/>			18.89	0.0000	F	36.7
11	<input type="checkbox"/>			17.78	0.0000	F	38.6
12	<input type="checkbox"/>			24.44	0.0001	P	30.6
13	<input type="checkbox"/>			28.89	0.0001	P	70.3
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for HG100.D



$$y = 9.0507E-006 * x + 3.8600E-005$$

R = 0.9999

DL = 9.673

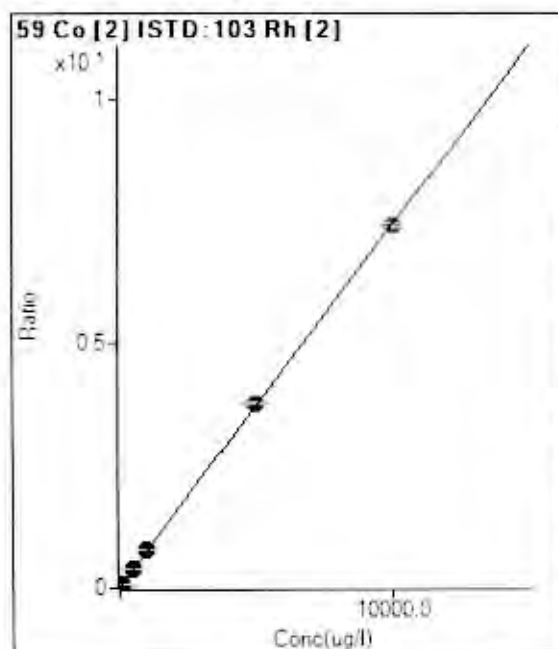
BEC = 4.265

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	17.78	0.0000	P	75.6
2	<input type="checkbox"/>	10.000	8.245	51.11	0.0001	P	61.1
3	<input type="checkbox"/>	50.000	52.671	230.01	0.0005	P	9.9
4	<input type="checkbox"/>	100.000	86.295	353.35	0.0008	P	11.1
5	<input type="checkbox"/>	500.000	511.932	1993.53	0.0047	P	4.3
6	<input type="checkbox"/>	1000.000	1002.885	3793.90	0.0091	P	8.7
7	<input type="checkbox"/>	5000.000	5105.358	17660.46	0.0462	P	0.8
8	<input type="checkbox"/>	10000.00	9946.561	33036.96	0.0901	P	0.1
9	<input type="checkbox"/>			34.44	0.0001	P	68.9
10	<input type="checkbox"/>			12.22	0.0000	P	15.3
11	<input type="checkbox"/>			13.33	0.0000	P	66.7
12	<input type="checkbox"/>			8.89	0.0000	P	57.6
13	<input type="checkbox"/>			24.44	0.0001	P	20.6
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for HG100.D



$$y = 7.4300E-004 * x + 3.6213E-005$$

$$R = 1.0000$$

$$DL = 0.05802$$

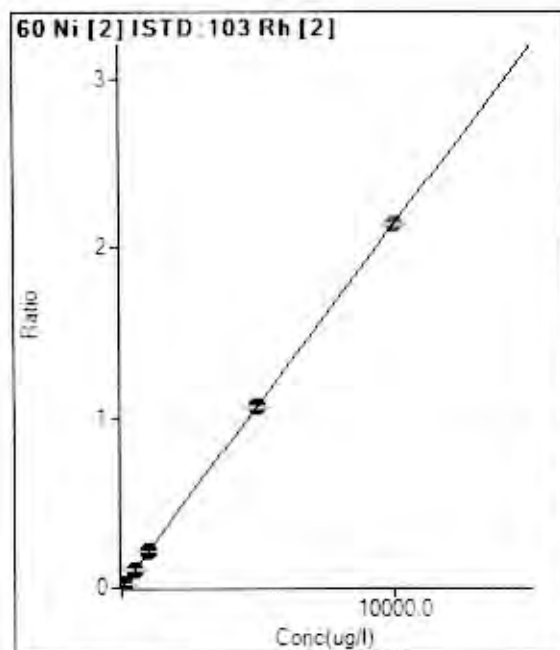
$$BEC = 0.04874$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	16.67	0.0000	P	39.7
2	<input type="checkbox"/>	10.000	10.476	3523.83	0.0078	P	4.3
3	<input type="checkbox"/>	50.000	51.796	17198.87	0.0385	P	0.5
4	<input type="checkbox"/>	100.000	104.100	33368.69	0.0774	P	1.8
5	<input type="checkbox"/>	500.000	522.090	165540.00	0.3880	P	0.4
6	<input type="checkbox"/>	1000.000	1036.543	320620.05	0.7702	P	0.9
7	<input type="checkbox"/>	5000.000	5077.678	1440701.59	3.7728	A	0.8
8	<input type="checkbox"/>	10000.00	9956.352	2713445.45	7.3976	A	1.2
9	<input type="checkbox"/>			72.23	0.0002	P	30.3
10	<input type="checkbox"/>			62.22	0.0002	P	10.9
11	<input type="checkbox"/>			72.22	0.0002	P	23.6
12	<input type="checkbox"/>			81.12	0.0002	P	40.5
13	<input type="checkbox"/>			86.67	0.0002	P	13.8
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for HG100.D



$$y = 2.1296E-004 * x + 7.2641E-006$$

R = 1.0000

DL = 0.1024

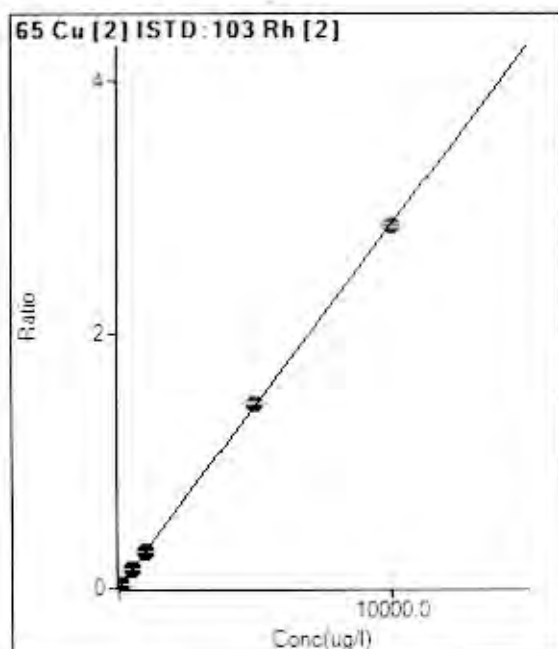
BEC = 0.03411

Weight: None

Min Conc: <None>

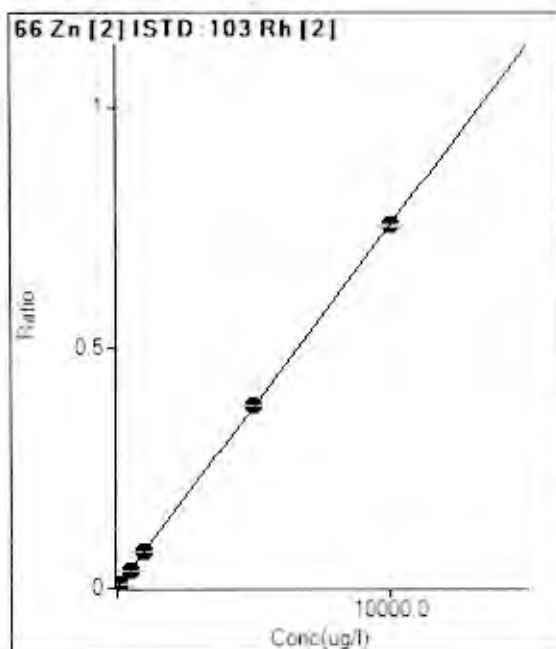
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	3.33	0.0000	P	100.1
2	<input type="checkbox"/>	10.000	10.178	980.07	0.0022	P	12.4
3	<input type="checkbox"/>	50.000	50.691	4823.07	0.0108	P	0.9
4	<input type="checkbox"/>	100.000	97.139	8922.60	0.0207	P	3.1
5	<input type="checkbox"/>	500.000	504.004	45803.16	0.1073	P	1.0
6	<input type="checkbox"/>	1000.000	1007.378	89313.48	0.2145	P	0.9
7	<input type="checkbox"/>	5000.000	4972.715	404406.09	1.0590	P	0.5
8	<input type="checkbox"/>	10000.00	10012.72	782165.95	2.1323	A	0.7
9	<input type="checkbox"/>			11.11	0.0000	P	18.0
10	<input type="checkbox"/>			13.33	0.0000	P	0.6
11	<input type="checkbox"/>			14.44	0.0000	P	35.2
12	<input type="checkbox"/>			11.11	0.0000	P	62.7
13	<input type="checkbox"/>			116.67	0.0003	P	10.7
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for HG100.D



	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	194.45	0.0004	P	18.4
2	<input type="checkbox"/>	10.000	23.818	3260.43	0.0072	P	0.6
3	<input type="checkbox"/>	50.000	62.546	8174.44	0.0183	P	5.3
4	<input type="checkbox"/>	100.000	116.481	14543.12	0.0337	P	3.0
5	<input type="checkbox"/>	500.000	519.002	63505.11	0.1488	P	0.8
6	<input type="checkbox"/>	1000.000	1019.431	121529.23	0.2919	P	0.2
7	<input type="checkbox"/>	5000.000	5089.430	555873.06	1.4557	A	1.2
8	<input type="checkbox"/>	10000.00	9952.151	1043982.2	2.8462	A	1.2
9	<input type="checkbox"/>			1581.24	0.0040	P	7.5
10	<input type="checkbox"/>			1604.59	0.0041	P	13.4
11	<input type="checkbox"/>			1659.04	0.0042	P	10.4
12	<input type="checkbox"/>			1369.00	0.0034	P	8.6
13	<input type="checkbox"/>			1315.66	0.0033	P	3.1
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for HG100.D



$$y = 7.5495E-005 * x + 3.1400E-005$$

$$R = 1.0000$$

$$DL = 0.1622$$

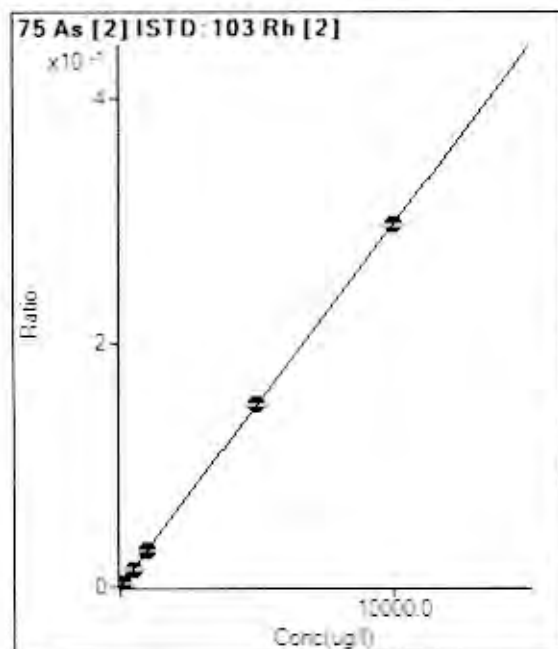
$$BEC = 0.4159$$

Weight: None

Min. Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	14.44	0.0000	P	13.0
2	<input type="checkbox"/>	10.000	10.039	355.58	0.0008	P	9.9
3	<input type="checkbox"/>	50.000	48.805	1659.04	0.0037	P	0.5
4	<input type="checkbox"/>	100.000	117.311	3832.79	0.0089	P	2.6
5	<input type="checkbox"/>	500.000	499.789	16113.51	0.0378	P	0.9
6	<input type="checkbox"/>	1000.000	1004.614	31586.73	0.0759	P	1.0
7	<input type="checkbox"/>	5000.000	5034.429	145154.18	0.3801	P	0.4
8	<input type="checkbox"/>	10000.00	9982.167	276445.24	0.7536	P	0.4
9	<input type="checkbox"/>			41.11	0.0001	P	25.5
10	<input type="checkbox"/>			43.34	0.0001	P	26.5
11	<input type="checkbox"/>			26.67	0.0001	P	53.8
12	<input type="checkbox"/>			25.56	0.0001	P	54.0
13	<input type="checkbox"/>			126.67	0.0003	P	7.0
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for HG100.D



$$y = 2.9670E-005 * x + 4.8163E-006$$

R = 1.0000

DL = 0.8435

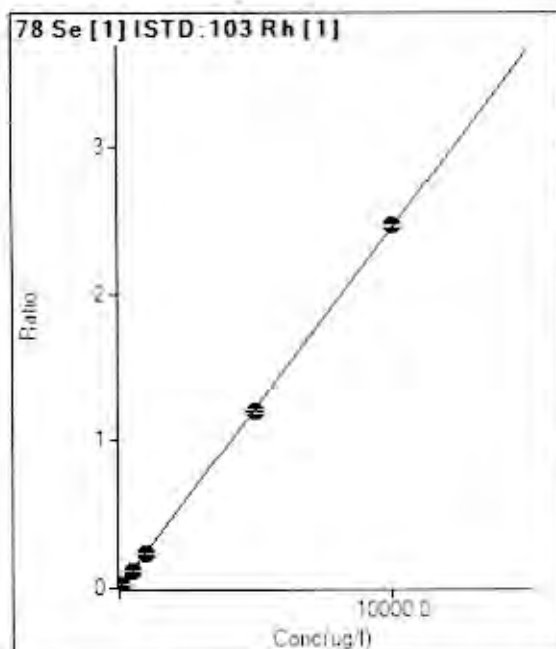
BEC = 0.1623

Weight: None

Min Conc: <None>

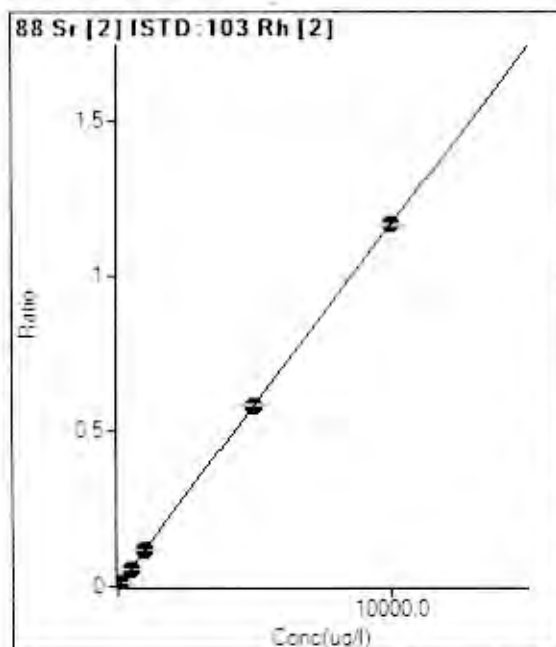
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	2.22	0.0000	P	173.2
2	<input type="checkbox"/>	10.000	10.650	144.45	0.0003	P	21.5
3	<input type="checkbox"/>	50.000	49.416	656.71	0.0015	P	2.2
4	<input type="checkbox"/>	100.000	100.162	1283.44	0.0030	P	2.4
5	<input type="checkbox"/>	500.000	500.299	6335.84	0.0148	P	3.0
6	<input type="checkbox"/>	1000.000	994.007	12279.18	0.0295	P	0.7
7	<input type="checkbox"/>	5000.000	5017.621	56849.20	0.1489	P	1.1
8	<input type="checkbox"/>	10000.00	9991.774	108747.1	0.2965	P	0.8
9	<input type="checkbox"/>			3.33	0.0000	P	99.9
10	<input type="checkbox"/>			5.55	0.0000	P	69.9
11	<input type="checkbox"/>			10.00	0.0000	P	32.7
12	<input type="checkbox"/>			3.33	0.0000	P	100.2
13	<input type="checkbox"/>			4.44	0.0000	P	173.2
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for HG100.D



	Rjct	Conc.	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	0.00	0.0000	P	
2	<input type="checkbox"/>	10.000	10.931	185.57	0.0027	P	9.0
3	<input type="checkbox"/>	50.000	47.659	815.61	0.0117	P	6.0
4	<input type="checkbox"/>	100.000	94.220	1512.36	0.0231	P	12.8
5	<input type="checkbox"/>	500.000	480.237	7661.97	0.1177	P	3.2
6	<input type="checkbox"/>	1000.000	949.827	14701.11	0.2329	P	1.9
7	<input type="checkbox"/>	5000.000	4898.611	71453.41	1.2010	P	2.8
8	<input type="checkbox"/>	10000.00	10056.76	138513.4	2.4655	P	0.6
9	<input type="checkbox"/>			11.11	0.0002	P	76.6
10	<input type="checkbox"/>			15.56	0.0003	P	89.1
11	<input type="checkbox"/>			4.44	0.0001	P	42.8
12	<input type="checkbox"/>			2.22	0.0000	P	173.
13	<input type="checkbox"/>			0.00	0.0000	P	
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for HG100.D



$$y = 1.1632E-004 * x + 2.4198E-006$$

$$R = 1.0000$$

$$DL = 0.1081$$

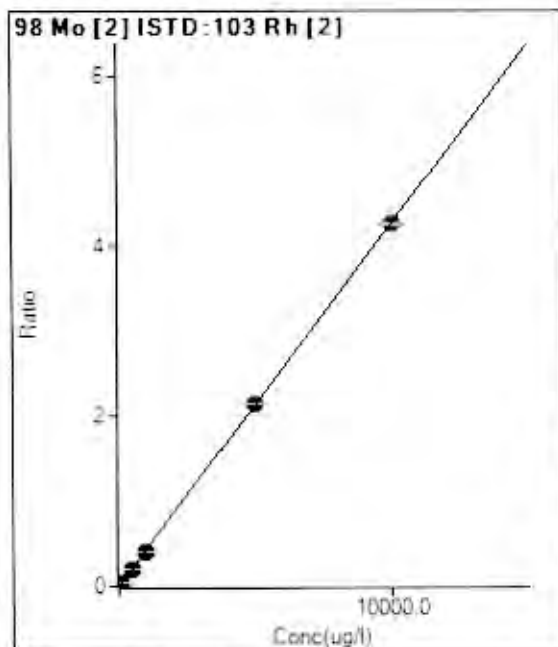
$$BEC = 0.0208$$

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	1.11	0.0000	P	173.2
2	<input type="checkbox"/>	10.000	9.641	506.70	0.0011	P	3.1
3	<input type="checkbox"/>	50.000	50.664	2632.53	0.0059	P	4.8
4	<input type="checkbox"/>	100.000	100.832	5059.81	0.0117	P	5.3
5	<input type="checkbox"/>	500.000	490.462	24345.56	0.0571	P	0.5
6	<input type="checkbox"/>	1000.000	997.567	48306.79	0.1160	P	1.3
7	<input type="checkbox"/>	5000.000	4996.210	221930.13	0.5812	P	1.3
8	<input type="checkbox"/>	10000.00	10002.60	426809.77	1.1635	P	0.8
9	<input type="checkbox"/>			3.33	0.0000	P	99.6
10	<input type="checkbox"/>			0.00	0.0000	P	
11	<input type="checkbox"/>			4.44	0.0000	P	114.3
12	<input type="checkbox"/>			1.11	0.0000	P	173.2
13	<input type="checkbox"/>			11.11	0.0000	P	105.2
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for HG100.D



$$y = 4.2610E-004 * x + 1.4480E-005$$

$$R = 1.0000$$

$$DL = 0.08829$$

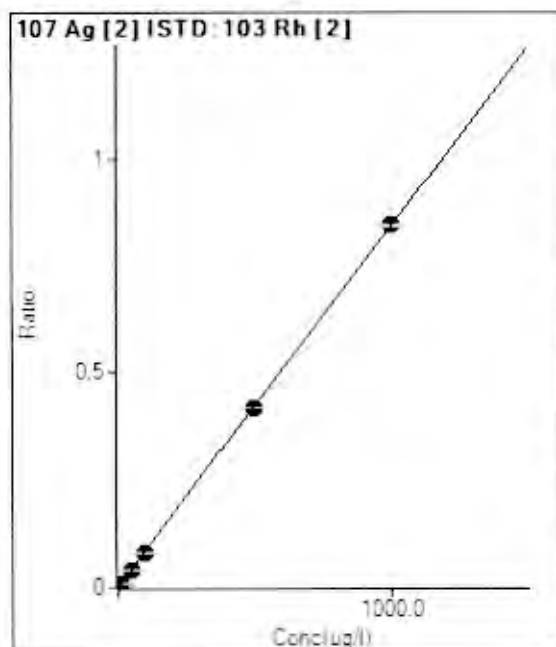
$$BEC = 0.03398$$

Weight: None

Min Conc: <None>

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	6.67	0.0000	P	86.6
2	<input type="checkbox"/>	10.000	9.494	1830.17	0.0041	P	1.5
3	<input type="checkbox"/>	50.000	47.874	9114.95	0.0204	P	3.2
4	<input type="checkbox"/>	100.000	96.015	17648.45	0.0409	P	1.3
5	<input type="checkbox"/>	500.000	486.456	88452.63	0.2073	P	1.4
6	<input type="checkbox"/>	1000.000	975.572	173057.37	0.4157	P	0.4
7	<input type="checkbox"/>	5000.000	5030.006	818434.75	2.1433	A	0.8
8	<input type="checkbox"/>	10000.00	9988.168	1561106.2	4.2559	A	0.8
9	<input type="checkbox"/>			501.14	0.0013	P	13.9
10	<input type="checkbox"/>			270.01	0.0007	P	25.6
11	<input type="checkbox"/>			235.57	0.0006	P	14.6
12	<input type="checkbox"/>			170.01	0.0004	P	16.1
13	<input type="checkbox"/>			136.67	0.0003	P	31.0
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for HG100.D



$$y = 8.4130E-004 * x + 9.6381E-006$$

R = 1.0000

DL = 0.03932

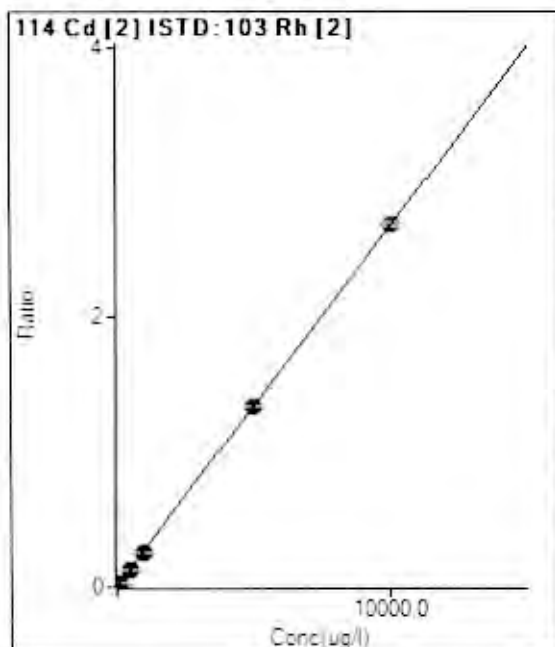
BEC = 0.01146

Weight: None

Min Conc: <None>

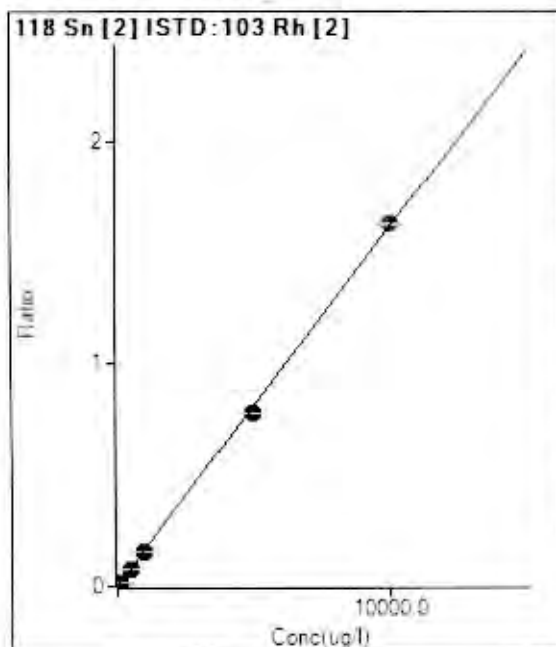
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	4.44	0.0000	P	114.4
2	<input type="checkbox"/>	1.000	0.923	354.46	0.0008	P	10.0
3	<input type="checkbox"/>	5.000	4.941	1860.18	0.0042	P	2.9
4	<input type="checkbox"/>	10.000	9.845	3576.08	0.0083	P	3.4
5	<input type="checkbox"/>	50.000	48.965	17581.90	0.0412	P	2.3
6	<input type="checkbox"/>	100.000	97.226	34053.63	0.0818	P	1.9
7	<input type="checkbox"/>	500.000	493.814	158648.11	0.4155	P	0.7
8	<input type="checkbox"/>	1000.00	1003.424	309662.66	0.8442	P	0.4
9	<input type="checkbox"/>			12.22	0.0000	P	55.8
10	<input type="checkbox"/>			13.33	0.0000	P	25.4
11	<input type="checkbox"/>			7.78	0.0000	P	173.2
12	<input type="checkbox"/>			12.22	0.0000	P	57.4
13	<input type="checkbox"/>			8.89	0.0000	P	42.9
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for HG100.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	0.00	0.0000	P	
2	<input type="checkbox"/>	10.000	9.733	1175.64	0.0026	P	7.3
3	<input type="checkbox"/>	50.000	47.943	5737.86	0.0129	P	3.8
4	<input type="checkbox"/>	100.000	97.111	11226.32	0.0260	P	2.4
5	<input type="checkbox"/>	500.000	477.754	54647.09	0.1281	P	0.9
6	<input type="checkbox"/>	1000.000	965.900	107785.07	0.2589	P	1.1
7	<input type="checkbox"/>	5000.000	4987.671	510551.40	1.3370	A	0.8
8	<input type="checkbox"/>	10000.00	10010.72	984326.36	2.6835	A	1.0
9	<input type="checkbox"/>			8.89	0.0000	P	21.
10	<input type="checkbox"/>			7.78	0.0000	P	65.
11	<input type="checkbox"/>			3.33	0.0000	P	99.
12	<input type="checkbox"/>			8.89	0.0000	P	56.
13	<input type="checkbox"/>			8.89	0.0000	P	57.
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for HG100.D



$$y = 1.6087E-004 * x + 6.7690E-005$$

R = 0.9998

DL = 0.344

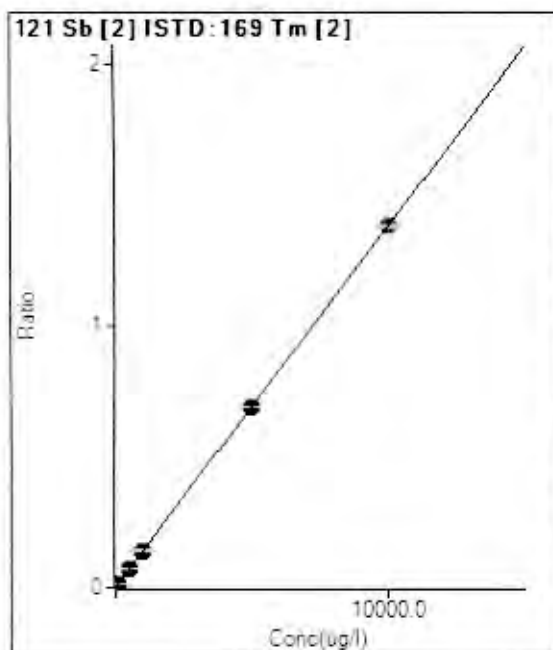
BEC = 0.4208

Weight: None

Min Conc: <None>

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	31.11	0.0001	P	27.2
2	<input type="checkbox"/>	10.000	9.756	737.83	0.0016	P	4.1
3	<input type="checkbox"/>	50.000	47.780	3461.62	0.0078	P	3.6
4	<input type="checkbox"/>	100.000	95.724	6669.33	0.0155	P	1.3
5	<input type="checkbox"/>	500.000	465.275	31967.52	0.0749	P	1.7
6	<input type="checkbox"/>	1000.000	950.269	63666.19	0.1529	P	0.9
7	<input type="checkbox"/>	5000.000	4813.623	295730.85	0.7744	P	0.4
8	<input type="checkbox"/>	10000.00	10099.95	596018.69	1.6249	A	0.7
9	<input type="checkbox"/>			366.69	0.0009	P	3.7
10	<input type="checkbox"/>			294.46	0.0008	P	4.4
11	<input type="checkbox"/>			203.34	0.0005	P	18.4
12	<input type="checkbox"/>			158.90	0.0004	P	16.2
13	<input type="checkbox"/>			126.67	0.0003	P	27.1
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for HG100.D



$$y = 1.3815E-004 * x + 0.0000E+000$$

$$R = 1.0000$$

$$DL = 0$$

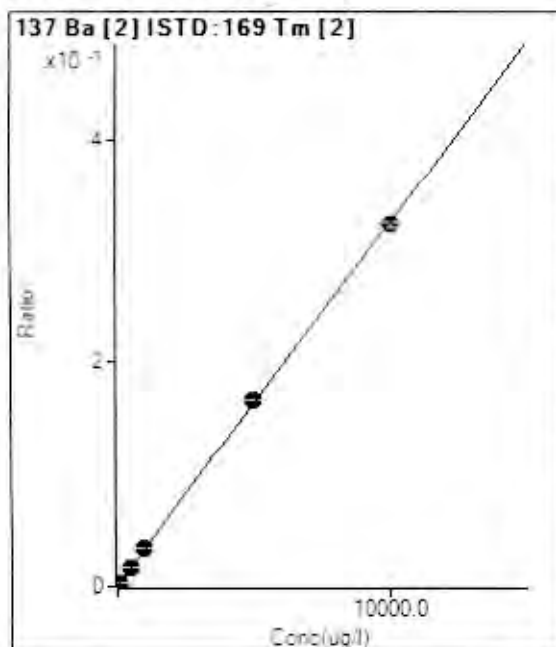
$$BEC = 0$$

Weight: None

Min Conc: <None>

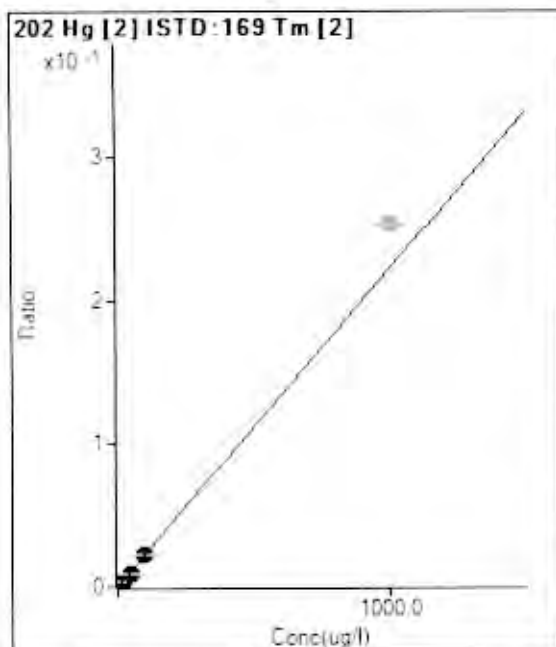
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	0.00	0.0000	P	
2	<input type="checkbox"/>	10.000	10.864	853.39	0.0015	P	8.3
3	<input type="checkbox"/>	50.000	52.897	4065.11	0.0073	P	8.6
4	<input type="checkbox"/>	100.000	107.053	8045.56	0.0148	P	0.5
5	<input type="checkbox"/>	500.000	519.626	39053.61	0.0718	P	2.2
6	<input type="checkbox"/>	1000.000	1029.388	76331.74	0.1422	P	1.5
7	<input type="checkbox"/>	5000.000	4985.832	353384.84	0.6888	P	0.7
8	<input type="checkbox"/>	10000.00	10003.07	696931.42	1.3819	A	0.9
9	<input type="checkbox"/>			43.34	0.0001	P	33
10	<input type="checkbox"/>			41.12	0.0001	P	32
11	<input type="checkbox"/>			34.45	0.0001	P	57
12	<input type="checkbox"/>			30.00	0.0001	P	44
13	<input type="checkbox"/>			34.45	0.0001	P	53
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for HG100.D



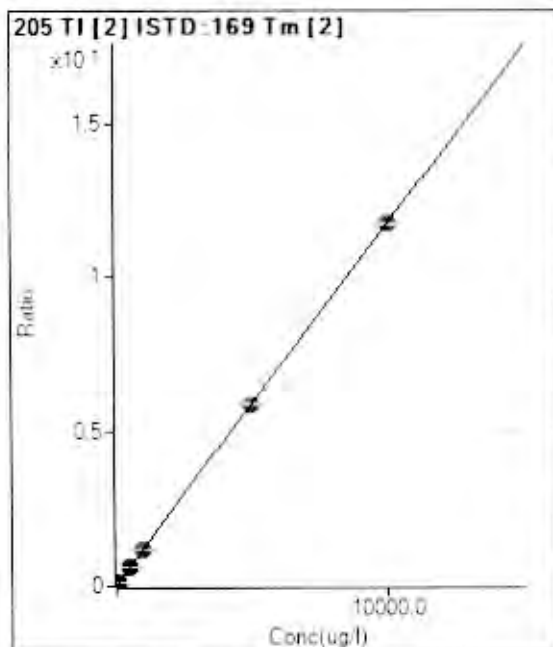
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	2.22	0.0000	P	173.2
2	<input type="checkbox"/>	10.000	11.470	214.46	0.0004	P	10.0
3	<input type="checkbox"/>	50.000	57.277	1040.08	0.0019	P	6.9
4	<input type="checkbox"/>	100.000	108.565	1926.86	0.0035	P	6.9
5	<input type="checkbox"/>	500.000	525.426	9318.52	0.0171	P	1.2
6	<input type="checkbox"/>	1000.000	1050.650	18382.94	0.0342	P	2.3
7	<input type="checkbox"/>	5000.000	5119.160	85596.92	0.1668	P	0.3
8	<input type="checkbox"/>	10000.00	9933.960	163270.5	0.3237	P	1.4
9	<input type="checkbox"/>			13.33	0.0000	P	24.6
10	<input type="checkbox"/>			5.56	0.0000	P	91.7
11	<input type="checkbox"/>			1.11	0.0000	P	173.2
12	<input type="checkbox"/>			0.00	0.0000	P	
13	<input type="checkbox"/>			1.11	0.0000	P	173.2
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for HG100.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	17.78	0.0000	P	39.7
2	<input type="checkbox"/>			36.67	0.0001	P	23.9
3	<input type="checkbox"/>			74.45	0.0001	P	9.6
4	<input type="checkbox"/>			134.45	0.0002	P	8.0
5	<input type="checkbox"/>			598.92	0.0011	P	11.0
6	<input type="checkbox"/>			1234.55	0.0023	P	5.5
7	<input type="checkbox"/>			5969.16	0.0116	P	1.4
8	<input type="checkbox"/>			12374.2	0.0245	P	2.7
9	<input type="checkbox"/>	10.00	7.502	871.17	0.0017	P	2.9
10	<input type="checkbox"/>	20.00	17.186	1960.21	0.0038	P	3.2
11	<input type="checkbox"/>	50.00	44.052	5109.92	0.0098	P	2.5
12	<input type="checkbox"/>	100.0	103.787	12007.1	0.0230	P	1.5
13	<input checked="" type="checkbox"/>	1000		129632	0.2529	P	0.6
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for HG100.D



$$y = 0.0012 * x + 6.7372E-005$$

$$R = 1.0000$$

$$DL = 0.06246$$

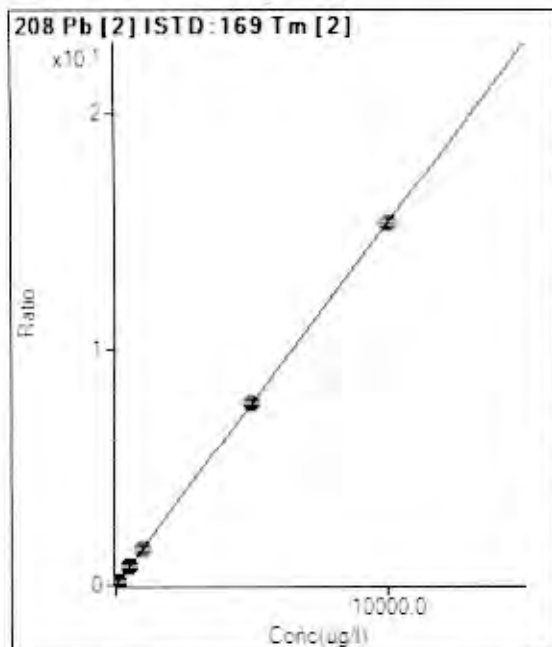
$$BEC = 0.05731$$

Weight: None

Min Conc: <None>

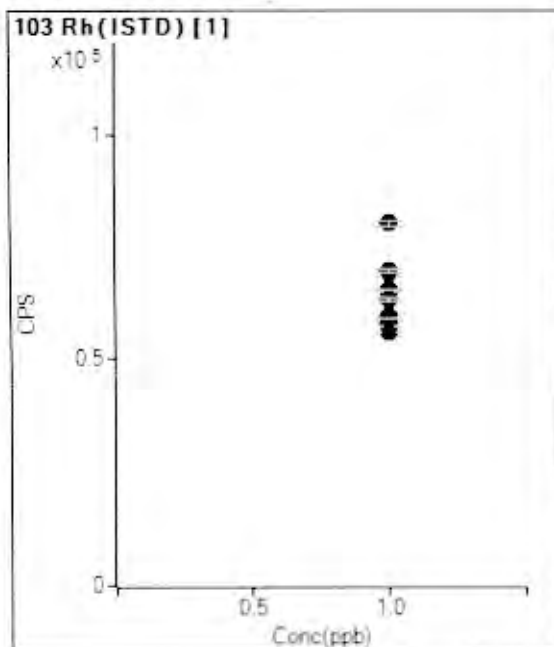
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	42.22	0.0001	P	36.3
2	<input type="checkbox"/>	10.000	10.393	6982.92	0.0123	P	3.2
3	<input type="checkbox"/>	50.000	51.709	33847.92	0.0609	P	0.6
4	<input type="checkbox"/>	100.000	103.618	66294.86	0.1219	P	1.2
5	<input type="checkbox"/>	500.000	516.213	330167.27	0.6069	P	1.1
6	<input type="checkbox"/>	1000.000	1012.353	638785.46	1.1901	A	1.7
7	<input type="checkbox"/>	5000.000	5005.295	3018728.25	5.8838	A	0.5
8	<input type="checkbox"/>	10000.00	9995.261	5925589.84	11.749	A	0.8
9	<input type="checkbox"/>			434.47	0.0008	P	15.9
10	<input type="checkbox"/>			255.57	0.0005	P	27.9
11	<input type="checkbox"/>			235.57	0.0005	P	21.3
12	<input type="checkbox"/>			200.01	0.0004	P	9.0
13	<input type="checkbox"/>			170.01	0.0003	P	9.4
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for HG100.D



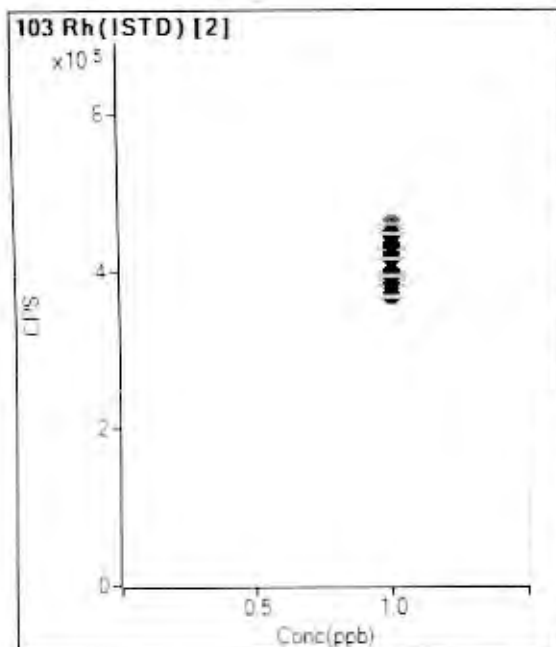
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	124.45	0.0002	P	14.2
2	<input type="checkbox"/>	10.000	10.176	9005.83	0.0158	P	1.3
3	<input type="checkbox"/>	50.000	52.361	44882.09	0.0807	P	0.8
4	<input type="checkbox"/>	100.000	104.063	87133.00	0.1602	P	0.3
5	<input type="checkbox"/>	500.000	512.617	428830.15	0.7882	P	0.7
6	<input type="checkbox"/>	1000.000	1014.450	837165.34	1.5596	A	1.4
7	<input type="checkbox"/>	5000.000	5029.368	3966677.06	7.7315	A	0.6
8	<input type="checkbox"/>	10000.00	9983.188	7739605.42	15.346	A	1.2
9	<input type="checkbox"/>			131.12	0.0003	P	23.0
10	<input type="checkbox"/>			137.78	0.0003	P	20.2
11	<input type="checkbox"/>			116.67	0.0002	P	21.8
12	<input type="checkbox"/>			107.78	0.0002	P	17.8
13	<input type="checkbox"/>			163.34	0.0003	P	12.5
14	<input type="checkbox"/>						
15	<input type="checkbox"/>						
16	<input type="checkbox"/>						
17	<input type="checkbox"/>						
18	<input type="checkbox"/>						
19	<input type="checkbox"/>						
20	<input type="checkbox"/>						

Calibration for HG100.D



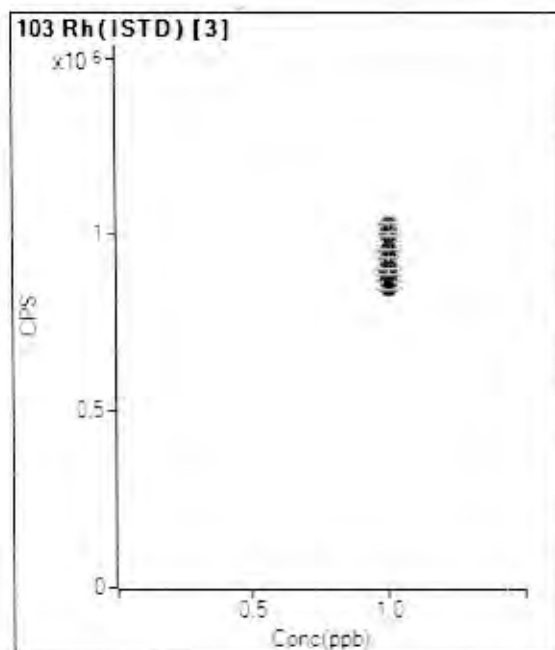
	Rjct	Conc	Calc Conc.	CPS	Ratio	Det.	RSD
1	Γ	1.000		80166.48		P	1.9
2	Γ	1.000		69332.48		P	2.2
3	Γ	1.000		69773.02		P	1.2
4	Γ	1.000		65447.28		P	1.5
5	Γ	1.000		65083.64		P	0.5
6	Γ	1.000		63139.89		P	1.3
7	Γ	1.000		59537.07		P	3.6
8	Γ	1.000		56181.31		P	0.8
9	Γ	1.000		57757.66		P	1.3
10	Γ	1.000		57331.85		P	0.4
11	Γ	1.000		59292.05		P	1.6
12	Γ	1.000		59467.83		P	1.2
13	Γ	1.000		59102.10		P	0.3
14	Γ	1.000					
15	Γ	1.000					
16	Γ	1.000					
17	Γ	1.000					
18	Γ	1.000					
19	Γ	1.000					
20	Γ	1.000					

Calibration for HG100.D



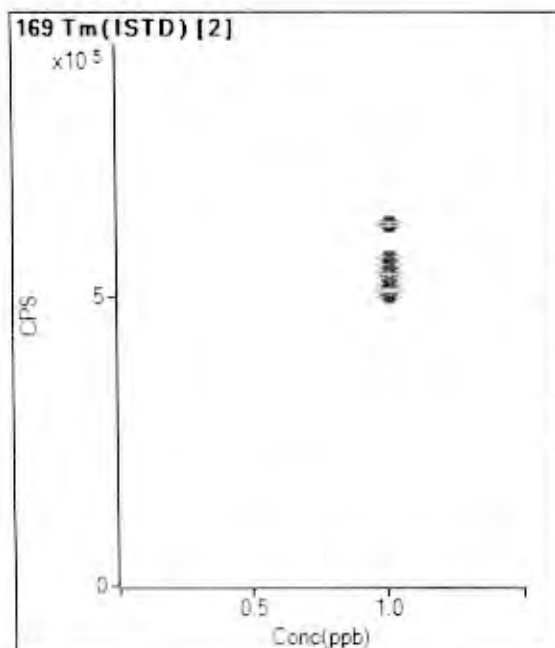
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		459850.53		A	0.3
2	<input type="checkbox"/>	1.000		450751.73		M	0.9
3	<input type="checkbox"/>	1.000		446471.52		P	0.5
4	<input type="checkbox"/>	1.000		431213.77		P	0.6
5	<input type="checkbox"/>	1.000		426703.84		P	0.1
6	<input type="checkbox"/>	1.000		416305.99		P	0.8
7	<input type="checkbox"/>	1.000		381872.27		P	0.7
8	<input type="checkbox"/>	1.000		366824.34		P	0.9
9	<input type="checkbox"/>	1.000		390852.17		P	0.9
10	<input type="checkbox"/>	1.000		388657.02		P	0.6
11	<input type="checkbox"/>	1.000		396337.78		P	0.7
12	<input type="checkbox"/>	1.000		397927.89		P	0.8
13	<input type="checkbox"/>	1.000		393930.21		P	0.5
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					
19	<input type="checkbox"/>	1.000					
20	<input type="checkbox"/>	1.000					

Calibration for HG100.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		1026737.74		A	1.1
2	<input type="checkbox"/>	1.000		993976.70		A	2.9
3	<input type="checkbox"/>	1.000		1000933.58		A	1.0
4	<input type="checkbox"/>	1.000		958534.73		A	1.8
5	<input type="checkbox"/>	1.000		951635.65		A	1.3
6	<input type="checkbox"/>	1.000		932023.97		A	1.1
7	<input type="checkbox"/>	1.000		868873.91		A	0.4
8	<input type="checkbox"/>	1.000		846796.07		A	0.5
9	<input type="checkbox"/>	1.000		871655.61		A	2.0
10	<input type="checkbox"/>	1.000		889392.18		A	1.7
11	<input type="checkbox"/>	1.000		903026.20		A	1.0
12	<input type="checkbox"/>	1.000		894109.82		A	1.5
13	<input type="checkbox"/>	1.000		896337.76		A	1.5
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					
19	<input type="checkbox"/>	1.000					
20	<input type="checkbox"/>	1.000					

Calibration for HG100.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	1.000		625412.63		A	0.9
2	<input type="checkbox"/>	1.000		568471.96		A	0.5
3	<input type="checkbox"/>	1.000		556245.23		A	0.5
4	<input type="checkbox"/>	1.000		544018.16		A	0.9
5	<input type="checkbox"/>	1.000		544065.29		A	0.5
6	<input type="checkbox"/>	1.000		536807.90		A	0.9
7	<input type="checkbox"/>	1.000		513060.58		A	0.3
8	<input type="checkbox"/>	1.000		504355.01		A	1.0
9	<input type="checkbox"/>	1.000		514773.83		A	0.4
10	<input type="checkbox"/>	1.000		510511.02		A	0.7
11	<input type="checkbox"/>	1.000		521511.24		A	0.4
12	<input type="checkbox"/>	1.000		520960.27		A	0.5
13	<input type="checkbox"/>	1.000		512655.90		A	0.9
14	<input type="checkbox"/>	1.000					
15	<input type="checkbox"/>	1.000					
16	<input type="checkbox"/>	1.000					
17	<input type="checkbox"/>	1.000					
18	<input type="checkbox"/>	1.000					
19	<input type="checkbox"/>	1.000					
20	<input type="checkbox"/>	1.000					

PHYSIS

Continuing Calibration Data

TERRA

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name ICV.D
File Path D:\data\2131019A.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/29/2013 18:45
Sample Name 100 ppb mix
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	99.817	ug/l	0.87	400,322.61	4.439E-01	Pulse	0.30	3
Al	27	103	2	102.440	ug/l	3.27	3,730.54	9.434E-03	Pulse	0.30	3
Ti	48	103	2	101.295	ug/l	0.25	33,870.39	8.565E-02	Pulse	0.30	3
V	51	103	2	100.707	ug/l	0.33	125,983.27	3.186E-01	Pulse	0.30	3
Cr	52	103	2	101.936	ug/l	0.39	184,313.93	4.661E-01	Pulse	0.30	3
Mn	55	103	2	100.298	ug/l	1.19	73,811.53	1.866E-01	Pulse	0.30	3
Fe	57	103	2	101.691	ug/l	0.86	3,654.97	9.242E-03	Pulse	0.30	3
Co	59	103	2	103.859	ug/l	0.23	305,184.68	7.717E-01	Pulse	0.30	3
Ni	60	103	2	100.975	ug/l	0.25	85,043.37	2.150E-01	Pulse	0.30	3
Cu	65	103	2	102.157	ug/l	0.64	115,685.25	2.925E-01	Pulse	0.30	3
Zn	66	103	2	101.226	ug/l	1.64	30,233.27	7.645E-02	Pulse	0.30	3
As	75	103	2	102.742	ug/l	1.26	12,056.78	3.049E-02	Pulse	0.30	3
Se	78	103	1	99.475	ug/l	0.54	14,559.91	2.439E-01	Pulse	0.30	3
Sr	88	103	2	100.208	ug/l	0.72	46,099.54	1.166E-01	Pulse	0.30	3
Mo	98	103	2	98.852	ug/l	0.39	166,577.06	4.212E-01	Pulse	0.30	3
Ag	107	103	2	9.898	ug/l	0.10	32,933.59	8.328E-02	Pulse	0.30	3
Cd	114	103	2	98.365	ug/l	0.80	104,276.12	2.637E-01	Pulse	0.30	3
Sn	118	103	2	95.081	ug/l	1.34	60,517.26	1.530E-01	Pulse	0.30	3
Sb	121	169	2	100.788	ug/l	0.64	72,492.86	1.392E-01	Pulse	0.30	3
Ba	137	169	2	103.023	ug/l	1.27	17,483.06	3.358E-02	Pulse	0.30	3
Hg	202	169	2	10.733	ug/l	1.28	12,408.65	2.383E-02	Pulse	0.30	3
Tl	205	169	2	101.667	ug/l	0.25	622,253.15	1.195E+00	Analog	0.30	3
Pb	208	169	2	102.227	ug/l	0.62	818,275.72	1.572E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	59,704.20	1.00	74.5	Pulse	0.30	3
2	Rh	103	395,465.34	0.27	86.0	Pulse	0.30	3
3	Rh	103	901,772.72	0.75	87.8	Analog	0.30	3
2	Tm	169	520,648.78	0.28	83.2	Analog	0.30	3

PHYSIS LABORATORIES

ICPMS 7700x DATA REPORT

File Name CCV.D
File Path D:\data\2131019A.B
Method File Physis.m
Method Path C:\ICPMH\1\METHODS\
Acq Time 10/29/2013 23:24
Sample Name 100 ppb mix
Sample Type Sample
Comment

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	103	3	95.478	ug/l	1.71	340,439.62	4.246E-01	Pulse	0.30	3
Al	27	103	2	98.331	ug/l	2.32	3,190.42	9.056E-03	Pulse	0.30	3
Ti	48	103	2	98.536	ug/l	2.18	29,351.48	8.331E-02	Pulse	0.30	3
V	51	103	2	98.301	ug/l	1.58	109,551.80	3.110E-01	Pulse	0.30	3
Cr	52	103	2	100.416	ug/l	0.72	161,754.71	4.591E-01	Pulse	0.30	3
Mn	55	103	2	98.574	ug/l	0.69	64,628.18	1.834E-01	Pulse	0.30	3
Fe	57	103	2	96.983	ug/l	1.54	3,105.95	8.816E-03	Pulse	0.30	3
Co	59	103	2	101.775	ug/l	0.10	266,432.47	7.562E-01	Pulse	0.30	3
Ni	60	103	2	97.989	ug/l	0.60	73,522.90	2.087E-01	Pulse	0.30	3
Cu	65	103	2	98.644	ug/l	0.33	99,525.47	2.825E-01	Pulse	0.30	3
Zn	66	103	2	100.784	ug/l	1.36	26,818.83	7.612E-02	Pulse	0.30	3
As	75	103	2	98.404	ug/l	1.70	10,287.85	2.920E-02	Pulse	0.30	3
Se	78	103	1	104.232	ug/l	1.34	12,995.30	2.555E-01	Pulse	0.30	3
Sr	88	103	2	99.770	ug/l	2.02	40,892.36	1.161E-01	Pulse	0.30	3
Mo	98	103	2	98.314	ug/l	0.63	147,592.06	4.189E-01	Pulse	0.30	3
Ag	107	103	2	5.120	ug/l	5.62	15,177.29	4.309E-02	Pulse	0.30	3
Cd	114	103	2	98.717	ug/l	1.49	93,229.11	2.646E-01	Pulse	0.30	3
Sn	118	103	2	96.227	ug/l	0.57	54,561.59	1.549E-01	Pulse	0.30	3
Sb	121	169	2	100.600	ug/l	1.41	66,418.33	1.390E-01	Pulse	0.30	3
Ba	137	169	2	101.543	ug/l	1.55	15,816.93	3.310E-02	Pulse	0.30	3
Hg	202	169	2	9.456	ug/l	0.79	10,036.90	2.100E-02	Pulse	0.30	3
Tl	205	169	2	103.199	ug/l	0.99	579,793.62	1.213E+00	Analog	0.30	3
Pb	208	169	2	103.590	ug/l	0.54	761,165.81	1.593E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Rh	103	50,850.49	1.15	63.4	Pulse	0.30	3
2	Rh	103	352,317.40	0.48	76.6	Pulse	0.30	3
3	Rh	103	801,779.16	0.87	78.1	Analog	0.30	3
2	Tm	169	477,948.54	0.88	76.4	Analog	0.30	3

PHYSIS
Elements -

CVAFS
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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS

Initial Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method: EPA 245.7 Mercury
Calibration data 100413

Calib Level Standard Raw Counts

Std01Rep1	0	-98
Std01Rep2	0	-98
Std01Rep3	0	-101
Std02Rep1	1	-72
Std02Rep2	1	-60
Std02Rep3	1	-56
Std03Rep1	10	127
Std03Rep2	10	142
Std03Rep3	10	128
Std04Rep1	100	2213
Std04Rep2	100	2230
Std04Rep3	100	2210
Std05Rep1	1000	23365
Std05Rep2	1000	23386
Std05Rep3	1000	23711
Std06Rep1	10000	239584
Std06Rep2	10000	240381
Std06Rep3	10000	239474

Note: Above calibration data used for the following project:

1307002-002
1307002-004
1307002-006
1307002-008
1307002-010
1307002-012
1307002-014
1307002-016
1307002-018

Continuing Calibration Data / Instrument Run Log

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Sequence# 102413 for PID: 1307002-016, 018

Sample ID	Date	Method
ICV	24-Oct-13	2457TST
Ck1Blank	24-Oct-13	2457TST
Blank	24-Oct-13	2457TST
BS1	24-Oct-13	2457TST
BS2	24-Oct-13	2457TST
Ck1Blank	24-Oct-13	2457TST
CRM1	24-Oct-13	2457TST
CRM2	24-Oct-13	2457TST
Ck1Blank	24-Oct-13	2457TST
22599r1	24-Oct-13	2457TST
22599r2	24-Oct-13	2457TST
22599ms1	24-Oct-13	2457TST
22599ms2	24-Oct-13	2457TST
Ck1Blank	24-Oct-13	2457TST
22600	24-Oct-13	2457TST
22628r1	24-Oct-13	2457TST
22628r2	24-Oct-13	2457TST
22628ms1	24-Oct-13	2457TST
22628ms2	24-Oct-13	2457TST
Ck1Blank	24-Oct-13	2457TST
22629	24-Oct-13	2457TST
22630	24-Oct-13	2457TST
22631	24-Oct-13	2457TST
22632	24-Oct-13	2457TST
22633	24-Oct-13	2457TST
CCV1	25-Oct-13	2457TST
Ck1Blank	25-Oct-13	2457TST
Blank	25-Oct-13	2457TST
BS1	25-Oct-13	2457TST
BS2	25-Oct-13	2457TST
Ck1Blank	25-Oct-13	2457TST
CRM1	25-Oct-13	2457TST
CRM2	25-Oct-13	2457TST
Ck1Blank	25-Oct-13	2457TST
22634r1	25-Oct-13	2457TST
22634r2	25-Oct-13	2457TST
22634ms1	25-Oct-13	2457TST
22634ms2	25-Oct-13	2457TST
Ck1Blank	25-Oct-13	2457TST
22635	25-Oct-13	2457TST
22636	25-Oct-13	2457TST
22637	25-Oct-13	2457TST

22638	25-Oct-13	2457TST
22639	25-Oct-13	2457TST
22640	25-Oct-13	2457TST
22641	25-Oct-13	2457TST
22642	25-Oct-13	2457TST
22643	25-Oct-13	2457TST
CCV2	25-Oct-13	2457TST
Ck1Blank	25-Oct-13	2457TST
Ck1Blank	28-Oct-13	2457TST
Blank	25-Oct-13	2457TST
22623r1	25-Oct-13	2457TST
22623r2	25-Oct-13	2457TST
BS1	25-Oct-13	2457TST
BS2	25-Oct-13	2457TST
CCV3	28-Oct-13	2457TST

QAQC	Date	Method	True Value(ppt)	Result (ppt)
ICV	24-Oct-13	2457TST	1000	978
CCV1	25-Oct-13	2457TST	1000	997
CCV2	25-Oct-13	2457TST	1000	939
CCV3	28-Oct-13	2457TST	1000	1070

PHYSIS

Organics –

(EPA 8270C)

TERRA FUSION ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS

Extraction/Preparation Log

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

1307002-018 / 1310001-001

February 28, 2014

R. L. S. G.

Re-extraction of AMEC - RHMP / SCWRP B13 sediments for OCPs (incl. DDTs)
PAHs, Pyrethroids.

Method: EPA 8270C

PSID	Sample Description	Sample wt. (g)	Comments	D/W	Multiplier
B1 (22626)	Blank	—	A	—	1.0
B91	Blank spike	—	A, B	—	1.0
B92	Blank spike Dup	—	A, B	—	1.0
22628M91	8111	18.37	A, B	0.4297	0.2536 0.2534
22628M92	8111	17.93	A, B	0.4297	0.2596
22644	SPM 1944	1.021	A	—	0.9749 1.9588 (AH)
22628	8111	18.01 27.604	A	0.4297	0.2584
22628R2	8111	19.72	A	0.4297	0.2360
22629	8112	17.68	A	0.5375	0.2105
22630	8500	20.64	A	0.6179	0.1588
22631	8123	19.72	A	0.6781	0.1496
22632	8124	20.24	A	0.6471	0.1527
22633	8128	20.46	A	0.5197	0.1881
22634	8127	19.76	A	0.3736	0.2709
22635	8121	21.46	A	0.4974	0.1874
22636	8089	20.70	A	0.4217	0.2291
22637	8105	20.97	A	0.6871	0.1388
22638	8117	21.43	A	0.4308	0.1246
22639	8113	19.83	A	0.5182	0.1946
22640	8116	20.45	A	0.6760	0.1447
22641	8108	21.12	A	0.6550	0.1446
22642	8106	20.57	A	0.6053	0.1602 0.1606
22643	8102	20.61	A	0.4488	0.2162
22743	8269	20.20	A	0.5131	0.1930
22744	8275	20.77	A	0.5217	0.1846

A) 200 µL CHC RS

200 µL PAH RS

100 µL CHC IS (1000 ng, P.310, NUI)

PAH IS (2000 ng, P.307, EI)

B) 20 µL OCP Mix

20 µL PAH Mix

2.0 µL Pyrethroid Mix

2.0 µL Tralomethrin

December 2, 2013

Extraction of AMEC-RHMP SEDIMENTS for Fipronils, OCPs, PCBs, aroclors, PBDE's, PAHs, Pyrethroids, Toxaphene. Samples were run for Pyr/PBDE/Fip and then column cleaned using silica/alumina absorbants.

Method: EPA 8270C

PSID:	Sample Description:	Sample Wt(g):	Comments:	P/W:	Multiplier:
Bi (22626)	Blank (QA/QC)	—	A	—	1.0
BS1	Blank Spike	—	A,B	—	1.0
BS2	Blank Spike Dup	—	A,B	—	1.0
22628MS1	Matrix Spike (B111)	15.7662	A,B	0.4297	0.1476
22628MS2	Matrix Spike Dup (B111)	15.2140	A,B	0.4297	0.1530
22644	CRM-SRM 1944 (QA/QC)	1.1208	A	—	0.2922
22628R1	B111	15.1581(31)	A	0.4297	0.1536
22629	B112	15.10854	A	0.5375	0.1231
22630	B500	14.9832	A	0.6179	0.1080
22631	B123	15.2623	A	0.6781	0.0966
22632	B124	15.4215	A	0.6471	0.1002
22633	B128	16.2939	A	0.5197	0.1181
22634	B127	17.5490	A	0.3736	0.1525
22635	B121	15.7234	A	0.4974	0.1279
22636	B085	15.8361	A	0.4217	0.1497
22637	B105	15.3928	A	0.6871	0.0946
22638	B117	18.3335	A	0.4348	0.1254
22639	B113	15.8959	A	0.5182	0.1214
22640	B116	15.7375	A	0.6760	0.0971
22641	B108	15.7508	A	0.6550	0.0969
22642	B106	15.6621	A	0.6053	0.1055
22643	B102	17.6555	A	0.4466	0.1262
22628R2	B111	15.4712	A	0.4297	0.1501
22743	B269	15.6500	A	0.5131	0.1245
22744	B273	15.1272 (CEL) 17.3402	A	0.5217	0.1267

A) 100 mL CHCERS (400 ng, p. 277) ²⁸²
 100 mL PAHRS (1000 ng, p. 244) ²⁸⁷
 100 mL PBDEs (50 ng, p. 280) ²⁸⁸
 B) 10 mL Fipronil mix (1000 ng, p. 270) ²⁸³
 1.0 mL OCP mix (1000 ng, p. 276) ²⁸⁷
 100 mL DDMU (10,000 ng, p. 272) ²⁸⁸
 C) 1.0 mL custom PAH (1000 ng, p. 286) ²⁸³
 1.0 mL Pyrethroid (1000 ng, p. 279) ²⁸⁷
 1.0 mL Tralomethrin (1000 ng, p. 275) ²⁸⁸

Organics - GC-MS

TERRA FAUNA FLORA AQUA AIR
ENVIRONMENTAL LABORATORIES, INC.
Innovative Analytical Solutions
(EPA 8270C)

PHYSIS

Instrument Run Log

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

2014 Apr 07 0855 Sequence Log .LOG
Starting sequence Sat Apr 05 17:24:26 2014

Instrument Name: GCMSQQQ
Sequence File: D:\MassHunter\GCMS\1\sequence\140405 EI_05102. sequence. xml
Comment:
Operator: DATASYSTEM01\Admin
Data Path: D:\MassHunter\GCMS\1\data\140405 EI_05102\
Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX1	MS1Scan	HEX1
2)	Sample	142	TUNE	MS1Scan	TUNE
3)	Sample	101	PAH25	MS1Scan	PAH25
4)	Sample	102	PAH50	MS1Scan	PAH50
5)	Sample	103	PAH100	MS1Scan	PAH100
6)	Sample	104	PAH250	MS1Scan	PAH250
7)	Sample	105	PAH500	MS1Scan	PAH500
8)	Sample	106	PAH1000	MS1Scan	PAH1000
9)	Sample	111	OCP25+DDMU		
	Datafile		OCP25+DDMU		
	Method		MS1Scan		
10)	Sample	112	OCP50+DDMU		
	Datafile		OCP50+DDMU		
	Method		MS1Scan		
11)	Sample	113	OCP100+DDMU		
	Datafile		OCP100+DDMU		
	Method		MS1Scan		
12)	Sample	114	OCP250+DDMU		
	Datafile		OCP250+DDMU		
	Method		MS1Scan		
13)	Sample	115	OCP500+DDMU		
	Datafile		OCP500+DDMU		
	Method		MS1Scan		
14)	Sample	116	OCP1000+DDMU		
	Datafile		OCP1000+DDMU		
	Method		MS1Scan		
15)	Sample	121	PCB200_OCP1000_SPEX_ICV		
	Datafile		PCB200_OCP1000_SPEX_ICV		
	Method		MS1Scan		
16)	Sample	143	TUNE2	MS1Scan	TUNE2
17)	Sample	141	HEX2		
	Datafile		HEX2		
	Method		HEXANE_EI		
18)	Sample	1	B_5102	MS1Scan	B_5102
19)	Sample	2	BS1_5102	MS1Scan	BS1_5102
20)	Sample	3	BS2_5102	MS1Scan	BS2_5102
21)	Sample	6	22644_CRM		
	Datafile		22644_CRM		
	Method		MS1Scan		
22)	Sample	4	22628MS1	MS1Scan	22628MS1
23)	Sample	5	22628MS2	MS1Scan	22628MS2
24)	Sample	141	HEX3		
	Datafile		HEX3		
	Method		HEXANE_EI		
25)	Sample	7	22628	MS1Scan	22628

Mon Apr 07 08:46:18 2014
Fatal sequence error detected.
There was no bottle in the gripper.

2014 Apr 07 0855 Sequence Log .LOG

Resuming sequence Mon Apr 07 08:55:21 2014

Instrument Name: GCMSQQQ
 Sequence File: D:\MassHunter\GCMS\1\sequence\140405 EI_05102. sequence.xml
 Comment:
 Operator: DATASYSTEM01\Admin
 Data Path: D:\MassHunter\GCMS\1\data\140405 EI_05102\
 Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
27)	Sample	7	22628RR	MS1Scan	22628RR
28)	Sample	8	22628R2	MS1Scan	22628R2
29)	Sample	9	22629	MS1Scan	22629
30)	Sample	10	22630	MS1Scan	22630
31)	Sample	11	22631	MS1Scan	22631
32)	Sample	12	22632	MS1Scan	22632
33)	Sample	13	22633	MS1Scan	22633
34)	Sample	14	22634	MS1Scan	22634
35)	Sample	15	22635	MS1Scan	22635
36)	Sample	131	PCB+6_500_CCV		
	Datafile		PCB+6_500_CCV		
	Method		MS1Scan		
37)	Sample	105	PAH500_CCV		
	Datafile		PAH500_CCV		
	Method		MS1Scan		
38)	Sample	115	OCP500+DDMU_CCV		
	Datafile		OCP500+DDMU_CCV		
	Method		MS1Scan		
39)	Sample	141	HEX4		
	Datafile		HEX4		
	Method		HEXANE_EI		
40)	Sample	16	22636	MS1Scan	22636
41)	Sample	17	22637	MS1Scan	22637
42)	Sample	18	22638	MS1Scan	22638
43)	Sample	19	22639	MS1Scan	22639
44)	Sample	20	22640	MS1Scan	22640
45)	Sample	21	22641	MS1Scan	22641
46)	Sample	22	22642	MS1Scan	22642
47)	Sample	23	22643	MS1Scan	22643
48)	Sample	24	22743	MS1Scan	22743
49)	Sample	25	22744	MS1Scan	22744
50)	Sample	131	PCB+6_500_FCV		
	Datafile		PCB+6_500_FCV		
	Method		MS1Scan		
51)	Sample	115	OCP500+DDMU_FCV		
	Datafile		OCP500+DDMU_FCV		
	Method		MS1Scan		
52)	Sample	105	PAH500_FCV		
	Datafile		PAH500_FCV		
	Method		MS1Scan		

Sequence completed Wed Apr 09 03:06:31 2014

D:\MassHunter\GCMS\1\data\140405 EI_05102\2014 Apr 07 0855 Sequence Log .LOG

PHYSIS

Instrument Tune Report

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ENVIRONMENTAL LABORATORIES, INC.

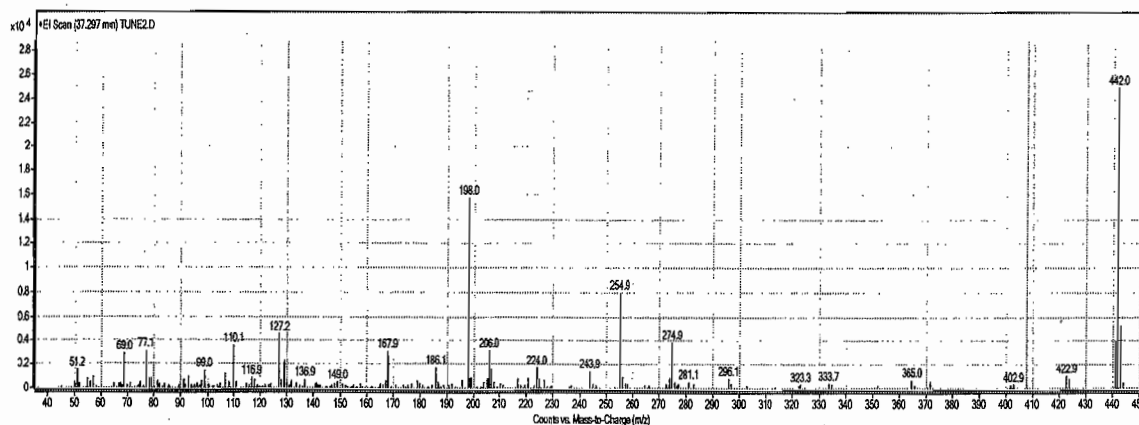
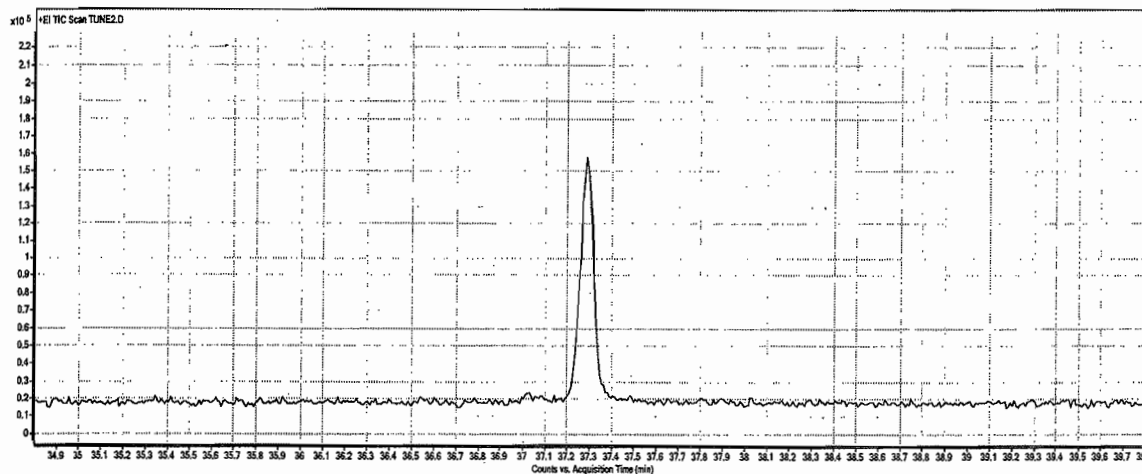
Innovative Solutions for Nature

Batch Info

Batch Data Path C:\msdchem\1\DATA\Q1_140405 EI_O5102\QuantResults\O-5102 OCP.batch.bin
Analysis Time 6/12/2014 11:03 AM Analyst Name eugenechae
Report Time 6/12/2014 11:08 AM Reporter Name eugenechae
Last Calib Update 4/10/2014 5:04 PM Batch State Processed

Analysis Info

Acq Time Sample Name TUNE2
Level Data File TUNE2.D
Position Acq Method File MS1Scan
Sample Type Sample Sample Info
Dilution 1 Comment



Target Mass	Rel. To Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result
51	198	30	60	31.0	22427	PASS
68	69	0	2	1.7	205	PASS
69	198	0	100	16.6	12037	PASS
70	69	0	2	0.2	27	PASS
127	198	40	60	33.4	24132	PASS
197	198	0	1	0.2	118	PASS
198	198	100	100	100.0	72344	PASS
275	198	10	30	29.1	21048	PASS
365	198	1	100	2.7	1988	PASS
441	443	0.01	100	76.4	15026	PASS
442	198	40	300	142.9	103383	PASS
443	442	17	23	19.0	19658	PASS

Chlorinated Pesticides

TERRA ENVIRONMENTAL SERVICES, INC.

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	4,4'-Dibromobiphenyl		2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time	Response	Retention Time
Spex_1000ICV	891448.4102	41.0573	158405.44	52.12593333
B_5102	3147929.492	41.06596667	562789.586	52.1346
BS1_5102	2916335.427	41.04875	547860.6185	52.12593333
BS2_5102	4400510.466	41.06585	820840.861	52.13448333
22644_CRM	2877675.628	41.0573	481974.7057	52.13448333
22628MS1	2398729.618	41.0744	369749.5183	52.15156667
22628MS2	3350369.492	41.06585	570714.5414	52.14303333
22628	2154561.93	41.06596667	364077.6453	52.14315
22628R2	2601368.713	41.0573	455576.7068	52.13448333
22629	2614001.154	41.0573	458568.672	52.12593333
22630	2090468.371	41.06585	298157.8213	52.14303333
22631	2122249.782	41.0573	333053.9684	52.13448333
22632	1938342.346	41.06585	310367.3905	52.13448333
22633	1931711.117	41.06585	319415.9755	52.14303333
22634	2275363.487	41.06585	396346.549	52.14303333
22635	1913680.996	41.0744	309329.1745	52.14303333
OCP500CCV	793667.3329	41.0744	139421.474	52.12593333
22636	2663635.051	41.06596667	485833.7835	52.1346
22637	3020962.732	41.06585	527812.3127	52.13448333
22638	3268405.937	41.06585	584385.5776	52.13448333
22639	2259296.574	41.06585	404482.4279	52.13448333
22640	1942667.103	41.06585	293868.058	52.14303333
22641	1897965.964	41.0573	322984.447	52.13448333
22642	1848223.65	41.06585	307137.068	52.13448333
22643	1798645.226	41.06585	303405.067	52.14303333
22743	2050356.992	41.0573	348356.2105	52.14303333
22744	2322422.618	41.0744	400197.8714	52.13448333
OCP500FCV	858095.4182	41.06585	146963.242	52.13448333

PHYSIS

Initial Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

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Quantitative Analysis Calibration Report

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Batch Info

Batch Data Path C:\msdchem\1\DATA\Q1_140405 EI_O5102\QuantResults\O-5102 OCP.batch.bin
Analysis Time 6/12/2014 11:03 AM **Analyst Name**
Report Time 6/12/2014 11:08 AM **Reporter Name**
Last Calib Update 4/10/2014 5:04 PM **Batch State**

Calibration Information

(TCMX)

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_140405 EI_O5102\OCP100+DDMU. D	Calibration	4	223099	400.0000	0.6023	2.477498491
C:\msdchem\1\DATA\Q1_140405 EI_O5102\OCP1000+DDMU. .D	Calibration	1	199362	400.0000	0.6013	
C:\msdchem\1\DATA\Q1_140405 EI_O5102\OCP25_+DDMU. D	Calibration	6	144040	400.0000	0.5981	
C:\msdchem\1\DATA\Q1_140405 EI_O5102\OCP250+DDMU. D	Calibration	3	185885	400.0000	0.5915	
C:\msdchem\1\DATA\Q1_140405 EI_O5102\OCP50+DDMU.D	Calibration	5	154194	400.0000	0.6152	
C:\msdchem\1\DATA\Q1_140405 EI_O5102\OCP500+DDMU. D	Calibration	2	155203	400.0000	0.6332	

BHC-alpha

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_140405 EI_O5102\OCP100+DDMU. D	Calibration	4	33869	100.0000	0.3657	11.39154994
C:\msdchem\1\DATA\Q1_140405 EI_O5102\OCP1000+DDMU. .D	Calibration	1	363384	1000.0000	0.4384	
C:\msdchem\1\DATA\Q1_140405 EI_O5102\OCP25_+DDMU. D	Calibration	6	7573	25.0000	0.5031	
C:\msdchem\1\DATA\Q1_140405 EI_O5102\OCP250+DDMU. D	Calibration	3	76661	250.0000	0.3903	
C:\msdchem\1\DATA\Q1_140405 EI_O5102\OCP50+DDMU.D	Calibration	5	14248	50.0000	0.4548	
C:\msdchem\1\DATA\Q1_140405 EI_O5102\OCP500+DDMU. D	Calibration	2	127635	500.0000	0.4166	

Hexachlorobenzene

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
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Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	107634	100.0000	1.1623	8.941662071
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU. .D	Calibration	1	987639	1000.0000	1.1916	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	21778	25.0000	1.4467	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	233981	250.0000	1.1912	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP50+DDMU.D	Calibration	5	41313	50.0000	1.3187	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP500+DDMU. D	Calibration	2	362693	500.0000	1.1838	

(PCB030)

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	554275	400.0000	1.4963	2.504695579
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU. .D	Calibration	1	510365	400.0000	1.5394	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	351295	400.0000	1.4586	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	451584	400.0000	1.4369	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP50+DDMU.D	Calibration	5	371610	400.0000	1.4827	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP500+DDMU. D	Calibration	2	371343	400.0000	1.5150	

BHC-beta

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	10773	100.0000	0.1163	43.5872242
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU. .D	Calibration	1	61196	1000.0000	0.0738	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	3124	25.0000	0.2075	

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	16647	250.0000	0.0847
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP50+DDMU.D C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP500+DDMU. D	Calibration	5	4693	50.0000	0.1498
	Calibration	2	24889	500.0000	0.0812

BHC-gamma

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	25668	100.0000	0.2772	9.887486066
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU. .D	Calibration	1	258508	1000.0000	0.3119	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	5128	25.0000	0.3406	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	56274	250.0000	0.2865	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP50+DDMU.D C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP500+DDMU. D	Calibration	5	8321	50.0000	0.2656	
	Calibration	2	82892	500.0000	0.2705	

BHC-delta

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	21214	100.0000	0.2291	8.267221516
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU. .D	Calibration	1	225594	1000.0000	0.2722	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	3509	25.0000	0.2331	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	43725	250.0000	0.2226	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP50+DDMU.D C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP500+DDMU. D	Calibration	5	6809	50.0000	0.2173	
	Calibration	2	72736	500.0000	0.2374	

Quantitative Analysis Calibration Report

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Heptachlor

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	20022	100.0000	0.2162	11.29772855
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU. .D	Calibration	1	231466	1000.0000	0.2793	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	4234	25.0000	0.2813	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	44009	250.0000	0.2240	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP50+DDMU.D	Calibration	5	7445	50.0000	0.2376	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP500+DDMU. D	Calibration	2	72798	500.0000	0.2376	

Aldrin

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	24051	100.0000	0.2597	11.67454643
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU. .D	Calibration	1	234991	1000.0000	0.2835	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	5143	25.0000	0.3417	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	51215	250.0000	0.2607	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP50+DDMU.D	Calibration	5	8395	50.0000	0.2680	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP500+DDMU. D	Calibration	2	78598	500.0000	0.2565	

DCPA (Dacthal)

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	76183	100.0000	0.8226	8.281740701
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU. .D	Calibration	1	805084	1000.0000	0.9713	

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	14803	25.0000	0.9834
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	168293	250.0000	0.8568
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP50+DDMU.D	Calibration	5	26351	50.0000	0.8411
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP500+DDMU. D	Calibration	2	254176	500.0000	0.8296

4,4'-Dibromobiphenyl

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	926081	1000.0000	926.0805	18.58432248
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU .D	Calibration	1	828849	1000.0000	828.8493	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	602120	1000.0000	602.1197	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	785705	1000.0000	785.7053	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP50+DDMU.D	Calibration	5	626580	1000.0000	626.5801	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP500+DDMU. D	Calibration	2	612766	1000.0000	612.7657	

Heptachlor epoxide

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	30742	100.0000	0.3320	8.327483524
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU .D	Calibration	1	321932	1000.0000	0.3884	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	6055	25.0000	0.4022	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	70062	250.0000	0.3567	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP50+DDMU.D	Calibration	5	11411	50.0000	0.3642	

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP500+DDMU.

Calibration	Level	Response	Exp Conc	RF	%RSD
D	2	99936	500.0000	0.3262	

Oxychlordan

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP100+DDMU.						
D	Calibration	4	20630	100.0000	0.2228	9.40557638
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP1000+DDMU						
.D	Calibration	1	222674	1000.0000	0.2687	
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP25_+DDMU.						
D	Calibration	6	3098	25.0000	0.2058	
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP250+DDMU.						
D	Calibration	3	49502	250.0000	0.2520	
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP50+DDMU.D	Calibration	5	7315	50.0000	0.2335	
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP500+DDMU.						
D	Calibration	2	70461	500.0000	0.2300	

4,4'-DDMU

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP100+DDMU.						
D	Calibration	4	119909	100.0000	7.1948	71.96019865
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP1000+DDMU						
.D	Calibration	1	1241261	1000.0000	8.3782	
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP25_+DDMU.						
D	Calibration	6	60374	25.0000	24.8320	
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP250+DDMU.						
D	Calibration	3	244474	250.0000	6.9912	
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP50+DDMU.D	Calibration	5	29804	50.0000	5.6444	
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP500+DDMU.						
D	Calibration	2	382147	500.0000	7.5805	

Chlordane-gamma

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP100+DDMU.						
D	Calibration	4	40524	100.0000	2.4315	8.924990627

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU. .D	Calibration	1	432955	1000.0000	2.9223
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	7326	25.0000	3.0130
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	86622	250.0000	2.4771
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP50+DDMU.D	Calibration	5	13563	50.0000	2.5686
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP500+DDMU. D	Calibration	2	133815	500.0000	2.6544

Endosulfan-I

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	6013	100.0000	0.3608	17.85274218
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU. .D	Calibration	1	77474	1000.0000	0.5229	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	1360	25.0000	0.5595	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	15462	250.0000	0.4422	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP50+DDMU.D	Calibration	5	2048	50.0000	0.3878	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP500+DDMU. D	Calibration	2	20138	500.0000	0.3995	

2,4'-DDE

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	100258	100.0000	6.0157	10.25706921
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU. .D	Calibration	1	1099940	1000.0000	7.4243	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	18887	25.0000	7.7685	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	229957	250.0000	6.5761	

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C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP50+DDMU.D Calibration

5

32427

50.0000

6.1413

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP500+DDMU.

D Calibration

2

346230

500.0000

6.8680

Chlordane-alpha

Calibration STD

CalType

Level

Response

Exp Conc

RF

%RSD

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP100+DDMU.

D Calibration

4

37511

100.0000

2.2507

9.470995314

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP1000+DDMU

.D Calibration

1

416222

1000.0000

2.8094

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP25_+DDMU.

D Calibration

6

6928

25.0000

2.8495

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP250+DDMU.

D Calibration

3

85301

250.0000

2.4394

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP50+DDMU.D Calibration

5

12519

50.0000

2.3709

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP500+DDMU.

D Calibration

2

129183

500.0000

2.5625

trans-Nonachlor

Calibration STD

CalType

Level

Response

Exp Conc

RF

%RSD

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP100+DDMU.

D Calibration

4

40699

100.0000

2.4420

13.82286567

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP1000+DDMU

.D Calibration

1

470974

1000.0000

3.1790

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP25_+DDMU.

D Calibration

6

8627

25.0000

3.5485

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP250+DDMU.

D Calibration

3

92631

250.0000

2.6490

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP50+DDMU.D Calibration

5

14433

50.0000

2.7335

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP500+DDMU.

D Calibration

2

143102

500.0000

2.8387

(PCB112)

Calibration STD

CalType

Level

Response

Exp Conc

RF

%RSD

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C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	411395	400.0000	6.1711	3.934087598
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU. .D	Calibration	1	387371	400.0000	6.5367	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	245710	400.0000	6.3164	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	326850	400.0000	5.8418	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP50+DDMU.D	Calibration	5	254382	400.0000	6.0220	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP500+DDMU. D	Calibration	2	253995	400.0000	6.2980	

Dieldrin

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	8630	100.0000	0.5178	16.14766309
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU. .D	Calibration	1	72425	1000.0000	0.4888	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	1659	25.0000	0.6824	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	15908	250.0000	0.4549	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP50+DDMU.D	Calibration	5	2928	50.0000	0.5546	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP500+DDMU. D	Calibration	2	23190	500.0000	0.4600	

4,4'-DDE

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	64072	100.0000	3.8444	9.481069152
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU. .D	Calibration	1	748656	1000.0000	5.0533	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	10714	25.0000	4.4067	

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C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP250+DDMU.

Calibration	Level	Response	Exp Conc	RF	%RSD
D	3	151812	250.0000	4.3414	

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP50+DDMU.D

Calibration	5	21478	50.0000	4.0677	
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C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP500+DDMU.

Calibration	2	227888	500.0000	4.5205	
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D

2,4'-DDD

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
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C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP100+DDMU.

Calibration	4	84223	100.0000	5.0535	13.88588269
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C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP1000+DDMU

Calibration	1	1088403	1000.0000	7.3465	
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.D

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP25_+DDMU.

Calibration	6	14638	25.0000	6.0208	
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C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP250+DDMU.

Calibration	3	196424	250.0000	5.6171	
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D

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP50+DDMU.D

Calibration	5	27738	50.0000	5.2531	
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C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP500+DDMU.

Calibration	2	305369	500.0000	6.0575	
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D

Endrin

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
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C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP100+DDMU.

Calibration	4	8761	100.0000	0.5257	5.493367773
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C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP1000+DDMU

Calibration	1	86542	1000.0000	0.5841	
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.D

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP25_+DDMU.

Calibration	6	1423	25.0000	0.5854	
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C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP250+DDMU.

Calibration	3	17847	250.0000	0.5104	
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D

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP50+DDMU.D

Calibration	5	2932	50.0000	0.5554	
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C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP500+DDMU.

Calibration	2	27679	500.0000	0.5491	
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D

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Perthane

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	108570	100.0000	6.5144	27.61257089
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU. .D	Calibration	1	1823895	1000.0000	12.3109	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	17637	25.0000	7.2540	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	262795	250.0000	7.5151	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP50+DDMU.D	Calibration	5	33146	50.0000	6.2774	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP500+DDMU. D	Calibration	2	427990	500.0000	8.4899	

Endosulfan-II

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	4258	100.0000	0.2555	24.35762857
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU. .D	Calibration	1	62792	1000.0000	0.4238	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	1151	25.0000	0.4734	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	10271	250.0000	0.2937	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP50+DDMU.D	Calibration	5	1610	50.0000	0.3050	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP500+DDMU. D	Calibration	2	16255	500.0000	0.3224	

4,4'-DDD

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	50163	100.0000	3.0099	24.22060719
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU. .D	Calibration	1	823482	1000.0000	5.5583	

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C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	8844	25.0000	3.6377
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	124732	250.0000	3.5670
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP50+DDMU.D	Calibration	5	16621	50.0000	3.1478
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP500+DDMU. D	Calibration	2	194033	500.0000	3.8489

2,4'-DDT

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	76557	100.0000	4.5936	17.57032011
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU .D	Calibration	1	1030907	1000.0000	6.9584	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	11605	25.0000	4.7733	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	183271	250.0000	5.2410	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP50+DDMU.D	Calibration	5	23635	50.0000	4.4761	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP500+DDMU. D	Calibration	2	282058	500.0000	5.5951	

cis-Nonachlor

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	35124	100.0000	2.1075	11.94078547
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU .D	Calibration	1	430334	1000.0000	2.9047	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	5421	25.0000	2.2298	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	83778	250.0000	2.3958	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP50+DDMU.D	Calibration	5	11801	50.0000	2.2349	

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C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP500+DDMU.

Calibration	Level	Response	Exp Conc	RF	%RSD
D	2	126856	500.0000	2.5164	

Endrin aldehyde

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP100+DDMU.						
D	Calibration	4	8399	100.0000	0.5039	23.75088788
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP1000+DDMU						
.D	Calibration	1	109644	1000.0000	0.7401	
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP25_+DDMU.						
D	Calibration	6	1189	25.0000	0.4892	
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP250+DDMU.						
D	Calibration	3	20281	250.0000	0.5800	
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP50+DDMU.D	Calibration	5	1860	50.0000	0.3522	
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP500+DDMU.						
D	Calibration	2	29463	500.0000	0.5844	

2,2',5,5'-Tetrabromobiphenyl

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP100+DDMU.						
D	Calibration	4	166661	1000.0000	166.6614	22.96298326
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP1000+DDMU						
.D	Calibration	1	148153	1000.0000	148.1532	
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP25_+DDMU.						
D	Calibration	6	97251	1000.0000	97.2514	
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP250+DDMU.						
D	Calibration	3	139875	1000.0000	139.8749	
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP50+DDMU.D	Calibration	5	105605	1000.0000	105.6048	
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP500+DDMU.						
D	Calibration	2	100824	1000.0000	100.8238	

Endosulfan sulfate

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1						
40405						
EI_05102\OCP100+DDMU.						
D	Calibration	4	12532	100.0000	0.7519	19.12647593

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C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU. .D	Calibration	1	172282	1000.0000	1.1629
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	2801	25.0000	1.1520
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	31662	250.0000	0.9054
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP50+DDMU.D	Calibration	5	4116	50.0000	0.7794
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP500+DDMU. D	Calibration	2	44191	500.0000	0.8766

4,4'-DDT

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	40153	100.0000	2.4093	27.62669922
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU. .D	Calibration	1	700480	1000.0000	4.7281	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	6757	25.0000	2.7792	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	102428	250.0000	2.9291	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP50+DDMU.D	Calibration	5	13169	50.0000	2.4940	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP500+DDMU. D	Calibration	2	159523	500.0000	3.1644	

Endrin ketone

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	12569	100.0000	0.7542	12.33063962
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU. .D	Calibration	1	158486	1000.0000	1.0697	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	2272	25.0000	0.9344	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	28990	250.0000	0.8290	

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C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP50+DDMU.D Calibration

5

4401

50.0000

0.8334

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP500+DDMU.

D Calibration

2

44690

500.0000

0.8865

Dicofol

Calibration STD

CalType

Level

Response

Exp Conc

RF

%RSD

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP100+DDMU.

D Calibration

4

7588

100.0000

0.4553

43.60636401

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP1000+DDMU

.D Calibration

1

164548

1000.0000

1.1107

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP25_+DDMU.

D Calibration

6

987

25.0000

0.4060

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP250+DDMU.

D Calibration

3

18483

250.0000

0.5286

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP50+DDMU.D Calibration

5

2489

50.0000

0.4714

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP500+DDMU.

D Calibration

2

31473

500.0000

0.6243

Methoxychlor

Calibration STD

CalType

Level

Response

Exp Conc

RF

%RSD

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP100+DDMU.

D Calibration

4

52097

100.0000

3.1259

35.861849

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP1000+DDMU

.D Calibration

1

1015974

1000.0000

6.8576

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP25_+DDMU.

D Calibration

6

8327

25.0000

3.4248

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP250+DDMU.

D Calibration

3

128810

250.0000

3.6836

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP50+DDMU.D Calibration

5

16130

50.0000

3.0547

C:\msdchem\1\DATA\Q1_1

40405

EI_05102\OCP500+DDMU.

D Calibration

2

193707

500.0000

3.8425

Mirex

Calibration STD

CalType

Level

Response

Exp Conc

RF

%RSD

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C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	50289	100.0000	3.0175	13.44345199
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU. .D	Calibration	1	527918	1000.0000	3.5633	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	10206	25.0000	4.1980	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	111352	250.0000	3.1843	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP50+DDMU.D	Calibration	5	19909	50.0000	3.7705	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP500+DDMU. D	Calibration	2	154152	500.0000	3.0579	

(PCB198)

Calibration STD	CalType	Level	Response	Exp Conc	RF	%RSD
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP100+DDMU. D	Calibration	4	100466	400.0000	1.5070	6.099390165
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP1000+DDMU. .D	Calibration	1	89658	400.0000	1.5129	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP25_+DDMU. D	Calibration	6	62236	400.0000	1.5999	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP250+DDMU. D	Calibration	3	80816	400.0000	1.4444	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP50+DDMU.D	Calibration	5	66792	400.0000	1.5812	
C:\msdchem\1\DATA\Q1_1 40405 EI_05102\OCP500+DDMU. D	Calibration	2	54518	400.0000	1.3518	

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Continuing Calibration Data

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path C:\msdchem\1\DATA\Q1_140405 EI_05102\QuantResults\O-5102 OCP.batch.bin
Analysis Time 4/6/2014 4:51 PM **Analyst Name** eugenechae
Report Time 6/12/2014 11:08 AM **Reporter Name** eugenechae
Last Calib Update 4/10/2014 5:04 PM **Batch State** Processed

Analysis Info

Acq Time
Level
Position
Sample Type Sample
Dilution 1
Sample Name PCB200_OCP1000_SPEX_ICV
Data File PCB200_OCP1000_SPEX_ICV.D
Acq Method File MS1Scan
Sample Info
Comment

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(TCMX)	4,4'-Dibromobiphenyl	26.587	208098	891448	0.2334	384.6265	ng/ml
BHC-alpha	4,4'-Dibromobiphenyl	29.570	398209	891448	0.4467	1035.1142	ng/ml
Hexachlorobenzene	4,4'-Dibromobiphenyl	30.151	1095435	891448	1.2288	1032.4270	ng/ml
(PCB030)	4,4'-Dibromobiphenyl	31.715	523373	891448		394.5224	ng/ml
BHC-beta	4,4'-Dibromobiphenyl	31.749	214284	891448		3151.6448	ng/ml
BHC-gamma	4,4'-Dibromobiphenyl	32.006	369374	891448	0.4144	1369.4947	ng/ml
BHC-delta	4,4'-Dibromobiphenyl	33.963	239892	891448	0.2691	1023.8502	ng/ml
Heptachlor	4,4'-Dibromobiphenyl	37.314	261250	891448	0.2931	1092.5014	ng/ml
Aldrin	4,4'-Dibromobiphenyl	39.852	245396	891448	0.2753	993.1709	ng/ml
DCPA (Dacthal)	4,4'-Dibromobiphenyl	40.929	890424	891448	0.9989	1065.0582	ng/ml
Heptachlor epoxide	4,4'-Dibromobiphenyl	42.852	333261	891448	0.3738	997.6774	ng/ml
Oxychlordane	4,4'-Dibromobiphenyl	42.921	237941	891448	0.2669	1026.0710	ng/ml
Chlordane-gamma	2,2',5,5'-Tetrabromobiphenyl	44.604	452172	158405	2.8545	1002.8178	ng/ml
4,4'-DDMU	2,2',5,5'-Tetrabromobiphenyl	45.074	0	158405		0.0000	ng/ml
2,4'-DDE	2,2',5,5'-Tetrabromobiphenyl	45.083	1123091	158405	7.0900	975.7015	ng/ml
Endosulfan-I	2,2',5,5'-Tetrabromobiphenyl	45.468	78530	158405	0.4958	1002.7832	ng/ml
Chlordane-alpha	2,2',5,5'-Tetrabromobiphenyl	45.716	425665	158405	2.6872	980.5895	ng/ml
trans-Nonachlor	2,2',5,5'-Tetrabromobiphenyl	46.092	485287	158405	3.0636	993.5146	ng/ml
(PCB112)	2,2',5,5'-Tetrabromobiphenyl	46.288	400365	158405		407.8099	ng/ml
Dieldrin	2,2',5,5'-Tetrabromobiphenyl	47.357	68219	158405	0.4307	893.0355	ng/ml
4,4'-DDE	2,2',5,5'-Tetrabromobiphenyl	47.408	774152	158405	4.8872	995.7647	ng/ml
2,4'-DDD	2,2',5,5'-Tetrabromobiphenyl	47.998	1144276	158405	7.2237	1031.9631	ng/ml
Endrin	2,2',5,5'-Tetrabromobiphenyl	48.887	90221	158405	0.5696	993.0434	ng/ml
Perthane	2,2',5,5'-Tetrabromobiphenyl	49.280	1844099	158405	11.6416	1029.6259	ng/ml
Endosulfan-II	2,2',5,5'-Tetrabromobiphenyl	49.613	55185	158405		877.2891	ng/ml
4,4'-DDD	2,2',5,5'-Tetrabromobiphenyl	50.442	858086	158405	5.4170	1058.5539	ng/ml
2,4'-DDT	2,2',5,5'-Tetrabromobiphenyl	50.605	1097654	158405	6.9294	1050.4255	ng/ml
cis-Nonachlor	2,2',5,5'-Tetrabromobiphenyl	50.605	462502	158405	2.9197	1042.8186	ng/ml
Endrin aldehyde	2,2',5,5'-Tetrabromobiphenyl	50.972	112489	158405	0.7101	1013.6945	ng/ml
Endosulfan sulfate	2,2',5,5'-Tetrabromobiphenyl	52.690	167628	158405	1.0582	968.2572	ng/ml

Quantitative Analysis Sample Report

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4,4'-DDT	2,2',5,5'- Tetrabromobiphenyl	53.066	659512	158405	4.1634	962.4799	ng/ml
Endrin ketone	2,2',5,5'- Tetrabromobiphenyl	55.895	168917	158405	1.0664	1044.4824	ng/ml
Dicofol	2,2',5,5'- Tetrabromobiphenyl	57.186	178348	158405	1.1259	1143.0269	ng/ml
Methoxychlor	2,2',5,5'- Tetrabromobiphenyl	57.212	1030469	158405	6.5053	1066.0201	ng/ml
Mirex	2,2',5,5'- Tetrabromobiphenyl	59.716	545660	158405	3.4447	999.4207	ng/ml
(PCB198)	2,2',5,5'- Tetrabromobiphenyl	60.451	84572	158405		356.0374	ng/ml

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path C:\msdchem\1\DATA\Q1_140405 EI_05102\QuantResults\O-5102 OCP.batch.bin
Analysis Time 4/8/2014 3:21 AM **Analyst Name** eugenechae
Report Time 6/12/2014 11:08 AM **Reporter Name** eugenechae
Last Calib Update 4/10/2014 5:04 PM **Batch State** Processed

Analysis Info

Acq Time
Level
Position
Sample Type Sample
Dilution 1
Sample Name OCP500+DDMU_CCV
Data File OCP500+DDMU_CCV.D
Acq Method File MS1Scan
Sample Info
Comment

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(TCMX)	4,4'-Dibromobiphenyl	26.595	194619	793667	0.2452	404.0294	ng/ml
BHC-alpha	4,4'-Dibromobiphenyl	29.570	170947	793667	0.2154	499.1116	ng/ml
Hexachlorobenzene	4,4'-Dibromobiphenyl	30.160	449291	793667	0.5661	475.6176	ng/ml
(PCB030)	4,4'-Dibromobiphenyl	31.715	484010	793667		409.8002	ng/ml
BHC-beta	4,4'-Dibromobiphenyl	31.775	29859	793667		493.2692	ng/ml
BHC-gamma	4,4'-Dibromobiphenyl	32.014	109050	793667	0.1374	454.1286	ng/ml
BHC-delta	4,4'-Dibromobiphenyl	33.980	98408	793667	0.1240	471.7456	ng/ml
Heptachlor	4,4'-Dibromobiphenyl	37.322	91961	793667	0.1159	431.9431	ng/ml
Aldrin	4,4'-Dibromobiphenyl	39.852	105025	793667	0.1323	477.4260	ng/ml
DCPA (Dacthal)	4,4'-Dibromobiphenyl	40.929	377126	793667	0.4752	506.6654	ng/ml
Heptachlor epoxide	4,4'-Dibromobiphenyl	42.852	147042	793667	0.1853	494.4298	ng/ml
Oxychlordane	4,4'-Dibromobiphenyl	42.929	88153	793667	0.1111	426.9772	ng/ml
Chlordane-gamma	2,2',5,5'-Tetrabromobiphenyl	44.604	192725	139421	1.3823	485.6212	ng/ml
4,4'-DDMU	2,2',5,5'-Tetrabromobiphenyl	44.792	532326	139421	3.8181	468.1313	ng/ml
2,4'-DDE	2,2',5,5'-Tetrabromobiphenyl	45.083	457009	139421	3.2779	451.0944	ng/ml
Endosulfan-I	2,2',5,5'-Tetrabromobiphenyl	45.459	31472	139421		456.5985	ng/ml
Chlordane-alpha	2,2',5,5'-Tetrabromobiphenyl	45.724	183177	139421	1.3138	479.4362	ng/ml
trans-Nonachlor	2,2',5,5'-Tetrabromobiphenyl	46.100	208841	139421	1.4979	485.7721	ng/ml
(PCB112)	2,2',5,5'-Tetrabromobiphenyl	46.288	344309	139421	2.4696	398.4653	ng/ml
Dieldrin	2,2',5,5'-Tetrabromobiphenyl	47.365	30615	139421	0.2196	455.3449	ng/ml
4,4'-DDE	2,2',5,5'-Tetrabromobiphenyl	47.416	309901	139421	2.2228	452.8911	ng/ml
2,4'-DDD	2,2',5,5'-Tetrabromobiphenyl	48.006	486571	139421	3.4899	498.5629	ng/ml
Endrin	2,2',5,5'-Tetrabromobiphenyl	48.904	34208	139421	0.2454	427.7904	ng/ml
Perthane	2,2',5,5'-Tetrabromobiphenyl	49.280	738237	139421	5.2950	468.3081	ng/ml
Endosulfan-II	2,2',5,5'-Tetrabromobiphenyl	49.613	19596	139421		353.9351	ng/ml
4,4'-DDD	2,2',5,5'-Tetrabromobiphenyl	50.442	370325	139421	2.6562	519.0456	ng/ml
2,4'-DDT	2,2',5,5'-Tetrabromobiphenyl	50.605	350439	139421	2.5135	381.0240	ng/ml
cis-Nonachlor	2,2',5,5'-Tetrabromobiphenyl	50.613	176839	139421	1.2684	453.0169	ng/ml
Endrin aldehyde	2,2',5,5'-Tetrabromobiphenyl	50.972	47427	139421	0.3402	485.5855	ng/ml
Endosulfan sulfate	2,2',5,5'-Tetrabromobiphenyl	52.690	70276	139421	0.5041	461.2031	ng/ml

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4,4'-DDT	2,2',5,5'- Tetrabromobiphenyl	53.075	180321	139421	1.2933	298.9888	ng/ml
Endrin ketone	2,2',5,5'- Tetrabromobiphenyl	55.895	58130	139421	0.4169	408.3816	ng/ml
Dicofol	2,2',5,5'- Tetrabromobiphenyl	57.194	39130	139421	0.2807	284.9282	ng/ml
Methoxychlor	2,2',5,5'- Tetrabromobiphenyl	57.203	282156	139421	2.0238	331.6346	ng/ml
Mirex	2,2',5,5'- Tetrabromobiphenyl	59.724	187062	139421	1.3417	389.2708	ng/ml
(PCB198)	2,2',5,5'- Tetrabromobiphenyl	60.451	69428	139421	0.4980	332.0818	ng/ml

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path C:\msdchem\1\DATA\Q1_140405 EI_O5102\QuantResults\O-5102 OCP.batch.bin
Analysis Time 4/8/2014 11:51 PM **Analyst Name** eugenechae
Report Time 6/12/2014 11:08 AM **Reporter Name** eugenechae
Last Calib Update 4/10/2014 5:04 PM **Batch State** Processed

Analysis Info

Acq Time **Sample Name** OCP500+DDMU_FCV
Level **Data File** OCP500+DDMU_FCV.D
Position **Acq Method File** MS1Scan
Sample Type Sample **Sample Info**
Dilution 1 **Comment**

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(TCMX)	4,4'-Dibromobiphenyl	26.595	203983	858095	0.2377	391.6744	ng/ml
BHC-alpha	4,4'-Dibromobiphenyl	29.561	174170	858095	0.2030	470.3394	ng/ml
Hexachlorobenzene	4,4'-Dibromobiphenyl	30.160	480238	858095	0.5597	470.2081	ng/ml
(PCB030)	4,4'-Dibromobiphenyl	31.724	519841	858095	0.6058	407.0904	ng/ml
BHC-beta	4,4'-Dibromobiphenyl	31.766	30135	858095	0.0351	460.4423	ng/ml
BHC-gamma	4,4'-Dibromobiphenyl	32.014	115632	858095	0.1348	445.3810	ng/ml
BHC-delta	4,4'-Dibromobiphenyl	33.972	98171	858095	0.1144	435.2760	ng/ml
Heptachlor	4,4'-Dibromobiphenyl	37.322	77001	858095	0.0897	334.5221	ng/ml
Aldrin	4,4'-Dibromobiphenyl	39.852	113744	858095	0.1326	478.2373	ng/ml
DCPA (Dacthal)	4,4'-Dibromobiphenyl	40.938	406180	858095	0.4734	504.7264	ng/ml
Heptachlor epoxide	4,4'-Dibromobiphenyl	42.835	161978	858095	0.1888	503.7585	ng/ml
Oxychlordane	4,4'-Dibromobiphenyl	42.929	91713	858095	0.1069	410.8655	ng/ml
Chlordane-gamma	2,2',5,5'-Tetrabromobiphenyl	44.613	200892	146963	1.3670	480.2236	ng/ml
4,4'-DDMU	2,2',5,5'-Tetrabromobiphenyl	44.801	580796	146963	3.9520	484.5455	ng/ml
2,4'-DDE	2,2',5,5'-Tetrabromobiphenyl	45.074	504397	146963	3.4321	472.3196	ng/ml
Endosulfan-I	2,2',5,5'-Tetrabromobiphenyl	45.451	33561	146963	0.2284	461.9191	ng/ml
Chlordane-alpha	2,2',5,5'-Tetrabromobiphenyl	45.724	199486	146963	1.3574	495.3275	ng/ml
trans-Nonachlor	2,2',5,5'-Tetrabromobiphenyl	46.100	215298	146963	1.4650	475.0902	ng/ml
(PCB112)	2,2',5,5'-Tetrabromobiphenyl	46.297	360472	146963	2.4528	395.7631	ng/ml
Dieldrin	2,2',5,5'-Tetrabromobiphenyl	47.365	31448	146963	0.2140	443.7271	ng/ml
4,4'-DDE	2,2',5,5'-Tetrabromobiphenyl	47.425	336578	146963	2.2902	466.6359	ng/ml
2,4'-DDD	2,2',5,5'-Tetrabromobiphenyl	47.998	520803	146963	3.5438	506.2542	ng/ml
Endrin	2,2',5,5'-Tetrabromobiphenyl	48.895	34770	146963	0.2366	412.5005	ng/ml
Perthane	2,2',5,5'-Tetrabromobiphenyl	49.271	800733	146963	5.4485	481.8862	ng/ml
Endosulfan-II	2,2',5,5'-Tetrabromobiphenyl	49.630	24395	146963	0.1660	418.0050	ng/ml
4,4'-DDD	2,2',5,5'-Tetrabromobiphenyl	50.451	382494	146963	2.6027	508.5909	ng/ml
2,4'-DDT	2,2',5,5'-Tetrabromobiphenyl	50.605	357709	146963	2.4340	368.9699	ng/ml
cis-Nonachlor	2,2',5,5'-Tetrabromobiphenyl	50.613	199507	146963	1.3575	484.8582	ng/ml
Endrin aldehyde	2,2',5,5'-Tetrabromobiphenyl	50.989	51606	146963	0.3512	501.2583	ng/ml
Endosulfan sulfate	2,2',5,5'-Tetrabromobiphenyl	52.682	71944	146963	0.4895	447.9215	ng/ml

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4,4'-DDT	2,2',5,5'- Tetrabromobiphenyl	53.075	175386	146963	1.1934	275.8829	ng/ml
Endrin ketone	2,2',5,5'- Tetrabromobiphenyl	55.895	63238	146963	0.4303	421.4678	ng/ml
Dicofol	2,2',5,5'- Tetrabromobiphenyl	57.169	42799	146963	0.2912	295.6506	ng/ml
Methoxychlor	2,2',5,5'- Tetrabromobiphenyl	57.203	261438	146963	1.7789	291.5145	ng/ml
Mirex	2,2',5,5'- Tetrabromobiphenyl	59.724	197747	146963	1.3456	390.3884	ng/ml
(PCB198)	2,2',5,5'- Tetrabromobiphenyl	60.459	86406	146963	0.5879	392.0793	ng/ml

	OCP1000 ICV			OCP500 CCV			OCP500 FCV		
	4/06/14 04:51 PM			/ /14 : AM			/ /14 11: hM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
TCMX	400	385	4	400	404	1	400	392	2
PCB030	400	395	1	400	410	2	400	407	2
PCB112	400	408	2	400	398	0	400	396	1
PCB198	400	356	11	400	332	17	400	392	2
BHC-alpha	1000	1035	4	500	499	0	500	470	6
Hexachlorobenzene	1000	1032	3	500	476	5	500	470	6
BHC-beta	1000	3152	215	500	493	1	500	460	8
BHC-gamma	1000	1369	37	500	454	9	500	445	11
BHC-delta	1000	1024	2	500	472	6	500	435	13
Heptachlor	1000	1093	9	500	432	14	500	335	33
Aldrin	1000	993	1	500	477	5	500	478	4
DCPA (Dacthal)	1000	1065	7	500	507	1	500	505	1
Heptachlor Epoxide	1000	998	0	500	494	1	500	504	1
Oxychlordane	1000	1026	3	500	427	15	500	411	18
Chlordane-gamma	1000	1003	0	500	486	3	500	480	4
4,4'-DDMU	0	0	NA	500	468	6	500	485	3
2,4'-DDE	1000	976	2	500	451	10	500	472	6
Endosulfan-I	1000	1003	0	500	457	9	500	462	8
Chlordane-alpha	1000	981	2	500	479	4	500	495	1
trans-Nonachlor	1000	994	1	500	486	3	500	475	5
Dieldrin	1000	893	11	500	455	9	500	444	11
4,4'-DDE	1000	996	0	500	453	9	500	467	7
2,4'-DDD	1000	1032	3	500	499	0	500	506	1
Endrin	1000	993	1	500	428	14	500	413	17
Perthane	1000	1030	3	500	468	6	500	482	4
Endosulfan-II	1000	877	12	500	354	29	500	418	16
4,4'-DDD	1000	1059	6	500	519	4	500	509	2
2,4'-DDT	1000	1050	5	500	381	24	500	369	26
cis-Nonachlor	1000	1043	4	500	453	9	500	485	3
Endrin Aldehyde	1000	1014	1	500	486	3	500	501	0
Endosulfan Sulfate	1000	968	3	500	461	8	500	448	10
4,4'-DDT	1000	962	4	500	299	40	500	276	45
Endrin Ketone	1000	1044	4	500	408	18	500	421	16
Dicofol	1000	1143	14	500	285	43	500	296	41
Methoxychlor	1000	1066	7	500	332	34	500	292	42
Mirex	1000	999	0	500	389	22	500	390	22
Average	-	-	11	-	-	11	-	-	11

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PCB Congeners

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Initial Calibration Data

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PCB Congener	Response factor	R2
3	2.373	0.99
8	2.003	0.98
5	1.533	0.99
18	0.9737	0.99
15	1.463	1
27	0.8175	0.99
29	1.053	0.99
31	1.244	1
28	1.341	0.99
33	1.239	0.99
52	0.8842	0.99
49	0.9243	0.99
44	0.7554	0.99
37	1.127	0.99
74	1.082	1
70	1.117	0.99
95	0.8823	0.99
66	1.173	0.99
56	0.9598	0.99
101	0.7714	0.99
99	0.8251	1
119	0.9861	1
97	0.7172	0.99
87	0.7669	0.99
81	1.101	0.99
110	1.011	1
77	1.04	0.99
151	0.6829	0.99
149	0.7774	1
123	0.9335	0.99
118	1.007	1
114	0.9053	0.99
153	3.744	0.98
168+132	3.927	0.99
105	5.517	0.98
141	3.367	0.99
137	2.266	0.99
138	3.436	0.99
158	4.723	0.99
126	4.173	0.98
187	2.905	0.99
183	3.082	0.99
128	2.979	0.99
167	4.433	0.99
174	2.421	0.99
177	2.654	0.99

156	4.077	0.98
199	3.839	0.99
157	5.766	0.99
180	2.604	0.99
169	3.428	0.97
170	2.483	0.99
201	2.033	0.99
203	2.046	1
189	3.068	0.99
195	1.954	0.99
194	2.217	0.99
206	1.932	0.99
209	2.587	0.99

PHYSIS

Continuing Calibration Data

TERRA

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ENVIRONMENTAL LABORATORIES, INC.

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path C:\msdchem\1\DATA\Q1_140405 EI_O5102\QuantResults\O-5102 PCB.batch.bin
Analysis Time 4/6/2014 4:51 PM **Analyst Name** eugenechae
Report Time 6/12/2014 3:41 PM **Reporter Name** eugenechae
Last Calib Update 5/7/2014 11:29 AM **Batch State** Processed

Analysis Info

Acq Time **Sample Name** PCB200_OCP1000_SPEX_ICV
Level **Data File** PCB200_OCP1000_SPEX_ICV.D
Position **Acq Method File** MS1Scan
Sample Type Sample **Sample Info**
Dilution 1 **Comment**

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc
PCB003	4,4'-Dibromobiphenyl	25.014	390177	819627	0.4760	200.5801
PCB008	4,4'-Dibromobiphenyl	29.587	335664	819627	0.4095	204.5040
PCB005	4,4'-Dibromobiphenyl	29.587	0	819627		0.0000
PCB015	4,4'-Dibromobiphenyl	32.758	0	819627	0.0000	0.0000
PCB018	4,4'-Dibromobiphenyl	32.767	156783	819627	0.1913	196.4557
PCB027	4,4'-Dibromobiphenyl	33.980	0	819627	0.0000	0.0000
PCB029	4,4'-Dibromobiphenyl	34.878	0	819627		0.0000
PCB031	4,4'-Dibromobiphenyl	36.194	176625	819627	0.2155	173.2645
PCB028	4,4'-Dibromobiphenyl	36.288	267863	819627	0.3268	243.7349
PCB033	4,4'-Dibromobiphenyl	36.997	191073	819627	0.2331	188.1727
PCB052	4,4'-Dibromobiphenyl	38.861	138726	819627	0.1693	191.4304
PCB049	4,4'-Dibromobiphenyl	39.185	157718	819627	0.1924	208.1815
PCB044	4,4'-Dibromobiphenyl	40.382	133357	819627	0.1627	215.3895
PCB037	4,4'-Dibromobiphenyl	40.690	174163	819627	0.2125	188.5230
PCB074	4,4'-Dibromobiphenyl	43.032	172116	819627	0.2100	194.1431
PCB070	4,4'-Dibromobiphenyl	43.297	169727	819627	0.2071	185.4544
PCB066	4,4'-Dibromobiphenyl	43.579	168129	819627	0.2051	174.8443
PCB095	4,4'-Dibromobiphenyl	43.579	137052	819627	0.1672	189.5079
PCB056(060)	4,4'-Dibromobiphenyl	44.784	148881	819627	0.1816	189.2534
PCB101	4,4'-Dibromobiphenyl	45.297	131849	819627	0.1609	208.5292
PCB099	4,4'-Dibromobiphenyl	45.681	141420	819627	0.1725	209.1056
PCB119	4,4'-Dibromobiphenyl	46.134	151922	819627	0.1854	187.9744
PCB097	4,4'-Dibromobiphenyl	46.844	104403	819627	0.1274	177.6070
PCB087	4,4'-Dibromobiphenyl	47.211	123227	819627	0.1503	196.0498
PCB081	4,4'-Dibromobiphenyl	47.263	210066	819627	0.2563	232.8618
PCB110	4,4'-Dibromobiphenyl	47.929	173170	819627	0.2113	209.0177
PCB077	4,4'-Dibromobiphenyl	48.006	188486	819627	0.2300	221.0534
PCB151	4,4'-Dibromobiphenyl	48.810	112714	819627	0.1375	201.3851
PCB123	4,4'-Dibromobiphenyl	49.639	149872	819627	0.1829	195.8712
PCB149	4,4'-Dibromobiphenyl	49.664	137018	819627	0.1672	215.0377
PCB118	4,4'-Dibromobiphenyl	49.835	193065	819627	0.2356	233.9200
PCB114	4,4'-Dibromobiphenyl	50.613	177510	819627	0.2166	239.2294
PCB153	2,2',5,5'-Tetrabromobiphenyl	51.417	108821	152380	0.7141	190.7356
PCB168+132	2,2',5,5'-Tetrabromobiphenyl	51.605	249219	152380	1.6355	416.4789
PCB105	2,2',5,5'-Tetrabromobiphenyl	51.699	156724	152380	1.0285	186.4234
PCB141	2,2',5,5'-Tetrabromobiphenyl	52.297	99966	152380	0.6560	194.8495
PCB137	2,2',5,5'-Tetrabromobiphenyl	52.733	0	152380	0.0000	0.0000
PCB138	2,2',5,5'-Tetrabromobiphenyl	53.365	99281	152380	0.6515	189.5949

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PCB158	2,2',5,5'- Tetrabromobiphenyl	53.536	146832	152380	0.9636	204.0050
PCB126	2,2',5,5'- Tetrabromobiphenyl	54.032	134971	152380	0.8858	212.2427
PCB187	2,2',5,5'- Tetrabromobiphenyl	54.545	85899	152380	0.5637	194.0704
PCB183	2,2',5,5'- Tetrabromobiphenyl	54.895	85284	152380	0.5597	181.5716
PCB128	2,2',5,5'- Tetrabromobiphenyl	55.288	64863	152380	0.4257	142.9026
PCB167	2,2',5,5'- Tetrabromobiphenyl	55.357	137775	152380	0.9042	203.9522
PCB174	2,2',5,5'- Tetrabromobiphenyl	56.135	74325	152380	0.4878	201.4399
PCB177	2,2',5,5'- Tetrabromobiphenyl	56.536	80059	152380	0.5254	197.9293
PCB156	2,2',5,5'- Tetrabromobiphenyl	56.964	97433	152380	0.6394	156.8228
PCB199(200)	2,2',5,5'- Tetrabromobiphenyl	57.306	117063	152380	0.7682	200.1188
PCB157	2,2',5,5'- Tetrabromobiphenyl	57.323	183970	152380	1.2073	209.3780
PCB180	2,2',5,5'- Tetrabromobiphenyl	58.092	76712	152380	0.5034	193.2968
PCB169	2,2',5,5'- Tetrabromobiphenyl	59.571	105919	152380	0.6951	202.7825
PCB170	2,2',5,5'- Tetrabromobiphenyl	60.083	70816	152380	0.4647	187.1809
PCB201	2,2',5,5'- Tetrabromobiphenyl	60.682	71116	152380	0.4667	229.6157
PCB203	2,2',5,5'- Tetrabromobiphenyl	60.682	0	152380	0.0000	0.0000
PCB189	2,2',5,5'- Tetrabromobiphenyl	62.066	84658	152380	0.5556	181.0761
PCB195	2,2',5,5'- Tetrabromobiphenyl	63.058	61801	152380	0.4056	207.6137
PCB194	2,2',5,5'- Tetrabromobiphenyl	64.391	65301	152380	0.4285	193.3156
PCB206	2,2',5,5'- Tetrabromobiphenyl	66.853	52619	152380	0.3453	178.7560
PCB209	2,2',5,5'- Tetrabromobiphenyl	68.827	55106	152380	0.3616	139.7451

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Batch Info

Batch Data Path C:\msdchem\1\DATA\Q1_140405 EI_O5102\QuantResults\O-5102 PCB.batch.bin
Analysis Time 4/8/2014 12:00 AM **Analyst Name** eugenechae
Report Time 6/12/2014 3:41 PM **Reporter Name** eugenechae
Last Calib Update 5/7/2014 11:29 AM **Batch State** Processed

Analysis Info

Acq Time **Sample Name** PCB+6_500_CCV
Level **Data File** PCB+6_500_CCV.D
Position **Acq Method File** MS1Scan
Sample Type Sample **Sample Info**
Dilution 1 **Comment**

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc
PCB003	4,4'-Dibromobiphenyl	25.006	807106	578448	1.3953	587.9065
PCB008	4,4'-Dibromobiphenyl	29.621	525689	578448	0.9088	453.8137
PCB005	4,4'-Dibromobiphenyl	29.621	622083	578448	1.0754	701.5037
PCB018	4,4'-Dibromobiphenyl	32.767	399300	578448	0.6903	708.9533
PCB015	4,4'-Dibromobiphenyl	32.980	508392	578448	0.8789	600.6391
PCB027	4,4'-Dibromobiphenyl	33.553	266669	578448	0.4610	563.9276
PCB029	4,4'-Dibromobiphenyl	35.202	393740	578448	0.6807	646.2235
PCB031	4,4'-Dibromobiphenyl	36.194	367475	578448	0.6353	510.7840
PCB028	4,4'-Dibromobiphenyl	36.297	516294	578448		665.6612
PCB033	4,4'-Dibromobiphenyl	36.997	402849	578448	0.6964	562.1503
PCB052	4,4'-Dibromobiphenyl	38.861	356408	578448	0.6161	696.8703
PCB049	4,4'-Dibromobiphenyl	39.185	401749	578448	0.6945	751.3949
PCB044	4,4'-Dibromobiphenyl	40.382	325594	578448	0.5629	745.1381
PCB037	4,4'-Dibromobiphenyl	40.690	433864	578448	0.7500	665.4477
PCB074	4,4'-Dibromobiphenyl	43.040	452585	578448	0.7824	723.3591
PCB070	4,4'-Dibromobiphenyl	43.305	459569	578448	0.7945	711.5248
PCB066	4,4'-Dibromobiphenyl	43.570	435335	578448	0.7526	641.4820
PCB095	4,4'-Dibromobiphenyl	43.596	266891	578448	0.4614	522.9126
PCB056(060)	4,4'-Dibromobiphenyl	44.775	322111	578448	0.5569	580.1791
PCB101	4,4'-Dibromobiphenyl	45.288	329214	578448	0.5691	737.7698
PCB099	4,4'-Dibromobiphenyl	45.690	321332	578448	0.5555	673.2276
PCB119	4,4'-Dibromobiphenyl	46.151	360373	578448	0.6230	631.8049
PCB097	4,4'-Dibromobiphenyl	46.835	202027	578448	0.3493	486.9740
PCB087	4,4'-Dibromobiphenyl	47.211	284357	578448	0.4916	641.0268
PCB081	4,4'-Dibromobiphenyl	47.254	406737	578448	0.7032	638.8618
PCB110	4,4'-Dibromobiphenyl	47.929	377427	578448	0.6525	645.4982
PCB077	4,4'-Dibromobiphenyl	47.989	365053	578448	0.6311	606.6317
PCB151	4,4'-Dibromobiphenyl	48.810	247783	578448	0.4284	627.2964
PCB149	4,4'-Dibromobiphenyl	49.656	263119	578448	0.4549	585.1147
PCB123	4,4'-Dibromobiphenyl	49.656	317746	578448	0.5493	588.4156
PCB118	4,4'-Dibromobiphenyl	49.827	408130	578448	0.7056	700.6695
PCB114	4,4'-Dibromobiphenyl	50.613	338187	578448	0.5846	645.8046
PCB153	2,2',5,5'-Tetrabromobiphenyl	51.417	247391	111044	2.2279	595.0249
PCB168+132	2,2',5,5'-Tetrabromobiphenyl	51.596	502715	111044	4.5271	1152.8261
PCB105	2,2',5,5'-Tetrabromobiphenyl	51.699	328003	111044	2.9538	535.3930
PCB141	2,2',5,5'-Tetrabromobiphenyl	52.305	186996	111044	1.6840	500.1611
PCB137	2,2',5,5'-Tetrabromobiphenyl	52.810	147348	111044	1.3269	585.5549
PCB138	2,2',5,5'-Tetrabromobiphenyl	53.365	197807	111044	1.7813	518.3625

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PCB158	2,2',5,5'- Tetrabromobiphenyl	53.536	305663	111044	2.7526	582.7666
PCB126	2,2',5,5'- Tetrabromobiphenyl	54.032	290278	111044	2.6141	626.3797
PCB187	2,2',5,5'- Tetrabromobiphenyl	54.536	202716	111044	1.8255	628.4794
PCB183	2,2',5,5'- Tetrabromobiphenyl	54.887	200120	111044	1.8022	584.6569
PCB128	2,2',5,5'- Tetrabromobiphenyl	55.263	153559	111044	1.3829	464.2442
PCB167	2,2',5,5'- Tetrabromobiphenyl	55.365	304345	111044	2.7407	618.2375
PCB174	2,2',5,5'- Tetrabromobiphenyl	56.143	148381	111044	1.3362	551.8440
PCB177	2,2',5,5'- Tetrabromobiphenyl	56.528	158838	111044	1.4304	538.8717
PCB156	2,2',5,5'- Tetrabromobiphenyl	56.947	234978	111044	2.1161	518.9918
PCB199(200)	2,2',5,5'- Tetrabromobiphenyl	57.306	227297	111044	2.0469	533.2037
PCB157	2,2',5,5'- Tetrabromobiphenyl	57.323	331055	111044	2.9813	517.0283
PCB180	2,2',5,5'- Tetrabromobiphenyl	58.092	168924	111044	1.5212	584.0920
PCB169	2,2',5,5'- Tetrabromobiphenyl	59.562	210916	111044	1.8994	554.1099
PCB170	2,2',5,5'- Tetrabromobiphenyl	60.100	153694	111044	1.3841	557.4624
PCB201	2,2',5,5'- Tetrabromobiphenyl	60.682	113784	111044	1.0247	504.1365
PCB203	2,2',5,5'- Tetrabromobiphenyl	61.024	110736	111044	0.9972	487.3751
PCB189	2,2',5,5'- Tetrabromobiphenyl	62.058	176670	111044	1.5910	518.5438
PCB195	2,2',5,5'- Tetrabromobiphenyl	63.049	104118	111044	0.9376	479.9698
PCB194	2,2',5,5'- Tetrabromobiphenyl	64.400	128778	111044	1.1597	523.1402
PCB206	2,2',5,5'- Tetrabromobiphenyl	66.861	117125	111044	1.0548	546.0068
PCB209	2,2',5,5'- Tetrabromobiphenyl	68.819	93625	111044	0.8431	325.8109

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Batch Info

Batch Data Path C:\msdchem\1\DATA\Q1_140405 EI_O5102\QuantResults\O-5102 PCB.batch.bin
Analysis Time 4/8/2014 10:11 PM **Analyst Name** eugenechae
Report Time 6/12/2014 3:41 PM **Reporter Name** eugenechae
Last Calib Update 5/7/2014 11:29 AM **Batch State** Processed

Analysis Info

Acq Time **Sample Name** PCB+6_500_FCV
Level **Data File** PCB+6_500_FCV.D
Position **Acq Method File** MS1Scan
Sample Type Sample **Sample Info**
Dilution 1 **Comment**

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc
PCB003	4,4'-Dibromobiphenyl	25.006	810419	651147	1.2446	524.4122
PCB008	4,4'-Dibromobiphenyl	29.613	471429	651147	0.7240	361.5346
PCB005	4,4'-Dibromobiphenyl	29.638	794926	651147	1.2208	796.3311
PCB018	4,4'-Dibromobiphenyl	32.767	423327	651147	0.6501	667.6966
PCB015	4,4'-Dibromobiphenyl	32.997	535688	651147	0.8227	562.2266
PCB027	4,4'-Dibromobiphenyl	33.570	305613	651147	0.4693	574.1273
PCB029	4,4'-Dibromobiphenyl	35.202	433966	651147	0.6665	632.7238
PCB031	4,4'-Dibromobiphenyl	36.185	419544	651147	0.6443	518.0513
PCB028	4,4'-Dibromobiphenyl	36.305	606370	651147	0.9312	694.5113
PCB033	4,4'-Dibromobiphenyl	36.997	440192	651147	0.6760	545.6788
PCB052	4,4'-Dibromobiphenyl	38.869	397048	651147	0.6098	689.6570
PCB049	4,4'-Dibromobiphenyl	39.194	440037	651147	0.6758	731.1189
PCB044	4,4'-Dibromobiphenyl	40.382	363774	651147	0.5587	739.5656
PCB037	4,4'-Dibromobiphenyl	40.698	478999	651147	0.7356	652.6508
PCB074	4,4'-Dibromobiphenyl	43.040	516965	651147	0.7939	734.0066
PCB070	4,4'-Dibromobiphenyl	43.305	517797	651147	0.7952	712.1704
PCB066	4,4'-Dibromobiphenyl	43.570	508661	651147	0.7812	665.8476
PCB095	4,4'-Dibromobiphenyl	43.596	308484	651147	0.4738	536.9241
PCB056(060)	4,4'-Dibromobiphenyl	44.784	371264	651147	0.5702	594.0516
PCB101	4,4'-Dibromobiphenyl	45.297	388574	651147	0.5968	773.5741
PCB099	4,4'-Dibromobiphenyl	45.681	375727	651147	0.5770	699.3031
PCB119	4,4'-Dibromobiphenyl	46.151	430173	651147	0.6606	669.9768
PCB097	4,4'-Dibromobiphenyl	46.835	241478	651147	0.3709	517.0832
PCB087	4,4'-Dibromobiphenyl	47.220	340539	651147	0.5230	681.9679
PCB081	4,4'-Dibromobiphenyl	47.263	480233	651147	0.7375	670.0870
PCB110	4,4'-Dibromobiphenyl	47.938	457109	651147	0.7020	694.4906
PCB077	4,4'-Dibromobiphenyl	47.981	422891	651147	0.6495	624.2853
PCB151	4,4'-Dibromobiphenyl	48.810	296455	651147	0.4553	666.7228
PCB123	4,4'-Dibromobiphenyl	49.647	378435	651147	0.5812	622.5588
PCB149	4,4'-Dibromobiphenyl	49.656	318235	651147	0.4887	628.6694
PCB118	4,4'-Dibromobiphenyl	49.818	500751	651147	0.7690	763.6982
PCB114	4,4'-Dibromobiphenyl	50.613	409117	651147	0.6283	694.0290
PCB153	2,2',5,5'-Tetrabromobiphenyl	51.425	302930	128943	2.3493	627.4686
PCB168+132	2,2',5,5'-Tetrabromobiphenyl	51.596	639769	128943	4.9616	1263.4708
PCB105	2,2',5,5'-Tetrabromobiphenyl	51.707	389247	128943	3.0188	547.1661
PCB141	2,2',5,5'-Tetrabromobiphenyl	52.305	228403	128943	1.7713	526.1124
PCB137	2,2',5,5'-Tetrabromobiphenyl	52.793	175605	128943	1.3619	600.9803
PCB138	2,2',5,5'-Tetrabromobiphenyl	53.365	244966	128943	1.8998	552.8377

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PCB158	2,2',5,5'- Tetrabromobiphenyl	53.536	375836	128943	2.9147	617.0925
PCB126	2,2',5,5'- Tetrabromobiphenyl	54.032	342809	128943	2.6586	637.0541
PCB187	2,2',5,5'- Tetrabromobiphenyl	54.536	249161	128943	1.9323	665.2481
PCB183	2,2',5,5'- Tetrabromobiphenyl	54.895	244793	128943	1.8985	615.8972
PCB128	2,2',5,5'- Tetrabromobiphenyl	55.263	191175	128943	1.4826	497.7396
PCB167	2,2',5,5'- Tetrabromobiphenyl	55.374	374621	128943	2.9053	655.3623
PCB174	2,2',5,5'- Tetrabromobiphenyl	56.152	182332	128943	1.4141	583.9846
PCB177	2,2',5,5'- Tetrabromobiphenyl	56.536	207376	128943	1.6083	605.8839
PCB156	2,2',5,5'- Tetrabromobiphenyl	56.955	287334	128943	2.2284	546.5382
PCB199(200)	2,2',5,5'- Tetrabromobiphenyl	57.306	271176	128943	2.1031	547.8360
PCB157	2,2',5,5'- Tetrabromobiphenyl	57.323	414172	128943	3.2121	557.0512
PCB180	2,2',5,5'- Tetrabromobiphenyl	58.092	209214	128943	1.6225	622.9905
PCB169	2,2',5,5'- Tetrabromobiphenyl	59.571	268948	128943	2.0858	608.4899
PCB170	2,2',5,5'- Tetrabromobiphenyl	60.100	192416	128943	1.4923	601.0351
PCB201	2,2',5,5'- Tetrabromobiphenyl	60.682	142789	128943	1.1074	544.8309
PCB203	2,2',5,5'- Tetrabromobiphenyl	61.024	142650	128943	1.1063	540.6850
PCB189	2,2',5,5'- Tetrabromobiphenyl	62.066	231512	128943	1.7955	585.1896
PCB195	2,2',5,5'- Tetrabromobiphenyl	63.058	136251	128943	1.0567	540.9154
PCB194	2,2',5,5'- Tetrabromobiphenyl	64.408	167304	128943	1.2975	585.3053
PCB206	2,2',5,5'- Tetrabromobiphenyl	66.853	143587	128943	1.1136	576.4537
PCB209	2,2',5,5'- Tetrabromobiphenyl	68.819	126844	128943	0.9837	380.1377

	PCB200 ICV			PCB100 CCV			PCB100 FCV		
	4/6/14 4:51 PM			4/8/14 12:00 AM			4/8/14 10:11 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PCB003	200	201	0	500	588	18	500	524	5
PCB008	200	205	2	500	454	9	500	362	28
PCB005	0	0	NA	500	702	40	500	796	59
PCB015	0	0	NA	500	601	20	500	562	12
PCB018	200	196	2	500	709	42	500	668	34
PCB027	0	0	NA	500	564	13	500	574	15
PCB029	0	0	NA	500	646	29	500	633	27
PCB031	200	173	13	500	511	2	500	518	4
PCB028	200	244	22	500	666	33	500	695	39
PCB033	200	188	6	500	562	12	500	546	9
PCB052	200	191	4	500	697	39	500	690	38
PCB049	200	208	4	500	751	50	500	731	46
PCB044	200	215	8	500	745	49	500	740	48
PCB037	200	189	6	500	665	33	500	653	31
PCB074	200	194	3	500	723	45	500	734	47
PCB070	200	185	7	500	712	42	500	712	42
PCB066	200	175	13	500	641	28	500	666	33
PCB095	200	190	5	500	523	5	500	537	7
PCB056 (060)	200	189	5	500	580	16	500	594	19
PCB101	200	209	4	500	738	48	500	774	55
PCB099	200	209	5	500	673	35	500	699	40
PCB119	200	188	6	500	632	26	500	670	34
PCB097	200	178	11	500	487	3	500	517	3
PCB087	200	196	2	500	641	28	500	682	36
PCB081	200	233	16	500	639	28	500	670	34
PCB110	200	209	5	500	645	29	500	694	39
PCB077	200	221	11	500	607	21	500	624	25
PCB151	200	201	1	500	627	25	500	667	33
PCB123	200	196	2	500	588	18	500	623	25
PCB149	200	215	8	500	585	17	500	629	26
PCB118	200	234	17	500	701	40	500	764	53
PCB114	200	239	20	500	646	29	500	694	39
PCB153	200	191	5	500	595	19	500	627	25
PCB168+132	400	416	4	1000	1153	15	1000	1263	26
PCB105	200	186	7	500	535	7	500	547	9
PCB141	200	195	3	500	500	0	500	526	5
PCB137	0	0	NA	500	586	17	500	601	20
PCB138	200	190	5	500	518	4	500	553	11
PCB158	200	204	2	500	583	17	500	617	23
PCB126	200	212	6	500	626	25	500	637	27
PCB187	200	194	3	500	628	26	500	665	33
PCB183	200	182	9	500	585	17	500	616	23
PCB128	200	143	29	500	464	7	500	498	0
PCB167	200	204	2	500	618	24	500	655	31
PCB174	200	201	1	500	552	10	500	584	17
PCB177	200	198	1	500	539	8	500	606	21
PCB156	200	157	22	500	519	4	500	547	9
PCB199 (200)	200	200	0	500	533	7	500	548	10
PCB157	200	209	5	500	517	3	500	557	11
PCB180	200	193	3	500	584	17	500	623	25
PCB169	200	203	1	500	554	11	500	608	22
PCB170	200	187	6	500	557	11	500	601	20
PCB201	200	230	15	500	504	1	500	545	9
PCB203	0	0	NA	500	487	3	500	541	8
PCB189	200	181	9	500	519	4	500	585	17
PCB195	200	208	4	500	480	4	500	541	8
PCB194	200	193	3	500	523	5	500	585	17
PCB206	200	179	11	500	546	9	500	576	15
PCB209	200	140	30	500	326	35	500	380	24
Average	-	-	7	-	-	20	-	-	25

Polynuclear

Aromatic

Hydrocarbons

(PAHs)

PHYSIS

Summary of Internal Standards

TERRA FACTA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

	D10-Anthracene		D-12 Perylene	
	Response	Retention Time	Response	Retention Time
B_5102	7668115.53	32.97176667	9467300.618	78.74205
BS1_5102	6258316.357	32.9631	11871056.68	78.73338333
BS2_5102	7802540.488	32.97165	16889797.33	78.74193333
22644_CRM	17724545.96	32.9631	6825642.907	78.75901667
22628MS1	21289946.88	32.9802	4494651.365	78.78466667
22628MS2	5558180.24	32.97165	7245607.761	78.75048333
22628	5942322.256	32.96321667	4405133.663	78.75913333
22628R2	8321010.948	32.9631	5848475.026	78.75048333
22629	11814696.49	32.9631	6179650	78.72483333
22630	19204120.06	32.97165	4247227.138	78.77611667
22631	4556870.399	32.9631	3548438.326	78.75901667
22632	4424070.576	32.9631	2945099.569	78.74193333
22633	13292447.17	32.9631	3509685.988	78.76756667
22634	15258819.53	32.9631	4541381.325	78.74193333
22635	15036564.11	32.97165	3434933.154	78.76756667
PAH500_CCV	6974603.092	32.97165	1412290.645	78.79321667
22636	19448657.33	32.97176667	4587070.946	78.7506
22637	20318500.01	32.97165	5151600.777	78.75901667
22638	12026285.92	32.97165	7622448.704	78.75901667
22639	4502532.165	32.97165	4771922.167	78.75048333
22640	14236452.07	32.97165	2930564.763	78.74193333
22641	11049151.22	32.9631	3284918.825	78.76756667
22642	4168303.232	32.97165	3426987.534	78.75048333
22643	2444704.691	32.97165	2925005.471	78.76756667
22743	14463721.56	32.9631	3885549.493	78.76756667
22744	7755750.656	32.97165	4310968.689	78.75048333
PAH500FCV	8331982.196	32.97165	2015672.038	78.78466667

PHYSIS

Initial Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Quantitative Analysis Calibration Report

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Batch Info

Batch Data Path	C:\msdchem\1\DATA\Q1_140405 EI_O5102\QuantResults\O-5102 PAH.batch.bin	Analyst Name	
Analysis Time	4/5/2014 8:47 PM	Reporter Name	
Report Time	6/12/2014 2:46 PM	Batch State	
Last Calib Update	4/15/2014 9:57 AM		

Calibration Information

(d8-Naphthalene)

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_140405 EI_O5102\PAH100.D	Calibration	4	3745017	1000.0000	1.1077
C:\msdchem\1\DATA\Q1_140405 EI_O5102\PAH1000.D	Calibration	1	3206889	1000.0000	1.0849
C:\msdchem\1\DATA\Q1_140405 EI_O5102\PAH25.D	Calibration	6	3276824	1000.0000	1.1188
C:\msdchem\1\DATA\Q1_140405 EI_O5102\PAH250.D	Calibration	3	4182980	1000.0000	1.1402
C:\msdchem\1\DATA\Q1_140405 EI_O5102\PAH50.D	Calibration	5	3832818	1000.0000	1.0797
C:\msdchem\1\DATA\Q1_140405 EI_O5102\PAH500.D	Calibration	2	3868742	1000.0000	1.0747

Naphthalene

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_140405 EI_O5102\PAH100.D	Calibration	4	376682	100.0000	1.1142
C:\msdchem\1\DATA\Q1_140405 EI_O5102\PAH1000.D	Calibration	1	3291873	1000.0000	1.1137
C:\msdchem\1\DATA\Q1_140405 EI_O5102\PAH25.D	Calibration	6	84095	25.0000	1.1485
C:\msdchem\1\DATA\Q1_140405 EI_O5102\PAH250.D	Calibration	3	1070838	250.0000	1.1676
C:\msdchem\1\DATA\Q1_140405 EI_O5102\PAH50.D	Calibration	5	205595	50.0000	1.1583
C:\msdchem\1\DATA\Q1_140405 EI_O5102\PAH500.D	Calibration	2	1991931	500.0000	1.1067

2-Methylnaphthalene

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_140405 EI_O5102\PAH100.D	Calibration	4	241522	100.0000	0.7144
C:\msdchem\1\DATA\Q1_140405 EI_O5102\PAH1000.D	Calibration	1	2176556	1000.0000	0.7363
C:\msdchem\1\DATA\Q1_140405 EI_O5102\PAH25.D	Calibration	6	50514	25.0000	0.6899
C:\msdchem\1\DATA\Q1_140405 EI_O5102\PAH250.D	Calibration	3	667548	250.0000	0.7279

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C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH50.D	Calibration	5	125562	50.0000	0.7074
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C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH500.D	Calibration	2	1306010	500.0000	0.7256
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1-Methylnaphthalene

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH100.D	Calibration	4	224001	100.0000	0.6626
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH1000.D	Calibration	1	2013339	1000.0000	0.6811
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH25.D	Calibration	6	50109	25.0000	0.6843
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH250.D	Calibration	3	646647	250.0000	0.7051
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH50.D	Calibration	5	115860	50.0000	0.6527
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH500.D	Calibration	2	1207679	500.0000	0.6710

Biphenyl

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH100.D	Calibration	4	303917	100.0000	0.8989
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH1000.D	Calibration	1	2583436	1000.0000	0.8740
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH25.D	Calibration	6	66525	25.0000	0.9085
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH250.D	Calibration	3	843219	250.0000	0.9194
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH50.D	Calibration	5	159940	50.0000	0.9011
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH500.D	Calibration	2	1562335	500.0000	0.8680

2,6-Dimethylnaphthalene

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH100.D	Calibration	4	202980	100.0000	0.6004
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH1000.D	Calibration	1	1869978	1000.0000	0.6326
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH25.D	Calibration	6	54161	25.0000	0.7397
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH250.D	Calibration	3	575577	250.0000	0.6276
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH50.D	Calibration	5	107219	50.0000	0.6041

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C:\msdchem\1\DATA\Q1_1
40405 EI_O5102\PAH500.D Calibration 2 1100774 500.0000 0.6116

Acenaphthylene

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH100.D Calibration C:\msdchem\1\DATA\Q1_1 40405	Calibration	4	300260	100.0000	0.8881
EI_O5102\PAH1000.D	Calibration	1	2866095	1000.0000	0.9696
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH25.D	Calibration	6	73075	25.0000	0.9980
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH250.D	Calibration	3	876249	250.0000	0.9554
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH50.D	Calibration	5	156123	50.0000	0.8796
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH500.D	Calibration	2	1696115	500.0000	0.9423

(d10-Acenaphthene)

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH100.D Calibration C:\msdchem\1\DATA\Q1_1 40405	Calibration	4	2032523	1000.0000	0.6012
EI_O5102\PAH1000.D	Calibration	1	1743150	1000.0000	0.5897
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH25.D	Calibration	6	1753182	1000.0000	0.5986
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH250.D	Calibration	3	2267796	1000.0000	0.6182
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH50.D	Calibration	5	2058730	1000.0000	0.5799
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH500.D	Calibration	2	2137183	1000.0000	0.5937

Acenaphthene

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH100.D Calibration C:\msdchem\1\DATA\Q1_1 40405	Calibration	4	219271	100.0000	0.6486
EI_O5102\PAH1000.D	Calibration	1	1961891	1000.0000	0.6637
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH25.D	Calibration	6	47916	25.0000	0.6544
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH250.D	Calibration	3	609323	250.0000	0.6644
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH50.D	Calibration	5	116273	50.0000	0.6551
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH500.D	Calibration	2	1160552	500.0000	0.6448

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2,3,5-Trimethylnaphthalene

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH100.D	Calibration	4	186457	100.0000	0.5515
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH1000.D	Calibration	1	1790535	1000.0000	0.6058
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH25.D	Calibration	6	46672	25.0000	0.6374
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH250.D	Calibration	3	528802	250.0000	0.5766
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH50.D	Calibration	5	97205	50.0000	0.5476
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH500.D	Calibration	2	1032579	500.0000	0.5737

Fluorene

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH100.D	Calibration	4	219143	100.0000	0.6482
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH1000.D	Calibration	1	2048052	1000.0000	0.6929
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH25.D	Calibration	6	49503	25.0000	0.6761
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH250.D	Calibration	3	612894	250.0000	0.6683
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH50.D	Calibration	5	116831	50.0000	0.6582
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH500.D	Calibration	2	1244957	500.0000	0.6917

Dibenzothiophene

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH100.D	Calibration	4	305979	100.0000	0.9050
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH1000.D	Calibration	1	2676068	1000.0000	0.9053
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH25.D	Calibration	6	72653	25.0000	0.9922
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH250.D	Calibration	3	779842	250.0000	0.8503
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH50.D	Calibration	5	165303	50.0000	0.9313
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH500.D	Calibration	2	1590910	500.0000	0.8839

(d10-Phenanthrene)

Calibration STD	CalType	Level	Response	Exp Conc	RF
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C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH100.D	Calibration	4	3313458	1000.0000	0.9801
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH1000.D	Calibration	1	2881645	1000.0000	0.9749
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH25.D	Calibration	6	2472237	1000.0000	0.8441
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH250.D	Calibration	3	3664988	1000.0000	0.9990
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH50.D	Calibration	5	3323908	1000.0000	0.9363
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH500.D	Calibration	2	3506169	1000.0000	0.9740

Phenanthrene

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH100.D	Calibration	4	336588	100.0000	0.9956
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH1000.D	Calibration	1	3158179	1000.0000	1.0684
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH25.D	Calibration	6	76551	25.0000	1.0455
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH250.D	Calibration	3	947649	250.0000	1.0333
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH50.D	Calibration	5	179170	50.0000	1.0094
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH500.D	Calibration	2	1816001	500.0000	1.0090

Anthracene-d10 (IS)

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH100.D	Calibration	4	6761704	2000.0000	3380.8522
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH1000.D	Calibration	1	5911758	2000.0000	2955.8792
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH25.D	Calibration	6	5857710	2000.0000	2928.8548
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH250.D	Calibration	3	7337166	2000.0000	3668.5830
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH50.D	Calibration	5	7099954	2000.0000	3549.9768
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH500.D	Calibration	2	7199519	2000.0000	3599.7594

Anthracene

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH100.D	Calibration	4	370343	100.0000	1.0954

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C:\msdchem\1\DATA\Q1_1 40405					
EI_O5102\PAH1000.D	Calibration	1	3371659	1000.0000	1.1407
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH25.D	Calibration	6	82383	25.0000	1.1251
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH250.D	Calibration	3	1034903	250.0000	1.1284
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH50.D	Calibration	5	199162	50.0000	1.1220
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH500.D	Calibration	2	2013971	500.0000	1.1189

1-Methylphenanthrene

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH100.D	Calibration	4	201386	100.0000	0.5957
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH1000.D	Calibration	1	2132916	1000.0000	0.7216
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH25.D	Calibration	6	49864	25.0000	0.6810
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH250.D	Calibration	3	558582	250.0000	0.6090
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH50.D	Calibration	5	104033	50.0000	0.5861
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH500.D	Calibration	2	1167491	500.0000	0.6486

Fluoranthene

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH100.D	Calibration	4	285311	100.0000	0.8439
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH1000.D	Calibration	1	3251545	1000.0000	1.1000
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH25.D	Calibration	6	65254	25.0000	0.8912
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH250.D	Calibration	3	796380	250.0000	0.8683
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH50.D	Calibration	5	150604	50.0000	0.8485
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH500.D	Calibration	2	1714998	500.0000	0.9528

Pyrene

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH100.D	Calibration	4	286000	100.0000	0.8459
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH1000.D	Calibration	1	3256040	1000.0000	1.1015

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C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH25.D	Calibration	6	67239	25.0000	0.9183
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH250.D	Calibration	3	778340	250.0000	0.8487
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH50.D	Calibration	5	136947	50.0000	0.7715
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH500.D	Calibration	2	1745790	500.0000	0.9699

Benz[a]anthracene

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH100.D	Calibration	4	183664	100.0000	1.2666
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH1000.D	Calibration	1	2401034	1000.0000	1.2969
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH25.D	Calibration	6	41916	25.0000	1.3850
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH250.D	Calibration	3	500395	250.0000	1.3516
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH50.D	Calibration	5	91883	50.0000	1.2827
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH500.D	Calibration	2	1180825	500.0000	1.5592

(d12-Chrysene)

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH100.D	Calibration	4	2883744	1000.0000	1.9887
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH1000.D	Calibration	1	3291162	1000.0000	1.7776
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH25.D	Calibration	6	2394162	1000.0000	1.9777
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH250.D	Calibration	3	3136894	1000.0000	2.1182
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH50.D	Calibration	5	2738787	1000.0000	1.9118
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH500.D	Calibration	2	3445489	1000.0000	2.2748

Chrysene

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH100.D	Calibration	4	183664	100.0000	1.2666
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH1000.D	Calibration	1	2392013	1000.0000	1.2920
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH25.D	Calibration	6	41375	25.0000	1.3671

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C:\msdchem\1\DATA\Q1_1
40405 EI_05102\PAH250.D Calibration 3 500395 250.0000 1.3516

C:\msdchem\1\DATA\Q1_1
40405 EI_05102\PAH50.D Calibration 5 91881 50.0000 1.2827

C:\msdchem\1\DATA\Q1_1
40405 EI_05102\PAH500.D Calibration 2 1202590 500.0000 1.5879

Benzo[b]fluoranthene

Calibration STD	CalType	Level	Response	Exp Conc	RF
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C:\msdchem\1\DATA\Q1_1
40405 EI_05102\PAH100.D Calibration 4 101196 100.0000 0.6979

C:\msdchem\1\DATA\Q1_1
40405 EI_05102\PAH1000.D Calibration 1 1673658 1000.0000 0.9040

C:\msdchem\1\DATA\Q1_1
40405 EI_05102\PAH25.D Calibration 6 84462 25.0000 2.7907

C:\msdchem\1\DATA\Q1_1
40405 EI_05102\PAH250.D Calibration 3 293462 250.0000 0.7926

C:\msdchem\1\DATA\Q1_1
40405 EI_05102\PAH50.D Calibration 5 51212 50.0000 0.7150

C:\msdchem\1\DATA\Q1_1
40405 EI_05102\PAH500.D Calibration 2 745664 500.0000 0.9846

Benzo[k]fluoranthene

Calibration STD	CalType	Level	Response	Exp Conc	RF
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C:\msdchem\1\DATA\Q1_1
40405 EI_05102\PAH100.D Calibration 4 273606 100.0000 1.8869

C:\msdchem\1\DATA\Q1_1
40405 EI_05102\PAH1000.D Calibration 1 3996473 1000.0000 2.1586

C:\msdchem\1\DATA\Q1_1
40405 EI_05102\PAH25.D Calibration 6 60183 25.0000 1.9885

C:\msdchem\1\DATA\Q1_1
40405 EI_05102\PAH250.D Calibration 3 741332 250.0000 2.0023

C:\msdchem\1\DATA\Q1_1
40405 EI_05102\PAH50.D Calibration 5 123433 50.0000 1.7232

C:\msdchem\1\DATA\Q1_1
40405 EI_05102\PAH500.D Calibration 2 1809850 500.0000 2.3898

Benzo[e]pyrene

Calibration STD	CalType	Level	Response	Exp Conc	RF
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C:\msdchem\1\DATA\Q1_1
40405 EI_05102\PAH100.D Calibration 4 159292 100.0000 1.0985

C:\msdchem\1\DATA\Q1_1
40405 EI_05102\PAH1000.D Calibration 1 2359372 1000.0000 1.2744

C:\msdchem\1\DATA\Q1_1
40405 EI_05102\PAH25.D Calibration 6 30099 25.0000 0.9945

C:\msdchem\1\DATA\Q1_1
40405 EI_05102\PAH250.D Calibration 3 443524 250.0000 1.1979

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C:\msdchem\1\DATA\Q1_1					
40405 EI_05102\PAH50.D	Calibration	5	81797	50.0000	1.1419

C:\msdchem\1\DATA\Q1_1					
40405 EI_05102\PAH500.D	Calibration	2	1059176	500.0000	1.3986

Benzo[a]pyrene

Calibration STD	CalType	Level	Response	Exp Conc	RF
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C:\msdchem\1\DATA\Q1_1					
40405 EI_05102\PAH100.D	Calibration	4	160486	100.0000	1.1068

C:\msdchem\1\DATA\Q1_1					
40405					
EI_05102\PAH1000.D	Calibration	1	2800269	1000.0000	1.5125

C:\msdchem\1\DATA\Q1_1					
40405 EI_05102\PAH25.D	Calibration	6	36238	25.0000	1.1974

C:\msdchem\1\DATA\Q1_1					
40405 EI_05102\PAH250.D	Calibration	3	463066	250.0000	1.2507

C:\msdchem\1\DATA\Q1_1					
40405 EI_05102\PAH50.D	Calibration	5	78729	50.0000	1.0991

C:\msdchem\1\DATA\Q1_1					
40405 EI_05102\PAH500.D	Calibration	2	1148667	500.0000	1.5167

(d12-Perylene)

Calibration STD	CalType	Level	Response	Exp Conc	RF
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C:\msdchem\1\DATA\Q1_1					
40405 EI_05102\PAH100.D	Calibration	4	2093929	1000.0000	1.4440

C:\msdchem\1\DATA\Q1_1					
40405					
EI_05102\PAH1000.D	Calibration	1	2794585	1000.0000	1.5094

C:\msdchem\1\DATA\Q1_1					
40405 EI_05102\PAH25.D	Calibration	6	1757986	1000.0000	1.4522

C:\msdchem\1\DATA\Q1_1					
40405 EI_05102\PAH250.D	Calibration	3	2227368	1000.0000	1.5040

C:\msdchem\1\DATA\Q1_1					
40405 EI_05102\PAH50.D	Calibration	5	2077792	1000.0000	1.4504

C:\msdchem\1\DATA\Q1_1					
40405 EI_05102\PAH500.D	Calibration	2	2551391	1000.0000	1.6845

Perylene

Calibration STD	CalType	Level	Response	Exp Conc	RF
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C:\msdchem\1\DATA\Q1_1					
40405 EI_05102\PAH100.D	Calibration	4	240043	100.0000	1.6554

C:\msdchem\1\DATA\Q1_1					
40405					
EI_05102\PAH1000.D	Calibration	1	3074148	1000.0000	1.6604

C:\msdchem\1\DATA\Q1_1					
40405 EI_05102\PAH25.D	Calibration	6	58984	25.0000	1.9489

C:\msdchem\1\DATA\Q1_1					
40405 EI_05102\PAH250.D	Calibration	3	655556	250.0000	1.7706

C:\msdchem\1\DATA\Q1_1					
40405 EI_05102\PAH50.D	Calibration	5	120035	50.0000	1.6758

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C:\msdchem\1\DATA\Q1_1
40405 EI_O5102\PAH500.D Calibration 2 1377898 500.0000 1.8194

Indeno[1,2,3-c,d]pyrene

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH100.D Calibration		4	92357	100.0000	0.6369
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH1000.D Calibration		1	1662300	1000.0000	0.8978
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH25.D Calibration		6	19367	25.0000	0.6399
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH250.D Calibration		3	229833	250.0000	0.6208
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH50.D Calibration		5	45237	50.0000	0.6315
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH500.D Calibration		2	559866	500.0000	0.7393

Dibenz[a,h]anthracene

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH100.D Calibration		4	103413	100.0000	0.7132
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH1000.D Calibration		1	2061494	1000.0000	1.1135
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH25.D Calibration		6	29637	25.0000	0.9792
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH250.D Calibration		3	315761	250.0000	0.8529
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH50.D Calibration		5	59841	50.0000	0.8354
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH500.D Calibration		2	755695	500.0000	0.9978

Benzo[g,h,i]perylene

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH100.D Calibration		4	224815	100.0000	1.5504
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH1000.D Calibration		1	2725319	1000.0000	1.4720
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH25.D Calibration		6	64082	25.0000	2.1174
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH250.D Calibration		3	520633	250.0000	1.4062
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH50.D Calibration		5	133556	50.0000	1.8645
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH500.D Calibration		2	1122037	500.0000	1.4816

Quantitative Analysis Calibration Report

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Benzo[g,h,i]perylene-d12 (IS)

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH100.D	Calibration	4	2900125	2000.0000	1450.0625
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH1000.D	Calibration	1	3702855	2000.0000	1851.4273
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH25.D	Calibration	6	2421201	2000.0000	1210.6006
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH250.D	Calibration	3	2961896	2000.0000	1480.9479
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH50.D	Calibration	5	2865212	2000.0000	1432.6062
C:\msdchem\1\DATA\Q1_1 40405 EI_O5102\PAH500.D	Calibration	2	3029294	2000.0000	1514.6469

PHYSIS

Continuing Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path C:\msdchem\1\DATA\Q1_140405 EI_O5102\QuantResults\O-5102 PAH.batch.bin
Analysis Time 4/8/2014 1:41 AM **Analyst Name** eugenechae
Report Time 6/12/2014 2:46 PM **Reporter Name** eugenechae
Last Calib Update 4/15/2014 9:57 AM **Batch State** Processed

Analysis Info

Acq Time **Sample Name** PAH500_CCV
Level **Data File** PAH500_CCV.D
Position **Acq Method File** MS1Scan
Sample Type Sample **Sample Info**
Dilution 1 **Comment**

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(d8-Naphthalene)	Anthracene-d10 (IS)	13.330	4011940	6974603	0.5752	1044.8984	ng
Naphthalene	Anthracene-d10 (IS)	13.390	2026193	6974603	0.2905	521.0935	ng
2-Methylnaphthalene	Anthracene-d10 (IS)	15.911	1321743	6974603	0.1895	516.5955	ng
1-Methylnaphthalene	Anthracene-d10 (IS)	16.382	1276391	6974603	0.1830	538.1314	ng
Biphenyl	Anthracene-d10 (IS)	18.219	1585648	6974603	0.2273	519.4890	ng
2,6-Dimethylnaphthalene	Anthracene-d10 (IS)	19.031	1186230	6974603	0.1701	541.5002	ng
Acenaphthylene	Anthracene-d10 (IS)	20.587	1856591	6974603	0.2662	552.8185	ng
(d10-Acenaphthene)	Anthracene-d10 (IS)	21.561	2242871	6974603	0.3216	1077.5213	ng
Acenaphthene	Anthracene-d10 (IS)	21.758	1236657	6974603	0.1773	537.2581	ng
2,3,5-Trimethylnaphthalene	Anthracene-d10 (IS)	24.510	1130488	6974603	0.1621	542.2508	ng
Fluorene	Anthracene-d10 (IS)	25.271	1329258	6974603	0.1906	551.5584	ng
Dibenzothiophene	Anthracene-d10 (IS)	31.707	1585863	6974603	0.2274	505.9641	ng
(d10-Phenanthrene)	Anthracene-d10 (IS)	32.561	3227901	6974603	0.4628	972.9005	ng
Phenanthrene	Anthracene-d10 (IS)	32.741	1685559	6974603	0.2417	458.1913	ng
Anthracene	Anthracene-d10 (IS)	33.117	1992370	6974603	0.2857	503.0989	ng
1-Methylphenanthrene	Anthracene-d10 (IS)	38.220	1128586	6974603	0.1618	461.4682	ng
Fluoranthene	Anthracene-d10 (IS)	43.186	1498642	6974603	0.2149	405.8619	ng
Pyrene	Anthracene-d10 (IS)	45.057	1429273	6974603	0.2049	385.8622	ng
Benzo[a]anthracene	Benzo[g,h,i]perylene-d12 (IS)	56.271	781310	1412291	0.5532	811.0855	ng
Chrysene	Benzo[g,h,i]perylene-d12 (IS)	56.271	792777	1412291	0.5613	831.3492	ng
(d12-Chrysene)	Benzo[g,h,i]perylene-d12 (IS)	56.391	2122964	1412291	1.5032	1497.1304	ng
Benzo[b]fluoranthene	Benzo[g,h,i]perylene-d12 (IS)	65.648	454277	1412291	0.3217	701.6433	ng
Benzo[k]fluoranthene	Benzo[g,h,i]perylene-d12 (IS)	65.648	455017	1412291	0.3222	283.3070	ng
Benzo[e]pyrene	Benzo[g,h,i]perylene-d12 (IS)	67.716	607969	1412291	0.4305	657.9865	ng
Benzo[a]pyrene	Benzo[g,h,i]perylene-d12 (IS)	67.716	613530	1412291	0.4344	597.7635	ng
(d12-Perylene)	Benzo[g,h,i]perylene-d12 (IS)	68.579	1340896	1412291	0.9494	1259.7070	ng
Perylene	Benzo[g,h,i]perylene-d12 (IS)	68.759	754104	1412291	0.5340	629.7669	ng
Indeno[1,2,3-c,d]pyrene	Benzo[g,h,i]perylene-d12 (IS)	76.853	642607	1412291	0.4550	1009.5050	ng
Dibenz[a,h]anthracene	Benzo[g,h,i]perylene-d12 (IS)	77.255	461313	1412291	0.3266	644.8684	ng
Benzo[g,h,i]perylene	Benzo[g,h,i]perylene-d12 (IS)	78.998	503007	1412291	0.3562	483.8041	ng

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Batch Info

Batch Data Path C:\msdchem\1\DATA\Q1_140405 EI_05102\QuantResults\O-5102 PAH.batch.bin
Analysis Time 4/9/2014 1:32 AM **Analyst Name** eugenechae
Report Time 6/12/2014 2:46 PM **Reporter Name** eugenechae
Last Calib Update 4/15/2014 9:57 AM **Batch State** Processed

Analysis Info

Acq Time **Sample Name** PAH500_FCV
Level **Data File** PAH500_FCV.D
Position **Acq Method File** MS1Scan
Sample Type Sample **Sample Info**
Dilution 1 **Comment**

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(d8-Naphthalene)	Anthracene-d10 (IS)	13.330	4370355	8331982	0.5245	952.8127	ng
Naphthalene	Anthracene-d10 (IS)	13.390	2207078	8331982	0.2649	475.1423	ng
2-Methylnaphthalene	Anthracene-d10 (IS)	15.920	1484616	8331982	0.1782	485.7233	ng
1-Methylnaphthalene	Anthracene-d10 (IS)	16.382	1399921	8331982	0.1680	494.0594	ng
Biphenyl	Anthracene-d10 (IS)	18.219	1774687	8331982	0.2130	486.7014	ng
2,6-Dimethylnaphthalene	Anthracene-d10 (IS)	19.040	1313493	8331982	0.1576	501.9131	ng
Acenaphthylene	Anthracene-d10 (IS)	20.587	2043407	8331982	0.2452	509.3221	ng
(d10-Acenaphthene)	Anthracene-d10 (IS)	21.561	2541827	8331982	0.3051	1022.2066	ng
Acenaphthene	Anthracene-d10 (IS)	21.758	1381510	8331982	0.1658	502.4107	ng
2,3,5-Trimethylnaphthalene	Anthracene-d10 (IS)	24.510	1266906	8331982	0.1521	508.6861	ng
Fluorene	Anthracene-d10 (IS)	25.271	1497900	8331982	0.1798	520.2792	ng
Dibenzothiophene	Anthracene-d10 (IS)	31.715	1868270	8331982	0.2242	498.9589	ng
(d10-Phenanthrene)	Anthracene-d10 (IS)	32.561	3470824	8331982	0.4166	875.6931	ng
Phenanthrene	Anthracene-d10 (IS)	32.741	2124326	8331982	0.2550	483.3871	ng
Anthracene	Anthracene-d10 (IS)	33.117	2424588	8331982	0.2910	512.4983	ng
1-Methylphenanthrene	Anthracene-d10 (IS)	38.220	1395056	8331982	0.1674	477.4965	ng
Fluoranthene	Anthracene-d10 (IS)	43.186	1987764	8331982	0.2386	450.6262	ng
Pyrene	Anthracene-d10 (IS)	45.066	1993853	8331982	0.2393	450.5898	ng
Benzo[a]anthracene	Benzo[g,h,i]perylene-d12 (IS)	56.271	1274064	2015672	0.6321	958.5972	ng
Chrysene	Benzo[g,h,i]perylene-d12 (IS)	56.271	1279415	2015672	0.6347	940.0441	ng
(d12-Chrysene)	Benzo[g,h,i]perylene-d12 (IS)	56.391	3536778	2015672	1.7546	1747.5472	ng
Benzo[b]fluoranthene	Benzo[g,h,i]perylene-d12 (IS)	65.656	666686	2015672	0.3308	721.8696	ng
Benzo[k]fluoranthene	Benzo[g,h,i]perylene-d12 (IS)	65.656	667473	2015672	0.3311	291.3309	ng
Benzo[e]pyrene	Benzo[g,h,i]perylene-d12 (IS)	67.725	970616	2015672	0.4815	739.6537	ng
Benzo[a]pyrene	Benzo[g,h,i]perylene-d12 (IS)	67.725	977369	2015672	0.4849	662.3457	ng
(d12-Perylene)	Benzo[g,h,i]perylene-d12 (IS)	68.579	1975114	2015672	0.9799	1300.0823	ng
Perylene	Benzo[g,h,i]perylene-d12 (IS)	68.776	1082294	2015672	0.5369	633.2831	ng
Indeno[1,2,3-c,d]pyrene	Benzo[g,h,i]perylene-d12 (IS)	76.870	701984	2015672	0.3483	827.9836	ng
Dibenz[a,h]anthracene	Benzo[g,h,i]perylene-d12 (IS)	77.255	534436	2015672	0.2651	539.6868	ng
Benzo[g,h,i]perylene	Benzo[g,h,i]perylene-d12 (IS)	79.033	713984	2015672	0.3542	481.1580	ng

	PAH500 CCV			PAH500 FCV		
	4/8/14 1:41 AM			4/9/14 1:32 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
d8-Naphthalene	1000	1045	4	1000	953	5
d10-Acenaphthene	1000	1078	8	1000	1022	2
d10-Phenanthrene	1000	973	3	1000	876	12
d10-Chrysene	1000	1497	50	1000	1748	75
d12-Perylene	1000	1260	26	1000	1300	30
Naphthalene	500	521	4	500	475	5
2-Methylnaphthalene	500	517	3	500	486	3
1-Methylnaphthalene	500	538	8	500	494	1
Biphenyl	500	519	4	500	487	3
2,6-Dimethylnaphthalene	500	542	8	500	502	0
Acenaphthylene	500	553	11	500	509	2
Acenaphthene	500	537	7	500	502	0
2,3,5-Trimethylnaphthalene	500	542	8	500	509	2
Fluorene	500	552	10	500	520	4
Dibenzothiophene	500	506	1	500	499	0
Phenanthrene	500	458	8	500	483	3
Anthracene	500	503	1	500	512	2
1-Methylphenanthrene	500	461	8	500	477	5
Fluoranthene	500	406	19	500	451	10
Pyrene	500	386	23	500	451	10
Benz[a]anthracene	500	811	62	500	959	92
Chrysene	500	831	66	500	940	88
Benzo[b]fluoranthene	500	702	40	500	722	44
Benzo[k]fluoranthene	500	283	43	500	291	42
Benzo[e]pyrene	500	658	32	500	740	48
Benzo[a]pyrene	500	598	20	500	662	32
Perylene	500	630	26	500	633	27
Indeno[1,2,3-c,d]pyrene	500	1010	102	500	828	66
Dibenz[a,h]anthracene	500	645	29	500	540	8
Benzo[g,h,i]perylene	500	484	3	500	481	4
Average	-	-	21	-	-	21

Organics - GC-MS-NCI

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Innovative Analytical Solutions
(EPA 8270C)

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Instrument Run Log

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

2014 Jan 06 1735 Sequence Log .LOG
 Starting sequence Mon Jan 06 17:35:21 2014

Instrument Name: GCMSQQQ
 Sequence File: D:\MassHunter\GCMS\1\sequence\140106 NCI . sequence. xml
 Comment:
 Operator: DATASYSTEM01\Admin
 Data Path: D:\MassHunter\GCMS\1\data\140106 NCI\
 Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX	HEX_NCI	HEX
2)	Sample	131	PYR25	PYR_NCI	PYR25
3)	Sample	132	PYR50	PYR_NCI	PYR50
4)	Sample	133	PYR100	PYR_NCI	PYR100
5)	Sample	134	PYR250	PYR_NCI	PYR250
6)	Sample	135	PYR500	PYR_NCI	PYR500
7)	Sample	136	PYR1000	PYR_NCI	PYR1000
8)	Sample	121	PYR1000SPEX		
	Datafile		PYR1000SPEX		
	Method		PYR_NCI		
9)	Sample	122	TRAL01000I CV		
	Datafile		TRAL01000I CV		
	Method		PYR_NCI		
10)	Sample	111	FI P25	PYR_NCI	FI P25
11)	Sample	112	FI P50	PYR_NCI	FI P50
12)	Sample	113	FI P100	PYR_NCI	FI P100
13)	Sample	114	FI P250	PYR_NCI	FI P250
14)	Sample	115	FI P500	PYR_NCI	FI P500
15)	Sample	116	FI P1000	PYR_NCI	FI P1000
16)	Sample	101	TOX10000I CV		
	Datafile		TOX10000I CV		
	Method		PYR_NCI		
17)	Sample	141	HEX2	HEX_NCI	HEX2
18)	Sample	1	B_5057	PYR_NCI	B_5057
19)	Sample	2	BS1_5057	PYR_NCI	BS1_5057
20)	Sample	3	BS2_5057	PYR_NCI	BS2_5057
21)	Sample	4	22628MS1	PYR_NCI	22628MS1
22)	Sample	5	22628MS2	PYR_NCI	22628MS2
23)	Sample	141	HEX3	HEX_NCI	HEX3
24)	Sample	6	22644	PYR_NCI	22644
25)	Sample	7	22628	PYR_NCI	22628
26)	Sample	8	22628R2	PYR_NCI	22628R2
27)	Sample	9	22629	PYR_NCI	22629
28)	Sample	10	22630	PYR_NCI	22630
29)	Sample	11	22631	PYR_NCI	22631
30)	Sample	12	22632	PYR_NCI	22632
31)	Sample	13	22633	PYR_NCI	22633
32)	Sample	14	22634	PYR_NCI	22634
33)	Sample	136	PYR1000CCV		
	Datafile		PYR1000CCV		
	Method		PYR_NCI		
34)	Sample	116	FI P1000CCV		
	Datafile		FI P1000CCV		
	Method		PYR_NCI		
35)	Sample	101	TOX10000CCV		
	Datafile		TOX10000CCV		
	Method		PYR_NCI		
36)	Sample	141	HEX4	HEX_NCI	HEX4
37)	Sample	15	22635	PYR_NCI	22635
38)	Sample	16	22636	PYR_NCI	22636
39)	Sample	17	22637	PYR_NCI	22637
40)	Sample	18	22638	PYR_NCI	22638

2014 Jan 06 1735 Sequence Log . LOG

41)	Sample	19	22639	PYR_NCI	22639
42)	Sample	20	22640	PYR_NCI	22640
43)	Sample	21	22641	PYR_NCI	22641
44)	Sample	22	22642	PYR_NCI	22642
45)	Sample	23	22643	PYR_NCI	22643
46)	Sample	24	22743	PYR_NCI	22743
47)	Sample	25	22744	PYR_NCI	22744
48)	Sample	136	PYR1000FCV		
	Datafile		PYR1000FCV		
	Method		PYR_NCI		
49)	Sample	116	FIP1000FCV		
	Datafile		FIP1000FCV		
	Method		PYR_NCI		
50)	Sample	101	TOX10000FCV		
	Datafile		TOX10000FCV		
	Method		PYR_NCI		
51)	Sample	31	22573	PYR_NCI	22573
52)	Sample	32	22574	PYR_NCI	22574
53)	Sample	33	22575	PYR_NCI	22575
54)	Sample	34	22599	PYR_NCI	22599
55)	Sample	35	22600	PYR_NCI	22600

Sequence completed Thu Jan 09 01:51:34 2014

D:\MassHunter\GCMS\1\data\140106 NCI\2014 Jan 06 1735 Sequence Log . LOG

2014 Jan 22 1523 Sequence Log .LOG
 Starting sequence Wed Jan 22 15:23:09 2014

Instrument Name: GCMSQQQ
 Sequence File: D:\MassHunter\GCMS\1\sequence\140122 PBDE NCI . sequence.xml
 Comment:
 Operator: DATASYSTEM01\Admin
 Data Path: D:\MassHunter\GCMS\1\data\140122 PBDE NCI\
 Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX	HEX_NCI	HEX
2)	Sample	136	PBDE200I CV		
	Datafile		PBDE200I CV		
	Method		NCI -15m PBDE		
3)	Sample	141	HEX2	HEX_NCI	HEX2
4)	Sample	1	B_5057		
	Datafile		B_5057		
	Method		NCI -15m PBDE		
5)	Sample	2	BS1_5057		
	Datafile		BS1_5057		
	Method		NCI -15m PBDE		
6)	Sample	3	BS2_5057		
	Datafile		BS2_5057		
	Method		NCI -15m PBDE		
7)	Sample	4	22628MS1		
	Datafile		22628MS1		
	Method		NCI -15m PBDE		
8)	Sample	5	22628MS2		
	Datafile		22628MS2		
	Method		NCI -15m PBDE		
9)	Sample	141	HEX3	HEX_NCI	HEX3
10)	Sample	6	22644		
	Datafile		22644		
	Method		NCI -15m PBDE		
11)	Sample	7	22628		
	Datafile		22628		
	Method		NCI -15m PBDE		
12)	Sample	8	22628R2		
	Datafile		22628R2		
	Method		NCI -15m PBDE		
13)	Sample	9	22629		
	Datafile		22629		
	Method		NCI -15m PBDE		
14)	Sample	10	22630		
	Datafile		22630		
	Method		NCI -15m PBDE		
15)	Sample	11	22631		
	Datafile		22631		
	Method		NCI -15m PBDE		
16)	Sample	12	22632		
	Datafile		22632		
	Method		NCI -15m PBDE		
17)	Sample	136	PBDE200CCV		
	Datafile		PBDE200CCV		
	Method		NCI -15m PBDE		
18)	Sample	141	HEX4	HEX_NCI	HEX4
19)	Sample	13	22633		
	Datafile		22633		
	Method		NCI -15m PBDE		
20)	Sample	14	22634		
	Datafile		22634		
	Method		NCI -15m PBDE		

2014 Jan 22 1523 Sequence Log . LOG

21) Sample	15	22635
Datafile		22635
Method		NCI -15m PBDE
22) Sample	16	22636
Datafile		22636
Method		NCI -15m PBDE
23) Sample	17	22637
Datafile		22637
Method		NCI -15m PBDE
24) Sample	18	22638
Datafile		22638
Method		NCI -15m PBDE
25) Sample	19	22639
Datafile		22639
Method		NCI -15m PBDE
26) Sample	20	22640
Datafile		22640
Method		NCI -15m PBDE
27) Sample	12	22632RR
Datafile		22632RR
Method		NCI -15m PBDE
28) Sample	21	22641
Datafile		22641
Method		NCI -15m PBDE
29) Sample	22	22642
Datafile		22642
Method		NCI -15m PBDE
30) Sample	23	22643
Datafile		22643
Method		NCI -15m PBDE
31) Sample	41	22745R2
Datafile		22745R2
Method		NCI -15m PBDE
32) Sample	24	22743
Datafile		22743
Method		NCI -15m PBDE
33) Sample	25	22744
Datafile		22744
Method		NCI -15m PBDE
34) Sample	136	PBDE200FCV
Datafile		PBDE200FCV
Method		NCI -15m PBDE

Sequence completed Thu Jan 23 12:52:53 2014

D:\MassHunter\GCMS\1\data\140122 PBDE NCI\2014 Jan 22 1523 Sequence Log . LOG

2014 Mar 01 1958 Sequence Log .LOG
 Starting sequence Sat Mar 01 19:58:55 2014

Instrument Name: GCMSQQQ
 Sequence File: D:\MassHunter\GCMS\1\sequence\140301 NCI . sequence. xml
 Comment:
 Operator: DATASYSTEM01\Admin
 Data Path: D:\MassHunter\GCMS\1\data\140301 NCI\
 Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX	HEX_NCI	HEX
2)	Sample	131	PYR25	PYR_NCI	PYR25
3)	Sample	132	PYR50	PYR_NCI	PYR50
4)	Sample	133	PYR100	PYR_NCI	PYR100
5)	Sample	134	PYR250	PYR_NCI	PYR250
6)	Sample	135	PYR500	PYR_NCI	PYR500
7)	Sample	136	PYR1000	PYR_NCI	PYR1000
8)	Sample	121	PYR_SPEX_I CV		
	Datafile		PYR_SPEX_I CV		
	Method		PYR_NCI		
9)	Sample	122	TRAL01000I CV		
	Datafile		TRAL01000I CV		
	Method		PYR_NCI		
10)	Sample	141	HEX2	HEX_NCI	HEX2
11)	Sample	1	B_5102	PYR_NCI	B_5102
12)	Sample	2	BS1_5102	PYR_NCI	BS1_5102
13)	Sample	3	BS2_5102	PYR_NCI	BS2_5102
14)	Sample	4	22628MS1	PYR_NCI	22628MS1
15)	Sample	5	22628MS2	PYR_NCI	22628MS2
16)	Sample	141	HEX3	HEX_NCI	HEX3
17)	Sample	6	22644	PYR_NCI	22644
18)	Sample	7	22628	PYR_NCI	22628
19)	Sample	8	22628R2	PYR_NCI	22628R2
20)	Sample	9	22629	PYR_NCI	22629
21)	Sample	10	22630	PYR_NCI	22630
22)	Sample	11	22631	PYR_NCI	22631
23)	Sample	12	22632	PYR_NCI	22632
24)	Sample	136	PYR1000CCV		
	Datafile		PYR1000CCV		
	Method		PYR_NCI		
25)	Sample	141	HEX4	HEX_NCI	HEX4
26)	Sample	13	22633	PYR_NCI	22633
27)	Sample	14	22634	PYR_NCI	22634
28)	Sample	15	22635	PYR_NCI	22635
29)	Sample	16	22636	PYR_NCI	22636
30)	Sample	17	22637	PYR_NCI	22637
31)	Sample	18	22638	PYR_NCI	22638
32)	Sample	19	22639	PYR_NCI	22639
33)	Sample	20	22640	PYR_NCI	22640
34)	Sample	21	22641	PYR_NCI	22641
35)	Sample	22	22642	PYR_NCI	22642
36)	Sample	23	22643	PYR_NCI	22643
37)	Sample	24	22743	PYR_NCI	22743
38)	Sample	25	22744	PYR_NCI	22744
39)	Sample	136	PYR1000FCV		
	Datafile		PYR1000FCV		
	Method		PYR_NCI		

Sequence completed Mon Mar 03 11:10:12 2014

D:\MassHunter\GCMS\1\data\140301 NCI\2014 Mar 01 1958 Sequence Log .LOG

Fipronil & Degradates

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	2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time
B_5057.D	428444.5808	23.02415
BS1_5057.D	428902.8495	23.04105
BS2_5057.D	379535.3911	23.02415
22628MS1.D	357958.123	23.04105
22628MS2.D	412982.4702	23.02415
22644.D	277388.266	23.08331667
22628.D	685755.7707	23.0326
22628R2.D	265996.7407	23.02415
22629.D	451129.8851	23.0326
22630.D	341359.2918	23.0495
22631.D	289776.3476	23.0326
22632.D	288926.8696	23.04105
22633.D	285882.3748	23.02415
22634.D	255559.1031	23.04105
FIP1000CCV.D	111123.7825	23.02415
22635.D	388818.3919	23.04105
22636.D	370703.4086	23.04105
22637.D	352224.2553	23.04105
22638.D	255095.2024	23.0326
22639.D	257467.0365	23.02415
22640.D	244231.8995	23.0326
22641.D	229457.965	23.0495
22642.D	256477.6285	23.0326
22643.D	236586.3295	23.0326
22743.D	209182.2025	23.04105
22744.D	217939.9141	23.02415
FIP1000FCV.D	105535.3237	23.0495

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Initial Calibration Data

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Quantitative Analysis Calibration Report

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Batch Info

Batch Data Path	C:\msdchem\1\DATA\O-5057 NCI\QuantResults\O-5057 FIP.batch.bin	Analyst Name	
Analysis Time	1/7/2014 2:42 AM	Reporter Name	
Report Time	6/12/2014 9:46 AM	Batch State	
Last Calib Update	1/16/2014 12:54 PM		

Calibration Information

Fipronil Desulfinyl

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5057 NCI\FIP100.D	Calibration	4	38305	100.0000	3.6924
C:\msdchem\1\DATA\O-5057 NCI\FIP1000.D	Calibration	1	851719	1000.0000	3.6940
C:\msdchem\1\DATA\O-5057 NCI\FIP25.D	Calibration	6	10206	25.0000	4.1156
C:\msdchem\1\DATA\O-5057 NCI\FIP250.D	Calibration	3	109457	250.0000	3.9498
C:\msdchem\1\DATA\O-5057 NCI\FIP50.D	Calibration	5	19874	50.0000	3.4234
C:\msdchem\1\DATA\O-5057 NCI\FIP500.D	Calibration	2	287910	500.0000	3.6872

Fipronil Sulfide

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5057 NCI\FIP100.D	Calibration	4	44716	100.0000	4.3104
C:\msdchem\1\DATA\O-5057 NCI\FIP1000.D	Calibration	1	1276904	1000.0000	5.5381
C:\msdchem\1\DATA\O-5057 NCI\FIP25.D	Calibration	6	12399	25.0000	4.9995
C:\msdchem\1\DATA\O-5057 NCI\FIP250.D	Calibration	3	123337	250.0000	4.4506
C:\msdchem\1\DATA\O-5057 NCI\FIP50.D	Calibration	5	25130	50.0000	4.3288
C:\msdchem\1\DATA\O-5057 NCI\FIP500.D	Calibration	2	374921	500.0000	4.8015

Fipronil

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5057 NCI\FIP100.D	Calibration	4	11338	100.0000	1.0929
C:\msdchem\1\DATA\O-5057 NCI\FIP1000.D	Calibration	1	353279	1000.0000	1.5322
C:\msdchem\1\DATA\O-5057 NCI\FIP25.D	Calibration	6	2947	25.0000	1.1884
C:\msdchem\1\DATA\O-5057 NCI\FIP250.D	Calibration	3	30749	250.0000	1.1096
C:\msdchem\1\DATA\O-5057 NCI\FIP50.D	Calibration	5	6950	50.0000	1.1972
C:\msdchem\1\DATA\O-5057 NCI\FIP500.D	Calibration	2	92752	500.0000	1.1878

Fipronil Sulfone

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5057 NCI\FIP100.D	Calibration	4	15945	100.0000	1.5370
C:\msdchem\1\DATA\O-5057 NCI\FIP1000.D	Calibration	1	406306	1000.0000	1.7622
C:\msdchem\1\DATA\O-5057 NCI\FIP25.D	Calibration	6	3063	25.0000	1.2352
C:\msdchem\1\DATA\O-5057 NCI\FIP250.D	Calibration	3	40632	250.0000	1.4662
C:\msdchem\1\DATA\O-5057 NCI\FIP50.D	Calibration	5	8539	50.0000	1.4709

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\O-5057 NCI\FIP500.D	Calibration	2	118295	500.0000	1.5150
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2,2',5,5'-Tetrabromobiphenyl

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5057 NCI\FIP100.D	Calibration	4	103741	1000.0000	103.7406
C:\msdchem\1\DATA\O-5057 NCI\FIP1000.D	Calibration	1	230566	1000.0000	230.5657
C:\msdchem\1\DATA\O-5057 NCI\FIP25.D	Calibration	6	99199	1000.0000	99.1988
C:\msdchem\1\DATA\O-5057 NCI\FIP250.D	Calibration	3	110849	1000.0000	110.8487
C:\msdchem\1\DATA\O-5057 NCI\FIP50.D	Calibration	5	116106	1000.0000	116.1057
C:\msdchem\1\DATA\O-5057 NCI\FIP500.D	Calibration	2	156169	1000.0000	156.1690

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Continuing Calibration Data

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\msdchem\1\DATA\O-5057 NCI\QuantResults\O-5057 FIP.batch.bin		
Analysis Time	1/8/2014 3:06 AM	Analyst Name	eugenechae
Report Time	6/12/2014 9:46 AM	Reporter Name	eugenechae
Last Calib Update	1/16/2014 12:54 PM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	FIP1000CCV
Level		Data File	FIP1000CCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD 2,2',5,5'-	RT	Response	ISTD Resp	RR	Final Conc	
Fipronil Desulfinyl	Tetrabromobiphenyl	16.489	680402	111124	6.1229	1652.8440	ng
Fipronil Sulfide	Tetrabromobiphenyl	18.265	1049748	111124	9.4467	1770.3175	ng
Fipronil	Tetrabromobiphenyl	18.510	330594	111124	2.9750	2061.3329	ng
Fipronil Sulfone	Tetrabromobiphenyl	20.480	274774	111124	2.4727	1455.2655	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	C:\msdchem\1\DATA\O-5057 NCI\QuantResults\O-5057 FIP.batch.bin		
Analysis Time	1/8/2014 6:30 PM	Analyst Name	eugenechae
Report Time	6/12/2014 9:46 AM	Reporter Name	eugenechae
Last Calib Update	1/16/2014 12:54 PM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	FIP1000FCV
Level		Data File	FIP1000FCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD 2,2',5,5'-	RT	Response	ISTD Resp	RR	Final Conc	
Fipronil Desulfinyl	Tetrabromobiphenyl	16.489	624430	105535	5.9168	1597.1992	ng
Fipronil Sulfide	Tetrabromobiphenyl	18.265	982262	105535	9.3074	1744.2241	ng
Fipronil	Tetrabromobiphenyl	18.510	298877	105535	2.8320	1962.2487	ng
Fipronil Sulfone	Tetrabromobiphenyl	20.480	255377	105535	2.4198	1424.1564	ng

	FIP1000 CCV			FIP1000 FCV		
	1/8/14 3:06 AM			1/8/14 6:30 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Fipronil Desulfinyl	1000	1653	65	1000	1597	60
Fipronil Sulfide	1000	1770	77	1000	1744	74
Fipronil	1000	2061	106	1000	1962	96
Fipronil Sulfone	1000	1455	46	1000	1424	42
Average	-	-	76	-	-	69

PolyBrominated Diphenyl Ethers (PBDEs)

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ENVIRONMENTAL LABORATORIES, INC.
Innovative Environmental Nature

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Summary of Internal Standards

TERRA FACTA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

	2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time
PBDE200ICV	1093520.964	16.43716667
B_5057	7766025.29	16.43716667
BS1_5057	4124365.873	16.42251667
BS2_5057	3571035.467	16.41283333
22628MS1	2949782.1	16.41283333
22628MS2	3834296.113	16.41768333
22644	5291804.959	16.46621667
22628	4191273.923	16.40315
22628R2	5352045.823	16.40315
22629	5366189.839	16.3983
22630	4904290.461	16.41283333
22631	4940790.474	16.39346667
PBDE200CCV	1484333.149	16.39346667
22633	5760550.848	16.39841667
22634	4416723.104	16.39346667
22635	2935960.402	16.3983
22636	5954880.056	16.3983
22637	5592435.179	16.3983
22638	7377985.852	16.3983
22639	4748087.452	16.39346667
22640	4232282.624	16.3983
22632RR	4360818.745	16.39346667
22641	4208967.912	16.38861667
22642	4126155.244	16.39346667
22643	4048272.677	16.39346667
22743	3532650.825	16.38861667
22744	4028149.206	16.3983
PBDE200FCV	1485020.648	16.38376667

PHYSIS

Initial Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

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Quantitative Analysis Calibration Report

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Batch Info

Batch Data Path C:\msdchem\1\DATA\O-5057 PBDE\QuantResults\O-5057 PBDE.batch.bin
Analysis Time 1/22/2014 3:56 PM **Analyst Name**
Report Time 6/12/2014 9:23 AM **Reporter Name**
Last Calib Update 2/5/2014 8:26 AM **Batch State**

Calibration Information

(FTBDE)

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	362466	50.0000	0.8609
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	337714	50.0000	0.8698
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	607995	50.0000	1.0693
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	307831	50.0000	0.8625
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	296957	50.0000	0.8792
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	282764	50.0000	0.8521

PBDE017

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	52253	10.0000	0.6205
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	528996	100.0000	0.6812
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1704812	200.0000	0.7496
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	123267	25.0000	0.6908
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	223360	50.0000	0.6613
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	332929	75.0000	0.6688

PBDE028

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	58500	10.0000	0.6947
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	566816	100.0000	0.7300
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1874211	200.0000	0.8241
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	117608	25.0000	0.6590
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	216999	50.0000	0.6425
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	338205	75.0000	0.6794

2,2',5,5'Tetrabromobiphenyl

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	8420757	1000.0000	8420.7572
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	7765091	1000.0000	7765.0915
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	11371385	1000.0000	11371.3849
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	7138104	1000.0000	7138.1044
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	6755020	1000.0000	6755.0195

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D Calibration 3 6636959 1000.0000 6636.9590

PBDE049

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	61371	10.0000	0.7288
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	585232	100.0000	0.7537
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1850487	200.0000	0.8137
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	133638	25.0000	0.7489
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	238360	50.0000	0.7057
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	355624	75.0000	0.7144

PBDE071

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	54217	10.0000	0.6438
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	493999	100.0000	0.6362
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1680098	200.0000	0.7387
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	110183	25.0000	0.6174
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	192682	50.0000	0.5705
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	301875	75.0000	0.6065

PBDE047

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	54571	10.0000	0.6481
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	454915	100.0000	0.5858
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1606336	200.0000	0.7063
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	103036	25.0000	0.5774
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	173451	50.0000	0.5135
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	279045	75.0000	0.5606

PBDE066

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	76790	10.0000	0.9119
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	505778	100.0000	0.6513
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1657219	200.0000	0.7287
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	120178	25.0000	0.6734
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	194152	50.0000	0.5748
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	300050	75.0000	0.6028

PBDE100

Calibration STD	CalType	Level	Response	Exp Conc	RF
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C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	47004	10.0000	0.5582
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	424904	100.0000	0.5472
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1356524	200.0000	0.5965
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	92995	25.0000	0.5211
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	155825	50.0000	0.4614
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	246104	75.0000	0.4944

(DFPBDE)

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	255002	50.0000	0.6057
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	271392	50.0000	0.6990
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	448005	50.0000	0.7880
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	211378	50.0000	0.5923
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	189019	50.0000	0.5596
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	205194	50.0000	0.6183

PBDE099

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	50407	10.0000	0.5986
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	442583	100.0000	0.5700
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1386670	200.0000	0.6097
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	92620	25.0000	0.5190
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	148404	50.0000	0.4394
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	253216	75.0000	0.5087

PBDE085

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	39462	10.0000	0.4686
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	360304	100.0000	0.4640
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1060242	200.0000	0.4662
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	72504	25.0000	0.4063
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	120379	50.0000	0.3564
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	199688	75.0000	0.4012

PBDE154

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	44515	10.0000	0.5286
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	412441	100.0000	0.5311

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1209803	200.0000	0.5320
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	83023	25.0000	0.4652
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	142484	50.0000	0.4219
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	243445	75.0000	0.4891

PBDE153

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	39939	10.0000	0.4743
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	390618	100.0000	0.5030
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1095420	200.0000	0.4817
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	80633	25.0000	0.4518
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	129283	50.0000	0.3828
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	219510	75.0000	0.4410

PBDE138

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	33029	10.0000	0.3922
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	358264	100.0000	0.4614
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	993361	200.0000	0.4368
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	72370	25.0000	0.4055
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	102656	50.0000	0.3039
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	198720	75.0000	0.3992

PBDE183

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	38071	10.0000	0.4521
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	311176	100.0000	0.4007
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	846727	200.0000	0.3723
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	66367	25.0000	0.3719
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	101259	50.0000	0.2998
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	185387	75.0000	0.3724

PBDE190

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	13841	10.0000	0.1644
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	154666	100.0000	0.1992
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	367277	200.0000	0.1615
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	32494	25.0000	0.1821

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	41375	50.0000	0.1225
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	88271	75.0000	0.1773

PBDE209

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	1273	50.0000	0.0030
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	7426	500.0000	0.0019
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	19867	1000.0000	0.0017
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	2479	125.0000	0.0028
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	2622	250.0000	0.0016
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	5048	375.0000	0.0020

PHYSIS

Continuing Calibration Data

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path C:\msdchem\1\DATA\O-5057 PBDE\QuantResults\O-5057 PBDE.batch.bin
Analysis Time 1/22/2014 3:56 PM **Analyst Name** eugenechae
Report Time 6/12/2014 9:23 AM **Reporter Name** eugenechae
Last Calib Update 2/5/2014 8:26 AM **Batch State** Processed

Analysis Info

Acq Time
Level
Position
Sample Type Sample
Dilution 1

Sample Name PBDE200ICV
Data File PBDE200ICV.D
Acq Method File NCI-15m PBDE.M
Sample Info
Comment

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphe nyl	14.912	46352	1093521	0.0424	47.1514	ng
PBDE017	2,2',5,5'Tetrabromobiphe nyl	15.459	153766	1093521	0.1406	193.7712	ng
PBDE028	2,2',5,5'Tetrabromobiphe nyl	15.808	183896	1093521	0.1682	214.3417	ng
PBDE049	2,2',5,5'Tetrabromobiphe nyl	17.774	132483	1093521	0.1212	153.6367	ng
PBDE071	2,2',5,5'Tetrabromobiphe nyl	17.851	128133	1093521		167.3759	ng
PBDE047	2,2',5,5'Tetrabromobiphe nyl	18.166	124323	1093521	0.1137	171.6719	ng
PBDE066	2,2',5,5'Tetrabromobiphe nyl	18.496	131081	1093521	0.1199	172.0555	ng
PBDE100	2,2',5,5'Tetrabromobiphe nyl	19.982	110352	1093521	0.1009	176.5054	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphe nyl	20.317	34472	1093521	0.0315	48.9655	ng
PBDE099	2,2',5,5'Tetrabromobiphe nyl	20.491	108514	1093521	0.0992	169.6040	ng
PBDE085	2,2',5,5'Tetrabromobiphe nyl	21.353	84670	1093521	0.0774	170.4325	ng
PBDE154	2,2',5,5'Tetrabromobiphe nyl	21.939	105940	1093521	0.0969	185.4775	ng
PBDE153	2,2',5,5'Tetrabromobiphe nyl	22.656	91248	1093521	0.0834	174.9819	ng
PBDE138	2,2',5,5'Tetrabromobiphe nyl	23.513	77210	1093521	0.0706	163.6985	ng
PBDE183	2,2',5,5'Tetrabromobiphe nyl	24.651	71944	1093521	0.0658	175.8177	ng
PBDE190	2,2',5,5'Tetrabromobiphe nyl	25.804	31310	1093521	0.0286	170.4550	ng
PBDE209	2,2',5,5'Tetrabromobiphe nyl	29.679	2364	1093521		1196.6121	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path C:\msdchem\1\DATA\O-5057 PBDE\QuantResults\O-5057 PBDE.batch.bin
Analysis Time 1/23/2014 1:25 AM **Analyst Name** eugenechae
Report Time 6/12/2014 9:23 AM **Reporter Name** eugenechae
Last Calib Update 2/5/2014 8:26 AM **Batch State** Processed

Analysis Info

Acq Time
Level
Position
Sample Type Sample
Dilution 1

Sample Name PBDE200CCV
Data File PBDE200CCV.D
Acq Method File NCI-15m PBDE.M
Sample Info
Comment

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphe nyl	14.873	70778	1484333	0.0477	53.0420	ng
PBDE017	2,2',5,5'Tetrabromobiphe nyl	15.420	224561	1484333	0.1513	208.4782	ng
PBDE028	2,2',5,5'Tetrabromobiphe nyl	15.769	270255	1484333	0.1821	232.0621	ng
PBDE049	2,2',5,5'Tetrabromobiphe nyl	17.725	175549	1484333	0.1183	149.9790	ng
PBDE071	2,2',5,5'Tetrabromobiphe nyl	17.808	179430	1484333		172.6720	ng
PBDE047	2,2',5,5'Tetrabromobiphe nyl	18.113	166009	1484333	0.1118	168.8799	ng
PBDE066	2,2',5,5'Tetrabromobiphe nyl	18.442	182050	1484333	0.1226	176.0417	ng
PBDE100	2,2',5,5'Tetrabromobiphe nyl	19.934	152997	1484333	0.1031	180.2847	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphe nyl	20.268	43966	1484333	0.0296	46.0074	ng
PBDE099	2,2',5,5'Tetrabromobiphe nyl	20.438	148736	1484333	0.1002	171.2625	ng
PBDE085	2,2',5,5'Tetrabromobiphe nyl	21.295	113355	1484333	0.0764	168.0972	ng
PBDE154	2,2',5,5'Tetrabromobiphe nyl	21.886	129955	1484333	0.0876	167.6182	ng
PBDE153	2,2',5,5'Tetrabromobiphe nyl	22.602	116924	1484333	0.0788	165.1851	ng
PBDE138	2,2',5,5'Tetrabromobiphe nyl	23.455	94927	1484333	0.0640	148.2713	ng
PBDE183	2,2',5,5'Tetrabromobiphe nyl	24.598	82801	1484333	0.0558	149.0740	ng
PBDE190	2,2',5,5'Tetrabromobiphe nyl	25.751	39020	1484333	0.0263	156.4976	ng
PBDE209	2,2',5,5'Tetrabromobiphe nyl	29.567	710	1484333		264.5547	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path C:\msdchem\1\DATA\O-5057 PBDE\QuantResults\O-5057 PBDE.batch.bin
Analysis Time 1/23/2014 12:19 PM **Analyst Name** eugenechae
Report Time 6/12/2014 9:23 AM **Reporter Name** eugenechae
Last Calib Update 2/5/2014 8:26 AM **Batch State** Processed

Analysis Info

Acq Time
Level
Position
Sample Type Sample
Dilution 1

Sample Name PBDE200FCV
Data File PBDE200FCV.D
Acq Method File NCI-15m PBDE.M
Sample Info
Comment

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphe nyl	14.873	70372	1485021	0.0474	52.7129	ng
PBDE017	2,2',5,5'Tetrabromobiphe nyl	15.415	226437	1485021	0.1525	210.1224	ng
PBDE028	2,2',5,5'Tetrabromobiphe nyl	15.764	280310	1485021	0.1888	240.5845	ng
PBDE049	2,2',5,5'Tetrabromobiphe nyl	17.730	183160	1485021	0.1233	156.4087	ng
PBDE071	2,2',5,5'Tetrabromobiphe nyl	17.803	186124	1485021	0.1253	179.0311	ng
PBDE047	2,2',5,5'Tetrabromobiphe nyl	18.113	176999	1485021	0.1192	179.9761	ng
PBDE066	2,2',5,5'Tetrabromobiphe nyl	18.442	197176	1485021	0.1328	190.5802	ng
PBDE100	2,2',5,5'Tetrabromobiphe nyl	19.924	159605	1485021	0.1075	187.9833	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphe nyl	20.263	45757	1485021	0.0308	47.8598	ng
PBDE099	2,2',5,5'Tetrabromobiphe nyl	20.433	152407	1485021	0.1026	175.4085	ng
PBDE085	2,2',5,5'Tetrabromobiphe nyl	21.295	121342	1485021	0.0817	179.8570	ng
PBDE154	2,2',5,5'Tetrabromobiphe nyl	21.881	140460	1485021	0.0946	181.0838	ng
PBDE153	2,2',5,5'Tetrabromobiphe nyl	22.598	123046	1485021	0.0829	173.7532	ng
PBDE138	2,2',5,5'Tetrabromobiphe nyl	23.450	102212	1485021	0.0688	159.5768	ng
PBDE183	2,2',5,5'Tetrabromobiphe nyl	24.593	86824	1485021	0.0585	156.2435	ng
PBDE190	2,2',5,5'Tetrabromobiphe nyl	25.746	39749	1485021	0.0268	159.3445	ng
PBDE209	2,2',5,5'Tetrabromobiphe nyl	29.504	942	1485021	0.0006	351.2036	ng

	PBDE200 ICV			PBDE200 CCV			PBDE200 FCV		
	1/22/14 3:56 PM			1/23/14 1:25 AM			1/23/14 12:19 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
FTBDE	50	47	6	50	53	6	50	53	5
DFTBDE	50	49	2	50	46	8	50	48	4
PBDE017	200	194	3	200	208	4	200	210	5
PBDE028	200	214	7	200	232	16	200	241	20
PBDE049	200	154	23	200	150	25	200	156	22
PBDE071	200	167	16	200	173	14	200	179	10
PBDE047	200	172	14	200	169	16	200	180	10
PBDE066	200	172	14	200	176	12	200	191	5
PBDE100	200	177	12	200	180	10	200	188	6
PBDE099	200	170	15	200	171	14	200	175	12
PBDE085	200	170	15	200	168	16	200	180	10
PBDE154	200	185	7	200	168	16	200	181	9
PBDE153	200	175	13	200	165	17	200	174	13
PBDE138	200	164	18	200	148	26	200	160	20
PBDE183	200	176	12	200	149	25	200	156	22
PBDE190	200	170	15	200	156	22	200	159	20
PBDE209	1000	1197	20	1000	265	74	1000	351	65
Average	-	-	12	-	-	19	-	-	15

PHYSIS

Pyrethroids

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS

Summary of Internal Standards

TERRA FACTA AQUA AURUM
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

	2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time
PYR_SPEX_ICV	1131221.809	23.60745
B_5102	2350452.751	23.61591667
BS1_5102	2036750.623	23.60745
BS2_5102	2327321.781	23.60745
22628MS1	2060245.38	23.61591667
22628MS2	1435847.989	23.60745
22628	1954372.806	23.61591667
22628R2	1682649.39	23.61591667
22629	1909649.479	23.61591667
22630	1073659.959	23.62436667
22631	1700044.835	23.61591667
22632	1496757.717	23.61591667
PYR1000CCV	804833.1788	23.60745
22633	1127613.912	23.61591667
22634	850017.982	23.61591667
22635	1278996.402	23.61591667
22636	921882.0644	23.60745
22637	671485.884	23.60745
22638	1103192.865	23.60745
22639	1192000.541	23.61591667
22640	1104032.083	23.61591667
22641	1054757.671	23.60745
22642	1046904.583	23.61591667
22643	1149954.739	23.61591667
22743	926784.0688	23.61591667
22744	1130415.372	23.61591667
PYR1000FCV	650783.745	23.60745

PHYSIS

Initial Calibration Data

TERRA

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Quantitative Analysis Calibration Report

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Batch Info

Batch Data Path P:\Data, Organics Lab\Q1 Data Files\Q1_140301 NCI O-5102\QuantResults\O-5102 PYR.b
Analysis Time 3/1/2014 8:32 PM **Analyst Name**
Report Time 6/16/2014 9:02 AM **Reporter Name**
Last Calib Update 5/20/2014 11:39 AM **Batch State**

Calibration Information

Allethrin

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_140301 NCI O-5102\PYR100.D	Calibration	4	5805	100.0000	0.0471
C:\msdchem\1\DATA\Q1_140301 NCI O-5102\PYR1000.D	Calibration	1	54974	1000.0000	0.0471
C:\msdchem\1\DATA\Q1_140301 NCI O-5102\PYR25.D	Calibration	6	1769	25.0000	0.0409
C:\msdchem\1\DATA\Q1_140301 NCI O-5102\PYR250.D	Calibration	3	16693	250.0000	0.0538
C:\msdchem\1\DATA\Q1_140301 NCI O-5102\PYR50.D	Calibration	5	3536	50.0000	0.0522
C:\msdchem\1\DATA\Q1_140301 NCI O-5102\PYR500.D	Calibration	2	30311	500.0000	0.0460

Prallethrin

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_140301 NCI O-5102\PYR100.D	Calibration	4	27032	100.0000	0.2195
C:\msdchem\1\DATA\Q1_140301 NCI O-5102\PYR1000.D	Calibration	1	270276	1000.0000	0.2316
C:\msdchem\1\DATA\Q1_140301 NCI O-5102\PYR25.D	Calibration	6	12038	25.0000	0.2783
C:\msdchem\1\DATA\Q1_140301 NCI O-5102\PYR250.D	Calibration	3	60872	250.0000	0.1961
C:\msdchem\1\DATA\Q1_140301 NCI O-5102\PYR50.D	Calibration	5	14834	50.0000	0.2188
C:\msdchem\1\DATA\Q1_140301 NCI O-5102\PYR500.D	Calibration	2	136979	500.0000	0.2078

Resmethrin

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_140301 NCI O-5102\PYR100.D	Calibration	4	25157	100.0000	0.2043
C:\msdchem\1\DATA\Q1_140301 NCI O-5102\PYR1000.D	Calibration	1	266882	1000.0000	0.2287
C:\msdchem\1\DATA\Q1_140301 NCI O-5102\PYR25.D	Calibration	6	9901	25.0000	0.2289
C:\msdchem\1\DATA\Q1_140301 NCI O-5102\PYR250.D	Calibration	3	61305	250.0000	0.1974

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\Q1_1

40301 NCI O-

5102\PYR50.D

Calibration

5

14210

50.0000

0.2095

C:\msdchem\1\DATA\Q1_1

40301 NCI O-

5102\PYR500.D

Calibration

2

135194

500.0000

0.2051

(PCB112)-pyr

Calibration STD

C:\msdchem\1\DATA\Q1_1

40301 NCI O-

5102\PYR100.D

Calibration

4

212324

400.0000

0.4311

C:\msdchem\1\DATA\Q1_1

40301 NCI O-

5102\PYR1000.D

Calibration

1

196933

400.0000

0.4219

C:\msdchem\1\DATA\Q1_1

40301 NCI O-

5102\PYR25.D

Calibration

6

298120

400.0000

0.4307

C:\msdchem\1\DATA\Q1_1

40301 NCI O-

5102\PYR250.D

Calibration

3

203774

400.0000

0.4102

C:\msdchem\1\DATA\Q1_1

40301 NCI O-

5102\PYR50.D

Calibration

5

221358

400.0000

0.4080

C:\msdchem\1\DATA\Q1_1

40301 NCI O-

5102\PYR500.D

Calibration

2

216037

400.0000

0.4096

TBBP

Calibration STD

C:\msdchem\1\DATA\Q1_1

40301 NCI O-

5102\PYR100.D

Calibration

4

1231322

1000.0000

1231.3220

C:\msdchem\1\DATA\Q1_1

40301 NCI O-

5102\PYR1000.D

Calibration

1

1167044

1000.0000

1167.0441

C:\msdchem\1\DATA\Q1_1

40301 NCI O-

5102\PYR25.D

Calibration

6

1730239

1000.0000

1730.2394

C:\msdchem\1\DATA\Q1_1

40301 NCI O-

5102\PYR250.D

Calibration

3

1241974

1000.0000

1241.9737

C:\msdchem\1\DATA\Q1_1

40301 NCI O-

5102\PYR50.D

Calibration

5

1356219

1000.0000

1356.2191

C:\msdchem\1\DATA\Q1_1

40301 NCI O-

5102\PYR500.D

Calibration

2

1318468

1000.0000

1318.4681

Bifenthrin

Calibration STD

C:\msdchem\1\DATA\Q1_1

40301 NCI O-

5102\PYR100.D

Calibration

4

5335

100.0000

0.0433

C:\msdchem\1\DATA\Q1_1

40301 NCI O-

5102\PYR1000.D

Calibration

1

52297

1000.0000

0.0448

C:\msdchem\1\DATA\Q1_1

40301 NCI O-

5102\PYR25.D

Calibration

6

2741

25.0000

0.0634

C:\msdchem\1\DATA\Q1_1

40301 NCI O-

5102\PYR250.D

Calibration

3

12097

250.0000

0.0390

C:\msdchem\1\DATA\Q1_1

40301 NCI O-

5102\PYR50.D

Calibration

5

2980

50.0000

0.0439

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\Q1_1

40301 NCI O-

	Calibration	2	27871	500.0000	0.0423
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Danitol (Fenpropathrin)

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR100.D	Calibration	4	15851	100.0000	0.1287
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR1000.D	Calibration	1	161138	1000.0000	0.1381
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR25.D	Calibration	6	6878	25.0000	0.1590
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR250.D	Calibration	3	37035	250.0000	0.1193
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR50.D	Calibration	5	10181	50.0000	0.1501
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR500.D	Calibration	2	84086	500.0000	0.1276

Cyhalothrin-lambda

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR100.D	Calibration	4	17107	100.0000	0.1389
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR1000.D	Calibration	1	161061	1000.0000	0.1380
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR25.D	Calibration	6	6814	25.0000	0.1575
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR250.D	Calibration	3	40760	250.0000	0.1313
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR50.D	Calibration	5	9069	50.0000	0.1337
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR500.D	Calibration	2	88644	500.0000	0.1345

(PCB198)-pyr

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR100.D	Calibration	4	49520	400.0000	0.1005
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR1000.D	Calibration	1	49296	400.0000	0.1056
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR25.D	Calibration	6	64966	400.0000	0.0939
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR250.D	Calibration	3	48167	400.0000	0.0970
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR50.D	Calibration	5	51280	400.0000	0.0945
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR500.D	Calibration	2	52622	400.0000	0.0998

Quantitative Analysis Calibration Report

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Permethrin-cis

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR100.D	Calibration	4	123	26.7000	0.0037
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR1000.D	Calibration	1	1763	267.0000	0.0057
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR25.D	Calibration	6	37	6.6750	0.0032
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR250.D	Calibration	3	377	66.7500	0.0045
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR50.D	Calibration	5	46	13.3500	0.0026
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR500.D	Calibration	2	1149	133.5000	0.0065

Permethrin-trans

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR100.D	Calibration	4	421	71.6000	0.0048
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR1000.D	Calibration	1	3218	716.0000	0.0039
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR25.D	Calibration	6	148	17.9000	0.0048
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR250.D	Calibration	3	653	179.0000	0.0029
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR50.D	Calibration	5	145	35.8000	0.0030
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR500.D	Calibration	2	1395	358.0000	0.0030

Cyfluthrin-1

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR100.D	Calibration	4	4551	100.0000	0.0370
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR1000.D	Calibration	1	36001	1000.0000	0.0308
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR25.D	Calibration	6	1796	25.0000	0.0415
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR250.D	Calibration	3	10544	250.0000	0.0340
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR50.D	Calibration	5	2510	50.0000	0.0370
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR500.D	Calibration	2	19711	500.0000	0.0299

Cyfluthrin-2

Calibration STD	CalType	Level	Response	Exp Conc	RF
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Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR100.D	Calibration	4	4607	100.0000	0.0374
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR1000.D	Calibration	1	39966	1000.0000	0.0342
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR25.D	Calibration	6	2073	25.0000	0.0479
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR250.D	Calibration	3	11019	250.0000	0.0355
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR50.D	Calibration	5	2927	50.0000	0.0432
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR500.D	Calibration	2	22623	500.0000	0.0343

Cyfluthrin-3

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR100.D	Calibration	4	4208	100.0000	0.0342
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR1000.D	Calibration	1	31124	1000.0000	0.0267
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR25.D	Calibration	6	1491	25.0000	0.0345
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR250.D	Calibration	3	8779	250.0000	0.0283
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR50.D	Calibration	5	2358	50.0000	0.0348
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR500.D	Calibration	2	17842	500.0000	0.0271

Cyfluthrin-4

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR100.D	Calibration	4	3481	100.0000	0.0283
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR1000.D	Calibration	1	26192	1000.0000	0.0224
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR25.D	Calibration	6	1304	25.0000	0.0302
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR250.D	Calibration	3	8280	250.0000	0.0267
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR50.D	Calibration	5	2242	50.0000	0.0331
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR500.D	Calibration	2	15106	500.0000	0.0229

Cypermethrin-1

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR100.D	Calibration	4	4092	100.0000	0.0332

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR1000.D	Calibration	1	28363	1000.0000	0.0243
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR25.D	Calibration	6	1132	25.0000	0.0262
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR250.D	Calibration	3	7775	250.0000	0.0250
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR50.D	Calibration	5	2050	50.0000	0.0302
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR500.D	Calibration	2	16049	500.0000	0.0243

Cypermethrin-2

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR100.D	Calibration	4	3246	100.0000	0.0264
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR1000.D	Calibration	1	22795	1000.0000	0.0195
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR25.D	Calibration	6	1016	25.0000	0.0235
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR250.D	Calibration	3	6994	250.0000	0.0225
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR50.D	Calibration	5	1736	50.0000	0.0256
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR500.D	Calibration	2	12520	500.0000	0.0190

Cypermethrin-3

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR100.D	Calibration	4	3382	100.0000	0.0275
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR1000.D	Calibration	1	28295	1000.0000	0.0242
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR25.D	Calibration	6	1203	25.0000	0.0278
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR250.D	Calibration	3	7359	250.0000	0.0237
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR50.D	Calibration	5	2206	50.0000	0.0325
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR500.D	Calibration	2	16648	500.0000	0.0253

Cypermethrin-4

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR100.D	Calibration	4	2812	100.0000	0.0228
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR1000.D	Calibration	1	22131	1000.0000	0.0190

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR25.D	Calibration	6	1355	25.0000	0.0313
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR250.D	Calibration	3	7210	250.0000	0.0232
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR50.D	Calibration	5	1579	50.0000	0.0233
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR500.D	Calibration	2	12984	500.0000	0.0197

Fenvalerate

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR100.D	Calibration	4	29011	100.0000	0.2356
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR1000.D	Calibration	1	273677	1000.0000	0.2345
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR25.D	Calibration	6	10951	25.0000	0.2532
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR250.D	Calibration	3	70017	250.0000	0.2255
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR50.D	Calibration	5	15691	50.0000	0.2314
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR500.D	Calibration	2	142104	500.0000	0.2156

Esfenvalerate

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR100.D	Calibration	4	25632	100.0000	0.2082
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR1000.D	Calibration	1	256351	1000.0000	0.2197
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR25.D	Calibration	6	10008	25.0000	0.2314
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR250.D	Calibration	3	68110	250.0000	0.2194
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR50.D	Calibration	5	14868	50.0000	0.2193
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR500.D	Calibration	2	136593	500.0000	0.2072

Fluvalinate

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR100.D	Calibration	4	11801	100.0000	0.0958
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR1000.D	Calibration	1	113014	1000.0000	0.0968
C:\msdchem\1\DATA\Q1_1					
40301 NCI O-					
5102\PYR25.D	Calibration	6	4561	25.0000	0.1054

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\Q1_1

40301 NCI O-

5102\PYR250.D

Calibration

3

30916

250.0000

0.0996

C:\msdchem\1\DATA\Q1_1

40301 NCI O-

5102\PYR50.D

Calibration

5

7175

50.0000

0.1058

C:\msdchem\1\DATA\Q1_1

40301 NCI O-

5102\PYR500.D

Calibration

2

62426

500.0000

0.0947

Deltamethrin/Tralomethrin

Calibration STD

CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\Q1_1				
40301 NCI O-				
5102\PYR100.D	4	1907	100.0000	0.0155
C:\msdchem\1\DATA\Q1_1				
40301 NCI O-				
5102\PYR1000.D	1	24407	1000.0000	0.0209
C:\msdchem\1\DATA\Q1_1				
40301 NCI O-				
5102\PYR25.D	6	540	25.0000	0.0125
C:\msdchem\1\DATA\Q1_1				
40301 NCI O-				
5102\PYR250.D	3	5906	250.0000	0.0190
C:\msdchem\1\DATA\Q1_1				
40301 NCI O-				
5102\PYR50.D	5	1110	50.0000	0.0164
C:\msdchem\1\DATA\Q1_1				
40301 NCI O-				
5102\PYR500.D	2	11702	500.0000	0.0178

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Continuing Calibration Data

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path P:\Data, Organics Lab_Q1 Data Files\Q1_140301 NCI O-5102\QuantResults\O-5102 PYR.batch.bin
Analysis Time 3/2/2014 1:51 AM **Analyst Name** eugenechae
Report Time 6/16/2014 9:02 AM **Reporter Name** eugenechae
Last Calib Update 5/20/2014 11:39 AM **Batch State** Processed

Analysis Info

Acq Time **Sample Name** PYR_SPEX_ICV
Level **Data File** PYR_SPEX_ICV.D
Position **Acq Method File** PYR_NCI.m
Sample Type Sample **Sample Info**
Dilution 1 **Comment**

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
Allethrin	TBBP	18.924	0	1131222	0.0000	0.0000	ng/ml
Prallethrin	TBBP	18.966	341418	1131222	0.3018	1339.4175	ng/ml
Resmethrin	TBBP	19.330	209407	1131222	0.1851	831.8403	ng/ml
(PCB112)-pyr	TBBP	20.530	191616	1131222	0.1694	404.6604	ng/ml
Bifenthrin	TBBP	26.068	54087	1131222	0.0478	1085.3219	ng
Danitol (Fenpropathrin)	TBBP	26.448	161290	1131222	0.1426	1054.8590	ng
Cyhalothrin-lambda	TBBP	28.832	111014	1131222		716.1627	ng
(PCB198)-pyr	TBBP	29.043	47251	1131222	0.0418	423.8654	ng/ml
Permethrin-cis	TBBP	31.106	1195	1131222	0.0011	183.8445	ng
Permethrin-trans	TBBP	31.495	2983	1131222	0.0026	723.4789	ng/ml
Cyfluthrin-1	TBBP	32.957	28935	1131222	0.0256	828.3422	ng
Cyfluthrin-2	TBBP	33.253	29924	1131222	0.0265	769.7782	ng
Cyfluthrin-3	TBBP	33.524	26914	1131222	0.0238	884.6301	ng
Cyfluthrin-4	TBBP	33.642	28551	1131222	0.0252	1107.0428	ng
Cypermethrin-1	TBBP	33.997	24405	1131222	0.0216	883.2419	ng
Cypermethrin-2	TBBP	34.310	20844	1131222	0.0184	938.3764	ng
Cypermethrin-3	TBBP	34.564	25569	1131222	0.0226	924.4346	ng
Cypermethrin-4	TBBP	34.682	21756	1131222		994.1701	ng
Fenvalerate	TBBP	37.134	248219	1131222	0.2194	951.8766	ng
Esfenvalerate	TBBP	37.869	217128	1131222	0.1919	883.6554	ng
Fluvalinate	TBBP	38.047	89648	1131222	0.0792	820.5868	ng
Deltamethrin/Tralomethrin	TBBP	40.016	14429	1131222	0.0128	632.2511	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path P:\Data, Organics Lab_Q1 Data Files\Q1_140301 NCI O-5102\QuantResults\O-5102 PYR.batch.bin
Analysis Time 3/2/2014 6:49 PM **Analyst Name** eugenechae
Report Time 6/16/2014 9:02 AM **Reporter Name** eugenechae
Last Calib Update 5/20/2014 11:39 AM **Batch State** Processed

Analysis Info

Acq Time
Level
Position
Sample Type Sample
Dilution 1

Sample Name PYR1000CCV
Data File PYR1000CCV.D
Acq Method File PYR_NCI.m
Sample Info
Comment

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
Allethrin	TBBP	18.865	51311	804833	0.0638	1350.3040	ng/ml
Prallethrin	TBBP	18.958	253664	804833	0.3152	1398.7204	ng/ml
Resmethrin	TBBP	19.330	95589	804833	0.1188	533.7035	ng/ml
(PCB112)-pyr	TBBP	20.530	152772	804833	0.1898	453.4668	ng/ml
Bifenthrin	TBBP	26.068	37275	804833	0.0463	1051.2970	ng
Danitol (Fenpropathrin)	TBBP	26.448	117452	804833	0.1459	1079.6632	ng
Cyhalothrin-lambda	TBBP	28.823	108845	804833		986.9278	ng
(PCB198)-pyr	TBBP	29.018	30023	804833		378.5419	ng/ml
Permethrin-cis	TBBP	31.106	1357	804833	0.0017	293.4392	ng
Permethrin-trans	TBBP	31.478	1943	804833	0.0024	662.4607	ng/ml
Cyfluthrin-1	TBBP	32.966	23936	804833	0.0297	963.1278	ng
Cyfluthrin-2	TBBP	33.253	25388	804833	0.0315	917.9482	ng
Cyfluthrin-3	TBBP	33.515	19675	804833	0.0244	908.9181	ng
Cyfluthrin-4	TBBP	33.634	19161	804833	0.0238	1044.2434	ng
Cypermethrin-1	TBBP	33.989	16599	804833	0.0206	844.3617	ng
Cypermethrin-2	TBBP	34.302	15345	804833	0.0191	970.9945	ng
Cypermethrin-3	TBBP	34.564	18024	804833	0.0224	915.8854	ng
Cypermethrin-4	TBBP	34.682	14641	804833		940.3375	ng
Fenvalerate	TBBP	37.125	149910	804833	0.1863	808.0134	ng
Esfenvalerate	TBBP	37.869	148339	804833	0.1843	848.5222	ng
Fluvalinate	TBBP	38.038	64007	804833		823.4807	ng
Deltamethrin/Tralomethrin	TBBP	40.008	12301	804833	0.0153	757.6114	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path	P:\Data, Organics Lab\Q1 Data Files\Q1_140301 NCI O-5102\QuantResults\O-5102 PYR.batch.bin		
Analysis Time	3/3/2014 10:11 AM	Analyst Name	eugenechae
Report Time	6/16/2014 9:02 AM	Reporter Name	eugenechae
Last Calib Update	5/20/2014 11:39 AM	Batch State	Processed

Analysis Info

Acq Time		Sample Name	PYR1000FCV
Level		Data File	PYR1000FCV.D
Position		Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
Allethrin	TBBP	18.865	40572	650784	0.0623	1320.4499	ng/ml
Prallethrin	TBBP	18.958	178625	650784	0.2745	1218.0992	ng/ml
Resmethrin	TBBP	19.321	26113	650784	0.0401	180.3114	ng/ml
(PCB112)-pyr	TBBP	20.522	125547	650784	0.1929	460.8679	ng/ml
Bifenthrin	TBBP	26.068	27443	650784	0.0422	957.2020	ng
Danitol (Fenpropathrin)	TBBP	26.439	78703	650784	0.1209	894.7250	ng
Cyhalothrin-lambda	TBBP	28.823	76741	650784	0.1179	860.5429	ng
(PCB198)-pyr	TBBP	29.018	22075	650784	0.0339	344.2053	ng/ml
Permethrin-cis	TBBP	31.089	1102	650784	0.0017	294.6254	ng
Permethrin-trans	TBBP	31.486	1412	650784	0.0022	595.4222	ng/ml
Cyfluthrin-1	TBBP	32.957	15406	650784	0.0237	766.6287	ng
Cyfluthrin-2	TBBP	33.245	17037	650784	0.0262	761.8203	ng
Cyfluthrin-3	TBBP	33.507	13840	650784	0.0213	790.7542	ng
Cyfluthrin-4	TBBP	33.634	11655	650784	0.0179	785.5422	ng
Cypermethrin-1	TBBP	33.980	11849	650784	0.0182	745.4402	ng
Cypermethrin-2	TBBP	34.293	9897	650784	0.0152	774.4836	ng
Cypermethrin-3	TBBP	34.564	11256	650784	0.0173	707.3780	ng
Cypermethrin-4	TBBP	34.674	8863	650784	0.0136	703.9799	ng
Fenvalerate	TBBP	37.117	81371	650784	0.1250	542.4104	ng
Esfenvalerate	TBBP	37.861	72839	650784	0.1119	515.2801	ng
Fluvalinate	TBBP	38.038	38157	650784	0.0586	607.1173	ng
Deltamethrin/Tralomethrin	TBBP	39.991	4428	650784	0.0068	337.2378	ng

	PYR1000 ICV			PYR1000 CCV			PYR1000 FCV		
	3/2/14 1:51 AM			3/2/14 6:49 PM			3/3/14 10:11 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PCB112	400	405	1	400	453	13	400	461	15
PCB198	400	424	6	400	379	5	400	344	14
Allethrin	0	0	NA	1000	1350	35	1000	1320	32
Prallethrin	1000	1339	34	1000	1399	40	1000	1218	22
Resmethrin	1000	832	17	1000	534	47	1000	180	82
Bifenthrin	1000	1085	9	1000	1051	5	1000	957	4
Danitol (Fenpropathrin)	1000	1055	5	1000	1080	8	1000	895	11
Cyhalothrin-lambda	1000	716	28	1000	987	1	1000	861	14
Permethrin-cis	267	184	31	267	293	10	267	295	10
Permethrin-trans	716	723	1	716	662	7	716	595	17
Cyfluthrin-1	1000	828	17	1000	963	4	1000	767	23
Cyfluthrin-2	1000	770	23	1000	918	8	1000	762	24
Cyfluthrin-3	1000	885	12	1000	909	9	1000	791	21
Cyfluthrin-4	1000	1107	11	1000	1044	4	1000	786	21
Cypermethrin-1	1000	883	12	1000	844	16	1000	745	25
Cypermethrin-2	1000	938	6	1000	971	3	1000	774	23
Cypermethrin-3	1000	924	8	1000	916	8	1000	707	29
Cypermethrin-4	1000	994	1	1000	940	6	1000	704	30
Fenvalerate	1000	952	5	1000	808	19	1000	542	46
Esfenvalerate	1000	884	12	1000	849	15	1000	515	48
Fluvalinate	1000	821	18	1000	823	18	1000	607	39
Deltamethrin-Tralomethrin	1000	632	37	1000	758	24	1000	337	66
Average	-	-	14	-	-	10	-	-	28

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Toxaphene

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	TOX10000 ICV			TOX10000 CCV			TOX10000 FCV		
	1/7/14 9:04 AM			1/8/14 4:10 AM			1/8/14 7:34 PM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Toxaphene	10000	10678	7	10000	10982	10	10000	8585	14

PHYSIS

Organics –

(EPA 625)

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Extraction/Preparation Log

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1307002-017

5

September 13, 2013

Extraction of AMEC-RHMP B's waters for PAHs.

Method: EPA 625

<u>Sample ID</u>	<u>Sample Description</u>	<u>Sample Vol. (L)</u>	<u>Comments</u>	<u>Multiplier</u>
81 (22605)	Blank	—	A	1.0
841	Blank Spike	—	A, B	1.0
842	Blank Spike Dup	—	A, B	1.0
22615 M31	8085	92	A, B	1.0569
22615 M42	8085	94	A, B	1.0638
22619	8085	1.90	A	0.5263
22619 22	8085	1.88	A	0.5319
22616	805	1.88	A	0.5319
22617	8117	1.89	A	0.5291
22618	8113	1.87	A	0.5347
22619	8116	1.87	A	0.5347
22620	8108	1.86	A	0.5376
22621	8106	1.88	A	0.5319
22622	8102	1.84	A	0.5334
22623		1.88	A, C, D	0.5319

A) 100 mL PAH RS

100 mL PAH IS

B) 1.0 mL PAH Mix

C) 100 mL CHC RS (400 ng, P274)

100 mL PAH RS (1000 ng, P244)

100 mL PBDE RS (100 ng, P261)

100 mL CHC IS (10000 ng, P265)

100 mL PAH IS (2500 ng, P260)

D) Batch w/ O-Sort QC

Organics - GC-MS

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(EPA 625)

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Instrument Run Log

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2013 Nov 02 1709 Sequence Log .LOG
 Starting sequence Sat Nov 02 17:09:01 2013

Instrument Name: GCMS1
 Sequence File: C:\msdchem\1\sequence\131102 EI.S
 Comment:
 Operator:
 Data Path: C:\MSDCHEM\1\DATA\131102 EI\
 Method Path: C:\MSDCHEM\1\METHODS\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX		
	Datafile		HEX		
	Method		EI_HEXANE		
2)	Sample	142	TUNE	EI_SCAN5	TUNE
3)	Sample	131	OCP_DDMU1000I CV		
	Datafile		OCP_DDMU1000I CV		
	Method		EI_SCAN5		
4)	Sample	132	PAH1000I CV		
	Datafile		PAH1000I CV		
	Method		EI_SCAN5		
5)	Sample	133	PCB+6_1000I CV		
	Datafile		PCB+6_1000I CV		
	Method		EI_SCAN5		
6)	Sample	134	SPEX1000MI X		
	Datafile		SPEX1000MI X		
	Method		EI_SCAN5		
7)	Sample	141	HEX2		
	Datafile		HEX2		
	Method		EI_HEXANE		
8)	Sample	1	B_5024	EI_SCAN5	B_5024
9)	Sample	2	BS1_5024	EI_SCAN5	BS1_5024
10)	Sample	3	BS2_5024	EI_SCAN5	BS2_5024
11)	Sample	4	21958MS1	EI_SCAN5	21958MS1
12)	Sample	5	21958MS2	EI_SCAN5	21958MS2
13)	Sample	141	HEX3		
	Datafile		HEX3		
	Method		EI_HEXANE		
14)	Sample	31	22623	EI_SCAN5	22623
15)	Sample	6	21964	EI_SCAN5	21964
16)	Sample	7	21957	EI_SCAN5	21957
17)	Sample	8	21958	EI_SCAN5	21958
18)	Sample	9	21958R2	EI_SCAN5	21958R2
19)	Sample	10	21959	EI_SCAN5	21959
20)	Sample	11	21960	EI_SCAN5	21960
21)	Sample	12	21961	EI_SCAN5	21961
22)	Sample	13	21962	EI_SCAN5	21962
23)	Sample	14	21963	EI_SCAN5	21963
24)	Sample	131	OCP_DDMU1000CCV		
	Datafile		OCP_DDMU1000CCV		
	Method		EI_SCAN5		
25)	Sample	132	PAH1000CCV		
	Datafile		PAH1000CCV		
	Method		EI_SCAN5		
26)	Sample	133	PCB+6_1000CCV		
	Datafile		PCB+6_1000CCV		
	Method		EI_SCAN5		
27)	Sample	141	HEX4		
	Datafile		HEX4		
	Method		EI_HEXANE		
28)	Sample	15	22036	EI_SCAN5	22036
29)	Sample	16	22037	EI_SCAN5	22037
30)	Sample	17	22038	EI_SCAN5	22038

2013 Nov 02 1709 Sequence Log . LOG

31)	Sample	18	22039	EI_SCAN5	22039
32)	Sample	19	22040	EI_SCAN5	22040
33)	Sample	20	22041	EI_SCAN5	22041
34)	Sample	21	22042	EI_SCAN5	22042
35)	Sample	22	22043	EI_SCAN5	22043
36)	Sample	23	22044	EI_SCAN5	22044
37)	Sample	131	OCP_DDMU1000FCV		
	Datafile		OCP_DDMU1000FCV		
	Method		EI_SCAN5		
38)	Sample	132	PAH1000FCV		
	Datafile		PAH1000FCV		
	Method		EI_SCAN5		
39)	Sample	133	PCB+6_1000FCV		
	Datafile		PCB+6_1000FCV		
	Method		EI_SCAN5		
40)	Sample	121	TEMEPHOS1000		
	Datafile		TEMEPHOS1000		
	Method		EI_SCAN5		

Sequence completed Tue Nov 05 08:21:04 2013

C:\MSDCHEM\1\DATA\131102 EI\2013 Nov 02 1709 Quality Log. LOG
 C:\MSDCHEM\1\DATA\131102 EI\2013 Nov 02 1709 Sequence Log . LOG

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Chlorinated Pesticides

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Summary of Internal Standards

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	4,4'-Dibromobiphenyl		2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time	Response	Retention Time
OCP_DDMU1000ICV	956351	44.2	176834	55.383
OCP_DDMU1000CCV2	1510570	44.196	298085	55.371
B_5024	5815048	44.211	1116601	55.384
BS1_5024	3312735	44.221	607745	55.382
BS2_5024	4126653	44.21	798041	55.38
21958MS1	6990225	44.244	1230961	55.394
21958MS2	3268862	44.241	625411	55.385
22623	932711	44.241	178609	55.385
21964	6165848	44.341	1044777	55.497
21957	5543510	44.252	959764	55.396
21958	5885493	44.249	983177	55.397
21958R2	3767220	44.24	693885	55.393
21959	5485830	44.261	928570	55.402
21960	5315681	44.296	921227	55.411
21961	5468752	44.258	968780	55.399
21962	4608877	44.251	793877	55.399
21963	5034240	44.243	935706	55.4
OCP_DDMU1000CCV2	2163300	44.214	387834	55.393
22036	4149573	44.248	742990	55.4
22037	3669031	44.22	691020	55.397
22038	5460658	44.235	1042497	55.394
22039	4016753	44.247	724971	55.394
22040	3639980	44.236	682093	55.39
22041	3378929	44.244	640778	55.391
22042	4475786	44.251	809730	55.396
22043	5771567	44.253	1086373	55.402
22044	4326463	44.236	824752	55.4
OCP_DDMU1000FCV	2412817	44.213	455435	55.39

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Initial Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\METHODS\
 Method File : Q_OCP130821.M
 Title : FIPRONIL
 Last Update : Thu Nov 07 15:37:36 2013
 Response Via : Initial Calibration

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Calibration Files

1000=OCP_DDMU1000ICV.D 500 =OCP500.D 250 =OCP250.D 100 =OCP100.D 50 =OCP50.D

Compound		1000	500	250	100	50	Avg	%RSD

1) I	4,4'-Dibromobiphenyl	-----ISTD-----						
2) S	(TCMX)	0.485	0.504	0.487	0.519	0.505	0.500	2.79
3) S	(PCB030)	1.254	1.260	1.220	1.268	1.186	1.237	2.77
4)	BHC-alpha	0.445	0.459	0.408	0.387	0.552	0.450	14.11
5)	Hexachlorobenzene	1.017	0.993	0.925	0.949	1.034	0.984	4.67
6)	BHC-beta	0.355	0.301	0.207	0.249	0.328	0.288	20.84
7)	BHC-gamma	0.340	0.335	0.297	0.389	0.326	0.338	9.91
8)	BHC-delta	0.322	0.289	0.277	0.256	0.300	0.289	8.66
9)	Heptachlor	0.352	0.466	0.406	0.377	0.390	0.398	10.78
10)	Aldrin	0.306	0.360	0.329	0.328	0.335	0.332	5.91
11)	DCPA (Dacthal)	0.872	0.839		0.814	0.870	0.849	3.25
12)	Heptachlor epoxide	0.321	0.402	0.362	0.367	0.356	0.362	8.07
13)	Oxychlordane	0.301	0.341	0.309	0.335	0.425	0.342	14.40

14) I	2,2',5,5'-Tetrabro...	-----ISTD-----						
15) S	(PCB112)	2.147	4.685	4.994	4.726	5.235	4.357	28.81
16) S	(PCB198)	1.424	1.510	1.621	1.525	1.643	1.545	5.77
17)	Chlordane-gamma	2.419	2.888	2.814	2.566	2.825	2.702	7.41
18)	2,4'-DDE	6.007	6.083	5.836	5.343	6.700	5.994	8.15
19)	Endosulfan-I	0.587	0.624	0.635	0.670	0.835	0.670	14.43
20)	Chlordane-alpha	2.205	2.608	2.474	2.231	2.652	2.434	8.54
21)	trans-Nonachlor	2.610	3.012	2.848	2.425	2.973	2.774	9.02
22)	4,4'-DDE	4.118	4.190	4.140	3.950	4.789	4.237	7.58
23)	Dieldrin	0.724	0.798	0.747	0.799	0.921	0.798	9.54
24)	2,4'-DDD	6.681	6.967	6.832	6.318	8.356	7.031	11.09
25)	Perthane	1.332	1.322	1.284	1.158	1.385	1.296	E1 6.58
26)	Endrin	0.719	0.885	0.883	0.839	1.066	0.878	14.23
27)	Endosulfan-II	0.460	0.440	0.488	0.554	0.823	0.553	28.39
28)	4,4'-DDD	6.687	6.631	6.888	5.921	7.561	6.737	8.72
29)	2,4'-DDT	5.680	5.394	5.534	4.228	5.966	5.360	12.45
30)	cis-Nonachlor	2.308	2.397	2.347	1.987	2.592	2.326	9.41
31)	Endrin aldehyde	0.600	0.681	0.671	0.573	0.697	0.644	8.43
32)	Endosulfan sulfate	1.213	1.311	1.223	1.128	1.415	1.258	8.67
33)	4,4'-DDT	5.283	4.724	4.372	3.342	4.026	4.350	16.79
34)	Endrin ketone	0.926	1.009	0.955	0.897	1.105	0.978	8.37
35)	Methoxychlor	9.784	8.871	8.202	6.528	7.682	8.213	14.94
36)	Dicofol	2.317	0.525		0.567	0.600	1.002	87.51
37)	Mirex	3.613	4.382	4.107	3.734	4.638	4.095	10.50

(#) = Out of Range

PHYSIS

Continuing Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000ICV.D
 Acq On : 2 Nov 2013 7:22 pm
 Operator :
 Sample : OCP_DDMU1000ICV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 07 15:49:12 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP130821.M
 Quant Title : FIPRONIL
 QLast Update : Thu Nov 07 15:37:36 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 4,4'-Dibromobiphenyl	44.196	312	1510570	1000.00		0.00
14) 2,2',5,5'-Tetrabromobi...	55.371	391	298085	1000.00		0.00
System Monitoring Compounds						
2) (TCMX)	29.542	244	293301	388.30		0.00
Spiked Amount	400.000		Recovery	=	97.08%	
3) (PCB030)	34.781	256	757529	405.26		0.00
Spiked Amount	400.000		Recovery	=	101.32%	
15) (PCB112)	49.499	326	531727	409.37		-0.01
Spiked Amount	400.000		Recovery	=	102.34%	
16) (PCB198)	63.711	358	170023	369.25		0.00
Spiked Amount	400.000		Recovery	=	92.31%	
Target Compounds						Qvalue
4) BHC-alpha	32.584	219	671766	998.34		100
5) Hexachlorobenzene	33.213	284	1536499	1009.31		100
6) BHC-beta	34.558	219	536536	1053.86		100
7) BHC-gamma	35.077	219	514263	1008.31		100
8) BHC-delta	36.819	219	487043	1029.00		100
9) Heptachlor	40.582	272	531576	935.20		100
10) Aldrin	43.179	263	461732	963.32		100
11) DCPA (Dacthal)	44.069	301	1316604	1007.94		100
12) Heptachlor epoxide	46.148	353	482921	944.33		97
13) Oxychlordane	46.245	115	454479	973.03		100
17) Chlordane-gamma	47.901	373	722113	958.16		100
18) 2,4'-DDE	48.286	246	1792686	1000.79		100
19) Endosulfan-I	48.809	241	176346	990.26		99
20) Chlordane-alpha	49.029	373	658229	962.15		100
21) trans-Nonachlor	49.402	409	779106	969.23		100
22) 4,4'-DDE	50.591	246	1229031	997.71		100
23) Dieldrin	50.697	263	215954	979.52		100
24) 2,4'-DDD	51.193	235	1993971	992.12		100
25) Perthane	52.411	223	3974089	1005.13		100
26) Endrin	52.270	263	214464	947.51		100
27) Endosulfan-II	52.919	241	137192	1003.28		100
28) 4,4'-DDD	53.587	235	1995899	1002.12		100
29) 2,4'-DDT	53.852	235	1695267	1013.99		100
30) cis-Nonachlor	53.912	409	688938	994.08	#	100
31) Endrin aldehyde	54.266	345	179019	971.09	#	74
32) Endosulfan sulfate	55.969	272	362098	986.07		100
33) 4,4'-DDT	56.265	235	1576848	1033.62		97
34) Endrin ketone	59.229	317	262167	932.85	#	97
35) Methoxychlor	60.333	227	2920594	1030.41		99
36) Dicofol	60.373	139	656857	1132.89		97
37) Mirex	63.216	272	1078250	955.91		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000CCV.D
 Acq On : 4 Nov 2013 4:39 am
 Operator :
 Sample : OCP_DDMU1000CCV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 07 15:47:40 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP130821.M
 Quant Title : FIPRONIL
 QLast Update : Thu Nov 07 15:37:36 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	44.214	312	2163300	1000.00		0.02
14) 2,2',5,5'-Tetrabromobi...	55.393	391	387834	1000.00		0.02
System Monitoring Compounds						
2) (TCMX)	29.542	244	403300	372.83		0.00
Spiked Amount 400.000			Recovery	=	93.21%	
3) (PCB030)	34.786	256	1060733	396.25		0.00
Spiked Amount 400.000			Recovery	=	99.06%	
15) (PCB112)	49.518	326	742039m	439.09		0.00
Spiked Amount 400.000			Recovery	=	109.77%	
16) (PCB198)	63.721	358	232976	388.88		0.00
Spiked Amount 400.000			Recovery	=	97.22%	
Target Compounds						Qvalue
4) BHC-alpha	32.592	219	910343	944.69		99
5) Hexachlorobenzene	33.221	284	2150439	986.38		100
6) BHC-beta	34.580	219	745828	1022.93		98
7) BHC-gamma	35.082	219	725923	993.86		100
8) BHC-delta	36.839	219	718620	1060.16		96
9) Heptachlor	40.585	272	521816	641.03		99
10) Aldrin	43.181	263	607951	885.67		97
11) DCPA (Dacthal)	44.076	301	1905558	1018.65		99
12) Heptachlor epoxide	46.160	353	662251	904.26		97
13) Oxychlordane	46.243	115	650458	972.42		97
17) Chlordane-gamma	47.908	373	993199	1012.89		100
18) 2,4'-DDE	48.298	246	2567571	1101.68		98
19) Endosulfan-I	48.804	241	244064	1053.38		96
20) Chlordane-alpha	49.036	373	907754	1019.83		100
21) trans-Nonachlor	49.420	409	1038199	992.67		98
22) 4,4'-DDE	50.605	246	1790288	1117.01		99
23) Dieldrin	50.719	263	292026	1018.04		97
24) 2,4'-DDD	51.204	235	2802295	1071.65		98
25) Perthane	52.419	223	5462656	1061.90		99
26) Endrin	52.275	263	252059	855.91	#	71
27) Endosulfan-II	52.914	241	182598	1026.32	#	84
28) 4,4'-DDD	53.599	235	2829166	1091.78		100
29) 2,4'-DDT	53.861	235	2002585	920.62		99
30) cis-Nonachlor	53.924	409	932002	1033.60	#	99
31) Endrin aldehyde	54.277	345	240113	1001.09	#	74
32) Endosulfan sulfate	55.984	272	512224	1072.10	#	69
33) 4,4'-DDT	56.283	235	1626857	819.62		96
34) Endrin ketone	59.248	317	356915	976.09	#	95
35) Methoxychlor	60.346	227	2917405	791.10		99
36) Dicofol	60.380	139	369768	490.16	#	85
37) Mirex	63.219	272	1410470	961.07		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000FCV.D
 Acq On : 5 Nov 2013 1:39 am
 Operator :
 Sample : OCP_DDMU1000FCV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 07 15:48:43 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP130821.M
 Quant Title : FIPRONIL
 QLast Update : Thu Nov 07 15:37:36 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	44.213	312	2412817	1000.00		0.02
14) 2,2',5,5'-Tetrabromobi...	55.390	391	455435	1000.00		0.02
System Monitoring Compounds						
2) (TCMX)	29.547	244	460989	382.09		0.00
Spiked Amount 400.000			Recovery	=	95.52%	
3) (PCB030)	34.789	256	1153383	386.30		0.00
Spiked Amount 400.000			Recovery	=	96.58%	
15) (PCB112)	49.514	326	874409	440.62		0.00
Spiked Amount 400.000			Recovery	=	110.16%	
16) (PCB198)	63.715	358	255929	363.79		0.00
Spiked Amount 400.000			Recovery	=	90.95%	
Target Compounds						Qvalue
4) BHC-alpha	32.588	219	1058579	984.91		94
5) Hexachlorobenzene	33.222	284	2421512	995.85		99
6) BHC-beta	34.583	219	801813	985.99		98
7) BHC-gamma	35.087	219	801784	984.20		99
8) BHC-delta	36.838	219	752068	994.77		97
9) Heptachlor	40.585	272	560398	617.24		98
10) Aldrin	43.175	263	708708	925.69		95
11) DCPA (Dacthal)	44.075	301	2119188	1015.70		99
12) Heptachlor epoxide	46.156	353	818337	1001.83		93
13) Oxychlordane	46.250	115	701576	940.38		97
17) Chlordane-gamma	47.902	373	1096421	952.19		99
18) 2,4'-DDE	48.296	246	2811363	1027.23		99
19) Endosulfan-I	48.805	241	261342	960.53		96
20) Chlordane-alpha	49.037	373	1011513	967.72		99
21) trans-Nonachlor	49.411	409	1156411	941.58		99
22) 4,4'-DDE	50.601	246	1976558	1050.18		99
23) Dieldrin	50.715	263	315629	937.00		92
24) 2,4'-DDD	51.205	235	3084899	1004.62		99
25) Perthane	52.419	223	6013267	995.43		99
26) Endrin	52.282	263	273681	791.39	#	75
27) Endosulfan-II	52.922	241	199884	956.72		91
28) 4,4'-DDD	53.598	235	3118991	1024.97		98
29) 2,4'-DDT	53.860	235	2325662	910.45		98
30) cis-Nonachlor	53.923	409	1054133	995.52	#	98
31) Endrin aldehyde	54.276	345	279591	992.66	#	76
32) Endosulfan sulfate	55.978	272	539605	961.77		99
33) 4,4'-DDT	56.277	235	1961503	841.54		98
34) Endrin ketone	59.252	317	402476	937.32	#	93
35) Methoxychlor	60.342	227	3487898	805.41	#	94
36) Dicofol	60.382	139	385068	434.68	#	82
37) Mirex	63.218	272	1571037	911.59		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000ICV.D
 Acq On : 2 Nov 2013 7:22 pm
 Operator :
 Sample : OCP_DDMU1000ICV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 11 10:56:06 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP_DDMU_130911.M
 Quant Title : CHCs
 QLast Update : Wed Oct 02 14:49:23 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	55.371	391	298459	1000.00		-0.13
System Monitoring Compounds						
2) (PCB112)	49.499	326	531727	368.50		-0.02
Spiked Amount 400.000			Recovery	=	92.13%	
3) (PCB198)	63.709	358	169520m	392.64		-0.27
Spiked Amount 400.000			Recovery	=	98.16%	
Target Compounds						
4) 4,4'-DDMU	47.951	212	2429640	1087.96		Qvalue 93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000CCV.D
 Acq On : 4 Nov 2013 4:39 am
 Operator :
 Sample : OCP_DDMU1000CCV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 11 10:55:10 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP_DDMU_130911.M
 Quant Title : CHCs
 QLast Update : Wed Oct 02 14:49:23 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	55.393	391	387205	1000.00		-0.10
System Monitoring Compounds						
2) (PCB112)	49.520	326	777809	415.49		0.00
Spiked Amount	400.000		Recovery	=	103.87%	
3) (PCB198)	63.721	358	232980	415.95		-0.26
Spiked Amount	400.000		Recovery	=	103.99%	
Target Compounds						
4) 4,4'-DDMU	47.955	212	3469732	1197.60		Qvalue 93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\131102 EI\
 Data File : OCP_DDMU1000FCV.D
 Acq On : 5 Nov 2013 1:39 am
 Operator :
 Sample : OCP_DDMU1000FCV
 Misc :
 ALS Vial : 131 Sample Multiplier: 1

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Quant Time: Nov 11 10:55:22 2013
 Quant Method : C:\msdchem\1\METHODS\Q_OCP_DDMU_130911.M
 Quant Title : CHCs
 QLast Update : Wed Oct 02 14:49:23 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 2,2',5,5'-Tetrabromobi...	55.390	391	454721	1000.00		-0.11
System Monitoring Compounds						
2) (PCB112)	49.514	326	874409	397.74		0.00
Spiked Amount	400.000		Recovery	=	99.44%	
3) (PCB198)	63.715	358	255124	387.85		-0.27
Spiked Amount	400.000		Recovery	=	96.96%	
Target Compounds						
4) 4,4'-DDMU	47.960	212	3817948	1122.12		Qvalue 94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	OCP1000 ICV			OCP1000 CCV			OCP1000 FCV		
	11/2/13 7:22 PM			11/4/13 4:39 AM			11/5/13 1:39 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
BHC-alpha	1000	998	0	1000	945	6	1000	985	2
Hexachlorobenzene	1000	1009	1	1000	986	1	1000	996	0
BHC-beta	1000	1054	5	1000	1023	2	1000	986	1
BHC-gamma	1000	1008	1	1000	994	1	1000	984	2
BHC-delta	1000	1029	3	1000	1060	6	1000	995	1
Heptachlor	1000	935	6	1000	641	36	1000	617	38
Aldrin	1000	963	4	1000	886	11	1000	926	7
DCPA (Dacthal)	1000	1008	1	1000	1019	2	1000	1016	2
Heptachlor epoxide	1000	944	6	1000	904	10	1000	1002	0
Oxychlordane	1000	973	3	1000	972	3	1000	940	6
Chlordane-gamma	1000	958	4	1000	1013	1	1000	952	5
2,4'-DDE	1000	1001	0	1000	1102	10	1000	1027	3
Endosulfan-I	1000	990	1	1000	1053	5	1000	961	4
Chlordane-alpha	1000	962	4	1000	1020	2	1000	968	3
trans-Nonachlor	1000	969	3	1000	993	1	1000	942	6
4,4'-DDE	1000	998	0	1000	1117	12	1000	1050	5
Dieldrin	1000	980	2	1000	1018	2	1000	937	6
2,4'-DDD	1000	992	1	1000	1072	7	1000	1005	0
Perthane	1000	1005	1	1000	1062	6	1000	995	0
Endrin	1000	948	5	1000	856	14	1000	791	21
Endosulfan-II	1000	1003	0	1000	1026	3	1000	957	4
4,4'-DDD	1000	1002	0	1000	1092	9	1000	1025	2
2,4'-DDT	1000	1014	1	1000	921	8	1000	910	9
cis-Nonachlor	1000	994	1	1000	1034	3	1000	996	0
Endrin aldehyde	1000	971	3	1000	1001	0	1000	993	1
Endosulfan sulfate	1000	986	1	1000	1072	7	1000	962	4
4,4'-DDT	1000	1034	3	1000	820	18	1000	842	16
Endrin ketone	1000	933	7	1000	976	2	1000	937	6
Methoxychlor	1000	1030	3	1000	791	21	1000	805	19
Dicofol	1000	1133	13	1000	490	51	1000	435	57
Mirex	1000	956	4	1000	961	4	1000	912	9
4,4'-DDMU	1000	1088	9	1000	1198	20	1000	1122	12
Average	-	-	3	-	-	9	-	-	8

PHYSIS

PCB Congeners

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PHYSIS

Initial Calibration Data

TERRA

FAUNA

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\METHODS\
 Method File : Q_PCB+6_130910.M
 Title : PCBs (Richs Version)
 Last Update : Tue Sep 10 11:06:40 2013
 Response Via : Initial Calibration

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Calibration Files

10 =PCB+6_10.D 25 =PCB+6_25.D 50 =PCB+6_50.D 75 =PCB+6_75.D 100 =PCB+6_100.D
 200 =PCB+6_200.D

Compound	10	25	50	75	100	200	Avg	%RSD

1) I 4,4'-Dibromobiphenyl	-----ISTD-----							
2) PCB003	2.398	2.074	1.853	2.265	2.136	2.485	2.202	10.45
3) PCB008	1.812	1.421	1.586	1.689	1.738	2.148	1.732	14.13
4) PCB005	2.043	1.733	1.423	1.693	1.465	1.530	1.648	13.92
5) PCB018	0.996	0.874	0.882	0.912	0.872	1.015	0.925	6.93
6) PCB015	1.755	1.410	1.357	1.451	1.422	1.482	1.479	9.56
7) PCB027	0.963	0.800	0.756	0.789	0.756	0.841	0.817	9.52
8) PCB029	1.189	0.950	0.964	1.059	0.969	1.081	1.035	8.96
9) I PCB031	1.157	1.150	1.174	1.160	1.253	1.259	1.192	4.21
10) PCB028	1.376	1.188	1.135	1.233	1.175	1.413	1.253	9.13
11) PCB033	1.223	1.088	1.084	1.183	1.150	1.281	1.168	6.61
12) PCB052	0.822	0.741	0.796	0.838	0.826	0.913	0.823	6.84
13) PCB049	0.887	0.750	0.816	0.828	0.863	0.963	0.851	8.46
14) PCB044	0.691	0.652	0.638	0.700	0.707	0.785	0.695	7.44
15) PCB037	1.006	0.898	1.021	1.044	1.071	1.163	1.034	8.39
16) PCB074	1.056	0.902	0.997	1.068	1.037	1.103	1.027	6.88
17) PCB070	1.062	0.926	1.056	1.022	1.065	1.150	1.047	6.97
18) PCB066	1.084	0.866	1.054	1.093	1.114	1.212	1.070	10.64
19) PCB095	0.810	0.792	0.832	0.813	0.824	0.911	0.831	5.04
20) PCB056(060)	0.907	0.767	0.922	0.865	0.881	0.998	0.890	8.52
21) PCB101	0.741	0.678	0.674	0.746	0.714	0.797	0.725	6.42
22) PCB099	0.800	0.730	0.752	0.795	0.772	0.849	0.783	5.32
23) PCB119	0.968	0.873	0.907	0.949	0.973	1.001	0.945	5.00
24) PCB097	0.677	0.552	0.639	0.698	0.663	0.741	0.662	9.64
25) PCB087	0.706	0.631	0.660	0.760	0.716	0.790	0.710	8.34
26) PCB081	1.060	0.923	0.969	0.992	1.051	1.139	1.022	7.53
27) PCB110	1.013	0.818	0.910	1.018	0.974	1.028	0.960	8.56
28) PCB077	0.987	0.728	0.945	0.969	0.938	1.087	0.942	12.52
29) PCB151	0.695	0.570	0.612	0.645	0.647	0.703	0.645	7.79
30) PCB149	0.778	0.625	0.718	0.733	0.753	0.796	0.734	8.24
31) PCB123	0.914	0.720	0.895	0.907	0.857	0.962	0.876	9.52
32) PCB118	1.022	0.819	1.001	0.953	0.950	1.032	0.963	8.15
33) PCB114	0.877	0.715	0.820	0.821	0.833	0.943	0.835	9.00
34) I 2,2',5,5'-Tetrabro...	-----ISTD-----							
35) PCB153	3.157	3.403	3.120	3.271	3.247	3.981	3.363	9.46
36) PCB168+132	3.345	3.517	3.520	3.388	3.607	4.116	3.582	7.78
37) PCB105	4.690	4.335	4.739	4.752	4.946	5.837	4.883	10.40
38) PCB141	2.911	3.205	2.695	2.940	3.142	3.529	3.070	9.40
39) PCB137	2.437	1.912	1.824	1.920	2.100	2.389	2.097	12.45
40) PCB138	2.998	3.008	2.983	3.057	3.075	3.616	3.123	7.82
41) PCB158	4.036	3.996	4.138	4.047	4.259	4.984	4.243	8.83
42) PCB126	3.640	3.080	3.586	3.545	3.780	4.415	3.674	11.79
43) PCB187	2.581	2.601	2.489	2.525	2.638	3.056	2.648	7.81
44) PCB183	2.571	2.749	2.800	2.783	2.721	3.239	2.811	8.01
45) PCB128	2.183	2.496	2.973	2.561	2.699	3.117	2.672	12.66
46) PCB167	3.971	3.592	3.691	3.786	4.506	4.567	4.019	10.46
47) PCB174	2.040	2.213	2.078	2.216	2.277	2.512	2.223	7.55
48) PCB177	2.173	2.378	2.241	2.421	2.439	2.773	2.404	8.69
49) PCB156	3.644	3.185	3.417	3.423	3.722	4.314	3.618	10.80
50) PCB199(200)	3.213	3.521	3.351	3.352	3.573	4.011	3.503	8.01
51) PCB157	4.909	4.398	5.033	5.140	5.303	6.039	5.137	10.49
52) PCB180	2.355	2.106	2.397	2.327	2.469	2.699	2.392	8.09
53) PCB169	2.956	2.420	2.783	2.922	2.901	3.688	2.945	14.05
54) PCB170	2.056	1.916	2.127	2.205	2.275	2.606	2.197	10.72
55) PCB201	1.856	1.572	1.832	1.684	2.012	2.107	1.844	10.77
56) PCB203	2.171	1.872	1.795	2.013	2.025	2.074	1.992	6.87
57) PCB189	2.923	2.393	2.725	2.604	2.791	3.235	2.779	10.32
58) PCB195	1.742	1.760	1.866	1.707	1.973	1.992	1.840	6.68
59) PCB194	1.944	1.747	1.909	1.846	2.157	2.311	1.986	10.54
60) PCB206	1.704	1.726	1.866	1.694	1.896	1.982	1.811	6.62

Method Path : C:\msdchem\1\METHODS\

Method File : Q_PCB+6_130910.M

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Title : PCBs (Richs Version)

61)	PCB209	2.354	2.146	2.224	2.336	2.400	2.700	2.360	8.09
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(#) = Out of Range

PHYSIS

Continuing Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : PCB+6_1000ICV.D
 Acq On : 2 Nov 2013 10:47 pm
 Operator :
 Sample : PCB+6_1000ICV
 Misc :
 ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 18:57:57 2013

Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M

Quant Title : PCBs (Richs Version)

QLast Update : Wed Nov 06 18:55:11 2013

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	44.200	312	1867274	1000.00		0.00
34) 2,2',5,5'-Tetrabromobi...	55.378	389	371506	1000.00		0.00
Target Compounds						Qvalue
2) PCB003	27.801	188	2396075	540.67		99
3) PCB008	32.570	222	1863536	498.36	#	98
4) PCB005	32.634	222	1256655m	438.99		
5) PCB018	35.845	256	857602	471.69	#	85
6) PCB015	36.012	222	1424273	521.27		96
7) PCB027	36.656	256	698005	457.26		95
8) PCB029	38.314	256	1009929	513.48	#	84
9) PCB031	39.295	256	1260787	542.88		89
10) PCB028	39.396	256	1277552m	510.26		
11) PCB033	40.124	256	1245748	538.51		97
12) PCB052	42.007	292	846428	512.69		92
13) PCB049	42.341	292	881359	510.65	#	86
14) PCB044	43.555	292	760001	538.80		94
15) PCB037	43.808	256	1240494	589.40	#	87
16) PCB074	46.201	292	1169109	578.85	#	65
17) PCB070	46.470	292	1189762	570.63		99
18) PCB066	46.741	292	1186051	541.40		96
19) PCB095	46.801	326	771831	468.46	#	76
20) PCB056(060)	47.967	292	1064341	593.87		94
21) PCB101	48.484	326	803802	558.02		95
22) PCB099	48.874	326	837236m	543.39		
23) PCB119	49.349	326	1027211	557.89		97
24) PCB097	50.055	326	746493	557.42		94
25) PCB087	50.422	326	742277	518.36	#	100
26) PCB081	50.422	292	1167920	568.28		95
27) PCB110	51.141	326	1045095	553.70		97
28) PCB077	51.135	292	1142021	587.89	#	85
29) PCB151	52.041	360	676994	530.94	#	86
30) PCB149	52.889	360	734581	506.04		97
31) PCB123	52.842	326	997552m	572.26		
32) PCB118	53.009	326	1071947	570.09		96
33) PCB114	53.817	326	1007888	596.23	#	93
35) PCB153	54.628	360	771504	554.65	#	48
36) PCB168+132	54.825	360	1470548	1007.98		98
37) PCB105	54.900	326	1077512	525.71		98
38) PCB141	55.527	360	582260	465.51	#	57
39) PCB137	56.027	360	463101	550.09		93
40) PCB138	56.582	360	702548	550.30	#	77
41) PCB158	56.769	360	931966	531.11	#	38
42) PCB126	57.194	326	927225	598.05	#	75
43) PCB187	57.775	394	597569	553.76		94
44) PCB183	58.131	394	615138	537.17		97
45) PCB128	58.514	360	531167m	479.99		
46) PCB167	58.556	360	1004264m	609.77		
47) PCB174	59.412	394	465499	517.47		96
48) PCB177	59.789	394	531641	539.11		97
49) PCB156	60.153	360	886118	585.00		95
50) PCB199(200)	60.587	430	657819	461.25		98
51) PCB157	60.544	360	1137317	530.92	#	59
52) PCB180	61.303	394	573691	592.92	#	96
53) PCB169	62.726	360	825218	648.02	#	49
54) PCB170	63.327	394	514732	558.05	#	95
55) PCB201	63.926	430	406053	537.75		97

Data Path : C:\msdchem\1\DATA\O-5024 EI\
Data File : PCB+6_1000ICV.D
Acq On : 2 Nov 2013 10:47 pm
Operator :
Sample : PCB+6_1000ICV
Misc :
ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 18:57:57 2013
Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M
Quant Title : PCBs (Richs Version)
QLast Update : Wed Nov 06 18:55:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	64.279	430	394384	518.83		88
57) PCB189	65.259	394	689546	604.95		97
58) PCB195	66.308	430	402695	554.88	#	95
59) PCB194	67.619	430	452259	549.16	#	51
60) PCB206	70.104	464	371087	517.08	#	100
61) PCB209	72.109	498	430830	448.13		90

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : PCB+6_1000CCV.D
 Acq On : 4 Nov 2013 8:05 am
 Operator :
 Sample : PCB+6_1000CCV
 Misc :
 ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 19:36:08 2013

Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M

Quant Title : PCBs (Richs Version)

QLast Update : Wed Nov 06 19:33:03 2013

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	44.210	312	2285137	1000.00		0.01
34) 2,2',5,5'-Tetrabromobi...	55.392	389	419808	1000.00		0.02
Target Compounds						
2) PCB003	27.806	188	2914489	537.39		Qvalue 99
3) PCB008	32.574	222	2456704	536.85	#	94
4) PCB005	32.646	222	1444877	412.44		96
5) PCB018	35.847	256	1080576	485.65		97
6) PCB015	36.019	222	1791886	535.89		93
7) PCB027	36.660	256	865329	463.22		96
8) PCB029	38.320	256	1235853	513.44		96
9) PCB031	39.304	256	1626337	572.23		94
10) PCB028	39.408	256	1512946	493.78		94
11) PCB033	40.131	256	1569115	554.26		98
12) PCB052	42.013	292	1051820	520.59		96
13) PCB049	42.349	292	1104449	522.89		99
14) PCB044	43.559	292	901671	522.35		88
15) PCB037	43.822	256	1540807	598.22		98
16) PCB074	46.209	292	1474283	596.47		99
17) PCB070	46.471	292	1453898	569.80	100	
18) PCB066	46.751	292	1474185	549.88		96
19) PCB095	46.809	326	940889	466.64		94
20) PCB056(060)	47.970	292	1284792	585.79	#	90
21) PCB101	48.494	326	968068	549.16		91
22) PCB099	48.880	326	1043306	553.31		95
23) PCB119	49.353	326	1256631	557.69		96
24) PCB097	50.056	326	907667	553.83		96
25) PCB087	50.428	326	876382	500.10		92
26) PCB081	50.437	292	1415778	562.91		98
27) PCB110	51.150	326	1247802	540.21		98
28) PCB077	51.139	292	1387648	583.71		98
29) PCB151	52.039	360	812890	520.94		92
30) PCB149	52.897	360	857449	482.67		97
31) PCB123	52.852	326	1220874	572.30		97
32) PCB118	53.023	326	1271141	552.41		97
33) PCB114	53.826	326	1196363	578.31		98
35) PCB153	54.635	360	919682	585.11		92
36) PCB168+132	54.830	360	1739313	1055.03		95
37) PCB105	54.910	326	1285141	554.87	#	86
38) PCB141	55.536	360	710308	502.54	#	89
39) PCB137	56.031	360	527669	554.66		91
40) PCB138	56.591	360	838089	580.94		96
41) PCB158	56.773	360	1063102	536.13		90
42) PCB126	57.208	326	1135436	648.09		98
43) PCB187	57.784	394	671109	550.35		97
44) PCB183	58.140	394	689001	532.45		93
45) PCB128	58.519	360	632666m	505.93		
46) PCB167	58.561	360	1190756m	639.82		
47) PCB174	59.408	394	549888	540.95		92
48) PCB177	59.795	394	629848	565.21		96
49) PCB156	60.155	360	1095616m	640.09		
50) PCB199(200)	60.587	430	761053	472.24		98
51) PCB157	60.554	360	1345147	555.69		92
52) PCB180	61.312	394	692102	633.00		90
53) PCB169	62.741	360	1013331	704.18		99
54) PCB170	63.329	394	600238	575.88		87
55) PCB201	63.928	430	461313	540.64		95

Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : PCB+6_1000CCV.D
 Acq On : 4 Nov 2013 8:05 am
 Operator :
 Sample : PCB+6_1000CCV
 Misc :
 ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 19:36:08 2013
 Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M
 Quant Title : PCBs (Richs Version)
 QLast Update : Wed Nov 06 19:33:03 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	64.275	430	438744	510.78	#	79
57) PCB189	65.269	394	861718	669.01		96
58) PCB195	66.314	430	478497	583.46		98
59) PCB194	67.628	430	561827	603.71		96
60) PCB206	70.116	464	430513	530.86	#	82
61) PCB209	72.119	498	514572	473.66		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : PCB+6_1000FCV.D
 Acq On : 5 Nov 2013 5:04 am
 Operator :
 Sample : PCB+6_1000FCV
 Misc :
 ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 19:39:34 2013

Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M

Quant Title : PCBs (Richs Version)

QLast Update : Tue Sep 10 11:06:40 2013

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) 4,4'-Dibromobiphenyl	44.209	312	2747068	1000.00		0.01
34) 2,2',5,5'-Tetrabromobi...	55.382	389	512356	1000.00		0.00
Target Compounds						
					Qvalue	
2) PCB003	27.807	188	3391481	520.19		99
3) PCB008	32.575	222	2819882	512.59	#	94
4) PCB005	32.646	222	1690481	401.41		97
5) PCB018	35.845	256	1256563	469.78		98
6) PCB015	36.013	222	2075770	516.40		93
7) PCB027	36.654	256	1002780	446.53		96
8) PCB029	38.317	256	1447501	500.25		95
9) PCB031	39.305	256	1906599	558.04		94
10) PCB028	39.411	256	1765391	479.28		96
11) PCB033	40.128	256	1788898	525.64		97
12) PCB052	42.010	292	1215819	500.57		95
13) PCB049	42.348	292	1251081	492.71		97
14) PCB044	43.563	292	1073022	517.09		89
15) PCB037	43.817	256	1813385	585.66		97
16) PCB074	46.210	292	1693988	570.11		98
17) PCB070	46.478	292	1724416m	562.18		
18) PCB066	46.749	292	1768660	548.78		97
19) PCB095	46.804	326	1130084	466.23		95
20) PCB056(060)	47.975	292	1526520	578.97	#	90
21) PCB101	48.488	326	1151683	543.46		92
22) PCB099	48.881	326	1212255	534.81		95
23) PCB119	49.353	326	1498625	553.25		97
24) PCB097	50.057	326	1082327	549.35		93
25) PCB087	50.428	326	1072320	509.02		95
26) PCB081	50.436	292	1679477	555.47		97
27) PCB110	51.148	326	1508144	543.12		98
28) PCB077	51.144	292	1671894	585.02		98
29) PCB151	52.046	360	975246	519.89		91
30) PCB149	52.897	360	1057239	495.06		97
31) PCB123	52.850	326	1490959	581.39		95
32) PCB118	53.019	326	1538626	556.22		99
33) PCB114	53.823	326	1423296	572.31		98
35) PCB153	54.632	360	1141801	595.20		97
36) PCB168+132	54.833	360	2081829	1034.70		94
37) PCB105	54.909	326	1561819	552.52	#	87
38) PCB141	55.535	360	861244	499.26	#	89
39) PCB137	56.030	360	656762	565.66	#	90
40) PCB138	56.595	360	1010069	573.68		97
41) PCB158	56.777	360	1301896	537.96		91
42) PCB126	57.209	326	1409151	659.03		98
43) PCB187	57.782	394	820055	551.03		95
44) PCB183	58.133	394	863719	546.90		95
45) PCB128	58.514	360	861044m	564.18		
46) PCB167	58.561	360	1504972m	662.59		
47) PCB174	59.411	394	658825	531.05		92
48) PCB177	59.792	394	738134	542.74		98
49) PCB156	60.155	360	1315969m	629.95		
50) PCB199(200)	60.586	430	963705	489.97	#	91
51) PCB157	60.555	360	1690651	572.26		91
52) PCB180	61.319	394	840259	629.69	#	68
53) PCB169	62.735	360	1237267	704.49		99
54) PCB170	63.336	394	749061	588.85		89
55) PCB201	63.931	430	606725	582.62		98

Data Path : C:\msdchem\1\DATA\O-5024 EI\
Data File : PCB+6_1000FCV.D
Acq On : 5 Nov 2013 5:04 am
Operator :
Sample : PCB+6_1000FCV
Misc :
ALS Vial : 133 Sample Multiplier: 1

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Quant Time: Nov 06 19:39:34 2013
Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PCB+6_130910.M
Quant Title : PCBs (Richs Version)
QLast Update : Tue Sep 10 11:06:40 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) PCB203	64.283	430	548736	523.43	#	83
57) PCB189	65.266	394	1041018	662.23		99
58) PCB195	66.315	430	570074	569.57		98
59) PCB194	67.627	430	674544	593.90		94
60) PCB206	70.111	464	539094	544.68	#	89
61) PCB209	72.118	498	629402	474.71		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PCB500 CCV			PCB500 CCV2			PCB500 CCV2		
	11/2/2013 10:47:00 PM			11/4/13 8:05 AM			11/5/12 5:04 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
PCB003	500	540.67	8	500	537.39	7	500	520.19	4
PCB008	500	498.36	0	500	536.85	7	500	512.59	3
PCB005	500	438.99	12	500	412.44	18	500	401.41	20
PCB018	500	471.69	6	500	485.65	3	500	469.78	6
PCB015	500	521.27	4	500	535.89	7	500	516.4	3
PCB027	500	457.26	9	500	463.22	7	500	446.53	11
PCB029	500	513.48	3	500	513.44	3	500	500.25	0
PCB031	500	542.88	9	500	572.23	14	500	558.04	12
PCB028	500	510.26	2	500	493.78	1	500	479.28	4
PCB033	500	538.51	8	500	554.26	11	500	525.64	5
PCB052	500	512.69	3	500	520.59	4	500	500.57	0
PCB049	500	510.65	2	500	522.89	5	500	492.71	1
PCB044	500	538.8	8	500	522.35	4	500	517.09	3
PCB037	500	589.4	18	500	598.22	20	500	585.66	17
PCB074	500	578.85	16	500	596.47	19	500	570.11	14
PCB070	500	570.63	14	500	569.8	14	500	562.18	12
PCB066	500	541.4	8	500	549.88	10	500	548.78	10
PCB095	500	468.46	6	500	466.64	7	500	466.23	7
PCB056 (060)	500	593.87	19	500	585.79	17	500	578.97	16
PCB101	500	558.02	12	500	549.16	10	500	543.46	9
PCB099	500	543.39	9	500	553.31	11	500	534.81	7
PCB119	500	557.89	12	500	557.69	12	500	553.25	11
PCB097	500	557.42	11	500	553.83	11	500	549.35	10
PCB087	500	518.36	4	500	500.1	0	500	509.02	2
PCB081	500	568.28	14	500	562.91	13	500	555.47	11
PCB110	500	553.7	11	500	540.21	8	500	543.12	9
PCB077	500	587.79	18	500	583.71	17	500	585.02	17
PCB151	500	530.94	6	500	520.94	4	500	519.89	4
PCB149	500	506.04	1	500	482.67	3	500	495.06	1
PCB123	500	572.26	14	500	572.3	14	500	581.39	16
PCB118	500	570.09	14	500	552.41	10	500	556.22	11
PCB114	500	596.23	19	500	578.31	16	500	572.31	14
PCB153	500	554.65	11	500	585.11	17	500	595.2	19
PCB168+132	1000	1007.98	1	1000	1055.03	6	1000	1034.7	3
PCB105	500	525.71	5	500	554.87	11	500	552.52	11
PCB141	500	465.51	7	500	502.54	1	500	499.26	0
PCB137	500	550.09	10	500	554.66	11	500	565.66	13
PCB138	500	550.3	10	500	580.94	16	500	573.68	15
PCB158	500	531.11	6	500	536.13	7	500	537.96	8
PCB126	500	598.05	20	500	648.09	30	500	659.03	32
PCB187	500	553.76	11	500	550.35	10	500	551.03	10
PCB183	500	537.17	7	500	532.45	6	500	546.9	9
PCB128	500	479.99	4	500	505.93	1	500	564.18	13
PCB167	500	609.77	22	500	639.82	28	500	662.59	33
PCB174	500	517.47	3	500	540.95	8	500	531.05	6
PCB177	500	539.11	8	500	565.21	13	500	542.74	9
PCB156	500	585	17	500	640.09	28	500	629.95	26
PCB199 (200)	500	461.25	8	500	472.24	6	500	489.97	2
PCB157	500	530.92	6	500	555.69	11	500	572.26	14
PCB180	500	592.92	19	500	633	27	500	629.69	26
PCB169	500	648.02	30	500	704.18	41	500	704.49	41
PCB170	500	558.05	12	500	575.88	15	500	588.85	18
PCB201	500	537.75	8	500	540.64	8	500	582.62	17
PCB203	500	518.83	4	500	510.78	2	500	523.43	5
PCB189	500	604.95	21	500	669.01	34	500	662.23	32
PCB195	500	554.88	11	500	583.46	17	500	569.57	14
PCB194	500	549.16	10	500	603.71	21	500	593.9	19
PCB206	500	517.08	3	500	530.86	6	500	544.68	9
PCB209	500	448.13	10	500	473.66	5	500	474.71	5
Average	-	-	10	-	-	12	-	-	11

Polynuclear

Aromatic

Hydrocarbons

(PAHs)

PHYSIS

Summary of Internal Standards

TERRA FACTA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

	D10-Anthracene		D-12 Perylene	
	Response	Retention Time	Response	Retention Time
PAH1000SPEX	6654505	36.057	1943594	83.612
B_5024	34611984	36.072	16820912	83.653
BS1_5024	9114089	36.057	7963655	83.641
BS2_5024	10134115	36.064	10152647	83.642
21958MS1	46636000	36.087	17197570	83.669
21958MS2	21131353	36.071	9325894	83.642
22623	6514013	36.057	2378662	83.623
21964	43874583	36.133	5452801	83.736
21957	40758084	36.086	11018503	83.69
21958	42375957	36.08	13330247	83.664
21958R2	24065887	36.071	10301893	83.659
21959	35702175	36.091	12593599	83.682
21960	35119386	36.089	6929255	83.702
21961	38472631	36.089	10190058	83.682
21962	32904357	36.083	9019775	83.68
21963	34551292	36.081	10596074	83.679
PAH1000CCV	11081824	36.068	2661700	83.66
22036	28204272	36.081	6672047	83.674
22037	26132953	36.075	6028310	83.684
22038	36462488	36.078	11221185	83.681
22039	26631226	36.078	7095628	83.672
22040	24806147	36.074	7621328	83.67
22041	23732884	36.073	7532582	83.673
22042	29920771	36.081	7526315	83.679
22043	38608466	36.082	10086523	83.695
22044	28695734	36.079	7726055	83.688
PAH500FCV	12365686	36.068	2631186	83.644

PHYSIS

Initial Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Method Path : C:\msdchem\1\DATA\O-5024 EI\
 Method File : Q_PAH131107.M
 Title : PAH
 Last Update : Thu Nov 07 13:02:12 2013
 Response Via : Initial Calibration

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Calibration Files

500 =PAH500.D 250 =PAH250.D 1000=PAH1000.D 100 =PAH100.D 50 =PAH50.D 25 =PAH25.D

Compound		500	250	1000	100	50	25	Avg	%RSD

1) I	d10-Anthracene	-----ISTD-----							
2) S	(d8-Naphthalene)	2.323	2.000	1.949	1.977	2.613	2.207	2.178	11.90
3) S	(d10-Acenaphth...	0.992	0.914	0.895	0.888	1.048	0.953	0.948	6.62
4) S	(d10-Phenanthr...	1.205	1.200	1.190	1.182	1.241	1.206	1.204	1.70
5) S	(d12-Chrysene)	1.024	0.946	1.058	0.941	0.938	0.884	0.965	6.61
6) S	(d12-Perylene)	0.826	0.753	0.812	0.762	0.795	0.760	0.785	3.88
7)	Naphthalene	2.201	1.960	1.892	1.847	2.520	2.141	2.094	11.98
8)	2-Methylnaphth...	1.486	1.269	1.292	1.182	1.447	1.380	1.343	8.61
9)	1-Methylnaphth...	1.492	1.311	1.299	1.114	1.501	1.306	1.337	10.77
10)	Biphenyl	1.571	1.410	1.396	1.347	1.531	1.570	1.471	6.67
11)	2,6-Dimethylna...	1.180	1.032	1.084	0.913	1.176	1.161	1.091	9.64
12)	Acenaphthylene	1.397	1.248	1.378	1.146	1.349	1.316	1.306	7.22
13)	Acenaphthene	1.047	0.969	0.979	0.882	1.044	1.053	0.996	6.68
14)	2,3,5-Trimethy...	0.958	0.860	0.932	0.778	0.882	0.841	0.875	7.41
15)	Fluorene	0.958	0.871	0.947	0.798	0.880	0.885	0.890	6.52
16)	Dibenzothiophene	1.362	1.278	1.354	1.221	1.226	1.250	1.282	4.88
17)	Phenanthrene	1.254	1.209	1.250	1.115	1.154	1.234	1.203	4.70
18)	Anthracene	0.537	0.518	0.540	0.495	0.532	0.615	0.540	7.52
19)	1-Methylphenan...	0.821	0.778	0.885	0.681	0.713	0.657	0.756	11.62
20)	Fluoranthene	0.966	0.889	1.058	0.798	0.832	0.790	0.889	11.90
21)	Pyrene	1.018	0.908	1.107	0.817	0.825	0.855	0.922	12.73
22)	Benz[a]anthracene	0.619	0.544	0.702	0.489	0.508	0.552	0.569	13.87
23)	Chrysene	0.842	0.744	0.886	0.703	0.716	0.689	0.763	10.65
24)	Benzo[b]fluora...	0.771	0.653	0.823	0.563	0.582	0.592	0.664	16.37
25)	Benzo[k]fluora...	0.638	0.536	0.786	0.499	0.564	0.625	0.608	16.73
26)	Benzo[e]pyrene	0.896	0.721	0.876	0.639	0.668	0.659	0.743	15.36
27)	Benzo[a]pyrene	0.524	0.456	0.613	0.413	0.505	0.417	0.488	15.59
28)	Perylene	0.633	0.555	0.684	0.500	0.582	0.521	0.579	11.99

29) I	d12-Benzo[g,h,i]pe...	-----ISTD-----							
30)	Indeno[1,2,3-c...	0.890	0.779	0.916	0.738	0.802	0.784	0.818	8.49
31)	Dibenz[a,h]ant...	0.782	0.703	0.907	0.637	0.663	0.643	0.722	14.54
32)	Benzo[g,h,i]pe...	1.262	1.162	1.333	1.112	1.359	1.352	1.263	8.29

(#) = Out of Range

PHYSIS

Continuing Calibration Data

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ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : PAH1000CCV.D
 Acq On : 4 Nov 2013 6:22 am
 Operator :
 Sample : PAH1000CCV
 Misc :
 ALS Vial : 132 Sample Multiplier: 1

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Quant Time: Jan 29 12:52:39 2014
 Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PAH131107.M
 Quant Title : PAH
 QLast Update : Thu Nov 07 13:02:12 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	36.068	188	11081824m	2000.00		0.50
29) d12-Benzo[g,h,i]perylene	83.660	288	2661700m	2000.00		0.70
System Monitoring Compounds						
2) (d8-Naphthalene)	15.113	136	9335936	773.53		0.31
3) (d10-Acenaphthene)	24.226	164	4277337m	814.12		0.45
4) (d10-Phenanthrene)	35.654	188	6207254m	930.37		0.50
5) (d12-Chrysene)	59.636	240	4670851m	873.43		0.49
6) (d12-Perylene)	71.813	264	3435900m	790.16		0.47
Target Compounds						Qvalue
7) Naphthalene	15.184	128	9259806	855.04		100
8) 2-Methylnaphthalene	18.041	142	6213246	845.17		97
9) 1-Methylnaphthalene	18.575	142	6219877m	840.83		
10) Biphenyl	20.569	154	6456037	815.22		100
11) 2,6-Dimethylnaphthalene	21.476	156	4769819	783.64		96
12) Acenaphthylene	23.173	152	7571192m	994.82		
13) Acenaphthene	24.441	153	4835535m	881.09		
14) 2,3,5-Trimethylnaphtha...	27.324	170	4539898m	878.74		
15) Fluorene	28.126	166	4966076m	949.26		
16) Dibenzothiophene	34.789	184	6928337m	925.91		
17) Phenanthrene	35.837	178	6393597m	925.07		
18) Anthracene	36.220	178	3187935m	1068.90		
19) 1-Methylphenanthrene	41.394	192	4864396m	1013.93		
20) Fluoranthene	46.421	202	5792136m	1014.85		
21) Pyrene	48.324	202	6039522m	1010.87		
22) Benz[a]anthracene	59.515	228	4050119m	1080.04		
23) Chrysene	59.856	228	4267695m	886.02		
24) Benzo[b]fluoranthene	68.877	252	3782199m	850.06		
25) Benzo[k]fluoranthene	69.071	252	3571384m	866.70		
26) Benzo[e]pyrene	70.969	252	3606665m	747.95		
27) Benzo[a]pyrene	71.341	252	2887265m	887.44		
28) Perylene	71.991	252	3060039m	828.35		
30) Indeno[1,2,3-c,d]pyrene	81.296	276	1723980m	1434.86		
31) Dibenz[a,h]anthracene	81.725	278	1483449m	1279.53		
32) Benzo[g,h,i]perylene	83.953	276	1941777m	1113.80		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\O-5024 EI\
 Data File : PAH1000FCV.D
 Acq On : 5 Nov 2013 3:21 am
 Operator :
 Sample : PAH1000FCV
 Misc :
 ALS Vial : 132 Sample Multiplier: 1

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Quant Time: Jan 29 12:54:25 2014
 Quant Method : C:\msdchem\1\DATA\O-5024 EI\Q_PAH131107.M
 Quant Title : PAH
 QLast Update : Thu Nov 07 13:02:12 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Anthracene	36.068	188	12365686m	2000.00		0.50
29) d12-Benzo[g,h,i]perylene	83.644	288	2631186m	2000.00		0.69
System Monitoring Compounds						
2) (d8-Naphthalene)	15.111	136	10513640	780.67		0.31
3) (d10-Acenaphthene)	24.226	164	4850593m	827.37		0.45
4) (d10-Phenanthrene)	35.648	188	6953169m	933.97		0.50
5) (d12-Chrysene)	59.630	240	4738498m	794.08		0.49
6) (d12-Perylene)	71.808	264	3206223m	660.79		0.46
Target Compounds						Qvalue
7) Naphthalene	15.183	128	10314237	853.52		100
8) 2-Methylnaphthalene	18.040	142	6944273	846.54		96
9) 1-Methylnaphthalene	18.570	142	6970962m	844.53		
10) Biphenyl	20.569	154	7175164	811.96		100
11) 2,6-Dimethylnaphthalene	21.474	156	5952057m	876.34		
12) Acenaphthylene	23.167	152	8507820m	1001.83		
13) Acenaphthene	24.436	153	5473665m	893.81		
14) 2,3,5-Trimethylnaphtha...	27.319	170	5118330m	887.84		
15) Fluorene	28.121	166	5535590m	948.26		
16) Dibenzothiophene	34.784	184	7744357m	927.51		
17) Phenanthrene	35.837	178	7067866m	916.45		
18) Anthracene	36.220	178	3505168m	1053.24		
19) 1-Methylphenanthrene	41.394	192	5449287m	1017.91		
20) Fluoranthene	46.415	202	6309121m	990.66		
21) Pyrene	48.329	202	6552850m	982.92		
22) Benz[a]anthracene	59.510	228	4102595m	980.45		
23) Chrysene	59.861	228	4402124m	819.04		
24) Benzo[b]fluoranthene	68.877	252	3555953m	716.24		
25) Benzo[k]fluoranthene	69.066	252	3464164m	753.40		
26) Benzo[e]pyrene	70.974	252	3231836m	600.63		
27) Benzo[a]pyrene	71.336	252	2617806m	721.08		
28) Perylene	72.002	252	2879503m	698.55		
30) Indeno[1,2,3-c,d]pyrene	81.306	276	1657219m	1395.29		
31) Dibenz[a,h]anthracene	81.725	278	1517787m	1324.33		
32) Benzo[g,h,i]perylene	83.948	276	1743609m	1011.73		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

	PAH1000 ICV			PAH1000 CCV			PAH1000 FCV		
	11/2/13 9:04 PM			11/4/13 6:22 AM			11/5/13 3:21 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
d8-Naphthalene	1000	1080.24	8	1000	773.53	23	1000	780.67	22
d10-Acenaphthene	1000	964.2	4	1000	814.12	19	1000	827.37	17
d10-Phenanthrene	1000	938.82	6	1000	930.37	7	1000	933.97	7
d10-Chrysene	1000	871.57	13	1000	873.43	13	1000	794.08	21
d12-Perylene	1000	779.52	22	1000	790.16	21	1000	660.79	34
Naphthalene	1000	1167.88	17	1000	855.04	14	1000	853.52	15
2-Methylnaphthalene	1000	1107.91	11	1000	845.17	15	1000	846.54	15
1-Methylnaphthalene	1000	1081.62	8	1000	840.83	16	1000	844.53	16
Biphenyl	1000	1036.67	4	1000	815.22	18	1000	811.96	19
2,6-Dimethylnaphthalene	1000	1049.48	5	1000	783.64	22	1000	876.34	12
Acenaphthylene	1000	1144.08	14	1000	994.82	1	1000	1001.83	0
Acenaphthene	1000	1022.12	2	1000	881.09	12	1000	893.81	11
2,3,5-Trimethylnaphthalene	1000	1016.35	2	1000	878.74	12	1000	887.84	11
Fluorene	1000	1017.41	2	1000	949.26	5	1000	948.26	5
Dibenzothiophene	1000	962.73	4	1000	925.91	7	1000	927.51	7
Phenanthrene	1000	940.7	6	1000	925.07	7	1000	916.45	8
Anthracene	1000	1014.18	1	1000	1068.9	7	1000	1053.24	5
1-Methylphenanthrene	1000	985.5	1	1000	1013.93	1	1000	1017.91	2
Fluoranthene	1000	989.43	1	1000	1014.85	1	1000	990.66	1
Pyrene	1000	977	2	1000	1010.87	1	1000	982.92	2
Benz[a]anthracene	1000	1058.65	6	1000	1080.04	8	1000	980.45	2
Chrysene	1000	875.72	12	1000	886.02	11	1000	819.04	18
Benzo[b]fluoranthene	1000	841.51	16	1000	850.06	15	1000	716.24	28
Benzo[k]fluoranthene	1000	869.81	13	1000	866.7	13	1000	753.4	25
Benzo[e]pyrene	1000	747.3	25	1000	747.95	25	1000	600.63	40
Benzo[a]pyrene	1000	862.88	14	1000	887.44	11	1000	721.08	28
Perylene	1000	789.11	21	1000	828.35	17	1000	698.55	30
Indeno[1,2,3-c,d]pyrene	1000	1189.05	19	1000	1434.86	43	1000	1395.29	40
Dibenz[a,h]anthracene	1000	1194.79	19	1000	1279.53	28	1000	1324.33	32
Benzo[g,h,i]perylene	1000	1082.39	8	1000	1113.8	11	1000	1011.73	1
Average	-	-	10	-	-	14	-	-	16

Organics - GC-MS-NCI

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Analytical Solutions
(EPA 625) Nature

PHYSIS

Instrument Run Log

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AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

2013 Oct 17 1445 Sequence Log .LOG
 Starting sequence Thu Oct 17 14: 45: 32 2013

Instrument Name: GCMSQQQ
 Sequence File: D:\MassHunter\GCMS\1\sequence\131017 NCI . sequence. xml
 Comment:
 Operator: DATASYSTEM01\Admin
 Data Path: D:\MassHunter\GCMS\1\data\131017 NCI\
 Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX	HEX_NCI	HEX
2)	Sample	131	TOX10000I CV		
	Datafile		TOX10000I CV		
	Method		PYR_NCI		
3)	Sample	121	PYR25	PYR_NCI	PYR25
4)	Sample	122	PYR50	PYR_NCI	PYR50
5)	Sample	123	PYR100	PYR_NCI	PYR100
6)	Sample	124	PYR250	PYR_NCI	PYR250
7)	Sample	125	PYR500	PYR_NCI	PYR500
8)	Sample	126	PYR1000	PYR_NCI	PYR1000
9)	Sample	127	TRAL01000CCV		
	Datafile		TRAL01000CCV		
	Method		PYR_NCI		
10)	Sample	128	PYR1000SPEX		
	Datafile		PYR1000SPEX		
	Method		PYR_NCI		
11)	Sample	141	HEX2	HEX_NCI	HEX2
12)	Sample	1	B_5012	PYR_NCI	B_5012
13)	Sample	2	BS1_5012	PYR_NCI	BS1_5012
14)	Sample	3	BS2_5012	PYR_NCI	BS2_5012
15)	Sample	4	22003MS1	PYR_NCI	22003MS1
16)	Sample	5	22003MS2	PYR_NCI	22003MS2
17)	Sample	141	HEX3	HEX_NCI	HEX3
18)	Sample	31	22623	PYR_NCI	22623
19)	Sample	6	22015	PYR_NCI	22015
20)	Sample	7	22003	PYR_NCI	22003
21)	Sample	8	22003R2	PYR_NCI	22003R2
22)	Sample	9	22004	PYR_NCI	22004
23)	Sample	10	22005	PYR_NCI	22005
24)	Sample	126	PYR1000CCV		
	Datafile		PYR1000CCV		
	Method		PYR_NCI		
25)	Sample	131	TOX10000CCV		
	Datafile		TOX10000CCV		
	Method		PYR_NCI		
26)	Sample	141	HEX4	HEX_NCI	HEX4
27)	Sample	11	22006	PYR_NCI	22006
28)	Sample	12	22007	PYR_NCI	22007
29)	Sample	13	22008	PYR_NCI	22008
30)	Sample	14	22009	PYR_NCI	22009
31)	Sample	15	22010	PYR_NCI	22010
32)	Sample	16	22011	PYR_NCI	22011
33)	Sample	17	22012	PYR_NCI	22012
34)	Sample	18	22013	PYR_NCI	22013
35)	Sample	126	PYR1000FCV		
	Datafile		PYR1000FCV		
	Method		PYR_NCI		
36)	Sample	131	TOX10000FCV		
	Datafile		TOX10000FCV		
	Method		PYR_NCI		
37)	Sample	127	TRAL01000FCV		
	Datafile		TRAL01000FCV		

Method 2013 Oct 17 1445 Sequence Log . LOG
 PYR_NCI
Sequence completed Sat Oct 19 03:53:44 2013
D: \MassHunter\GCMS\1\data\131017 NCI\2013 Oct 17 1445 Sequence Log . LOG

2013 Nov 18 1456 Sequence Log .LOG
 Starting sequence Mon Nov 18 14:56:13 2013

Instrument Name: GCMSQQQ
 Sequence File: D:\MassHunter\GCMS\1\sequence\1311118 NCI . sequence. xml
 Comment:
 Operator: DATASYSTEM01\Admin
 Data Path: D:\MassHunter\GCMS\1\data\131118 PBDE NCI\
 Method Path: D:\MassHunter\GCMS\1\methods\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	141	HEX	HEX_NCI	HEX
2)	Sample	131	PBDE75		
	Datafile		PBDE75		
	Method		NCI -15m PBDE		
3)	Sample	132	PBDE100		
	Datafile		PBDE100		
	Method		NCI -15m PBDE		
4)	Sample	133	PBDE200		
	Datafile		PBDE200		
	Method		NCI -15m PBDE		
5)	Sample	141	HEX2	HEX_NCI	HEX2
6)	Sample	1	B_5030		
	Datafile		B_5030		
	Method		NCI -15m PBDE		
7)	Sample	31	22623		
	Datafile		22614		
	Method		NCI -15m PBDE		
8)	Sample	2	BS1_5030		
	Datafile		BS1_5030		
	Method		NCI -15m PBDE		
9)	Sample	3	BS2_5030		
	Datafile		BS2_5030		
	Method		NCI -15m PBDE		
10)	Sample	4	22078MS1		
	Datafile		22078MS1		
	Method		NCI -15m PBDE		
11)	Sample	5	22078MS2		
	Datafile		22078MS2		
	Method		NCI -15m PBDE		
12)	Sample	141	HEX3	HEX_NCI	HEX3
13)	Sample	6	22088		
	Datafile		22088		
	Method		NCI -15m PBDE		
14)	Sample	7	22078		
	Datafile		22078		
	Method		NCI -15m PBDE		
15)	Sample	8	22078R2		
	Datafile		22078R2		
	Method		NCI -15m PBDE		
16)	Sample	9	22079		
	Datafile		22079		
	Method		NCI -15m PBDE		
17)	Sample	10	22080		
	Datafile		22080		
	Method		NCI -15m PBDE		
18)	Sample	11	22081		
	Datafile		22081		
	Method		NCI -15m PBDE		
19)	Sample	12	22082		
	Datafile		22082		
	Method		NCI -15m PBDE		
20)	Sample	133	PBDE200CCV		

		2013 Nov 18 1456 Sequence Log . LOG		
	Datafile		PBDE200CCV	
	Method		NCI -15m PBDE	
21)	Sample	141	HEX4	HEX_NCI HEX4
22)	Sample	13	22083	
	Datafile		22083	
	Method		NCI -15m PBDE	
23)	Sample	14	22084	
	Datafile		22084	
	Method		NCI -15m PBDE	
24)	Sample	15	22085	
	Datafile		22085	
	Method		NCI -15m PBDE	
25)	Sample	16	22086	
	Datafile		22086	
	Method		NCI -15m PBDE	
26)	Sample	17	22087	
	Datafile		22087	
	Method		NCI -15m PBDE	
27)	Sample	18	22100	
	Datafile		22100	
	Method		NCI -15m PBDE	
28)	Sample	19	22101	
	Datafile		22101	
	Method		NCI -15m PBDE	
29)	Sample	20	22102	
	Datafile		22102	
	Method		NCI -15m PBDE	
30)	Sample	21	22103	
	Datafile		22103	
	Method		NCI -15m PBDE	
31)	Sample	133	PBDE200FCV	
	Datafile		PBDE200FCV	
	Method		NCI -15m PBDE	

Sequence completed Tue Nov 19 10: 30: 08 2013

D: \MassHunter\GCMS\1\data\131118 PBDE NCI\2013 Nov 18 1456 Sequence Log . LOG

PolyBrominated Diphenyl Ethers (PBDEs)

TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for a Safer Future

PHYSIS

Summary of Internal Standards

TERRA FACTA AQUA AURA
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Innovative Solutions for Nature

	2,2',5,5'-Tetrabromobiphenyl	
	Response	Retention Time
PBDE200ICV	948477.9124	16.74701667
22623	4062416.073	16.74701667
PBDE200CCV	1160725.56	16.74701667
PBDC200FCV	1090824.5	16.74701667

PHYSIS

Initial Calibration Data

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Quantitative Analysis Calibration Report

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Batch Info

Batch Data Path	P:\Data, Organics Lab_Q1 Data Files\O-5030 PBDE\QuantResults\O-5030 PBDE.batch.bin	Analyst Name	
Analysis Time	11/18/2013 3:28 PM	Reporter Name	
Report Time	6/16/2014 1:47 PM	Batch State	
Last Calib Update	11/28/2013 3:11 PM		

Calibration Information*(FTBDE)*

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	362466	50.0000	0.8609
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	337714	50.0000	0.8698
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	607995	50.0000	1.0693
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	307831	50.0000	0.8625
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	296957	50.0000	0.8792
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	282764	50.0000	0.8521

PBDE017

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	52253	10.0000	0.6205
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	528996	100.0000	0.6812
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1704812	200.0000	0.7496
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	123267	25.0000	0.6908
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	223360	50.0000	0.6613
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	332929	75.0000	0.6688

PBDE028

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	58500	10.0000	0.6947
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	566816	100.0000	0.7300
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1874211	200.0000	0.8241
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	117608	25.0000	0.6590
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	216999	50.0000	0.6425
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	338205	75.0000	0.6794

2,2',5,5'Tetrabromobiphenyl

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	8420757	1000.0000	8420.7572
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	7765091	1000.0000	7765.0915
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	11371385	1000.0000	11371.3849
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	7138104	1000.0000	7138.1044
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	6755020	1000.0000	6755.0195

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D Calibration 3 6636959 1000.0000 6636.9590

PBDE049

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	61371	10.0000	0.7288
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	585232	100.0000	0.7537
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1850487	200.0000	0.8137
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	133638	25.0000	0.7489
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	238360	50.0000	0.7057
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	355624	75.0000	0.7144

PBDE071

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	54217	10.0000	0.6438
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	493999	100.0000	0.6362
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1680098	200.0000	0.7387
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	110183	25.0000	0.6174
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	192682	50.0000	0.5705
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	301875	75.0000	0.6065

PBDE047

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	54571	10.0000	0.6481
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	454915	100.0000	0.5858
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1606336	200.0000	0.7063
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	103036	25.0000	0.5774
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	173451	50.0000	0.5135
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	279045	75.0000	0.5606

PBDE066

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	76790	10.0000	0.9119
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	505778	100.0000	0.6513
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1657219	200.0000	0.7287
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	120178	25.0000	0.6734
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	194152	50.0000	0.5748
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	300050	75.0000	0.6028

PBDE100

Calibration STD	CalType	Level	Response	Exp Conc	RF
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C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	47004	10.0000	0.5582
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	424904	100.0000	0.5472
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1356524	200.0000	0.5965
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	92995	25.0000	0.5211
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	155825	50.0000	0.4614
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	246104	75.0000	0.4944

(DFPBDE)

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	255002	50.0000	0.6057
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	271392	50.0000	0.6990
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	448005	50.0000	0.7880
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	211378	50.0000	0.5923
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	189019	50.0000	0.5596
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	205194	50.0000	0.6183

PBDE099

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	50407	10.0000	0.5986
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	442583	100.0000	0.5700
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1386670	200.0000	0.6097
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	92620	25.0000	0.5190
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	148404	50.0000	0.4394
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	253216	75.0000	0.5087

PBDE085

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	39462	10.0000	0.4686
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	360304	100.0000	0.4640
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1060242	200.0000	0.4662
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	72504	25.0000	0.4063
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	120379	50.0000	0.3564
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	199688	75.0000	0.4012

PBDE154

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	44515	10.0000	0.5286
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	412441	100.0000	0.5311

Quantitative Analysis Calibration Report

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1209803	200.0000	0.5320
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	83023	25.0000	0.4652
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	142484	50.0000	0.4219
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	243445	75.0000	0.4891

PBDE153

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	39939	10.0000	0.4743
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	390618	100.0000	0.5030
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	1095420	200.0000	0.4817
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	80633	25.0000	0.4518
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	129283	50.0000	0.3828
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	219510	75.0000	0.4410

PBDE138

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	33029	10.0000	0.3922
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	358264	100.0000	0.4614
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	993361	200.0000	0.4368
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	72370	25.0000	0.4055
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	102656	50.0000	0.3039
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	198720	75.0000	0.3992

PBDE183

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	38071	10.0000	0.4521
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	311176	100.0000	0.4007
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	846727	200.0000	0.3723
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	66367	25.0000	0.3719
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	101259	50.0000	0.2998
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	185387	75.0000	0.3724

PBDE190

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	13841	10.0000	0.1644
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	154666	100.0000	0.1992
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	367277	200.0000	0.1615
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	32494	25.0000	0.1821

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C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	41375	50.0000	0.1225
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	88271	75.0000	0.1773

PBDE209

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\msdchem\1\DATA\O-5024 PBDE\PBDE10.D	Calibration	6	1273	50.0000	0.0030
C:\msdchem\1\DATA\O-5024 PBDE\PBDE100.D	Calibration	2	7426	500.0000	0.0019
C:\msdchem\1\DATA\O-5024 PBDE\PBDE200.D	Calibration	1	19867	1000.0000	0.0017
C:\msdchem\1\DATA\O-5024 PBDE\PBDE25.D	Calibration	5	2479	125.0000	0.0028
C:\msdchem\1\DATA\O-5024 PBDE\PBDE50.D	Calibration	4	2622	250.0000	0.0016
C:\msdchem\1\DATA\O-5024 PBDE\PBDE75.D	Calibration	3	5048	375.0000	0.0020

PHYSIS

Continuing Calibration Data

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Quantitative Analysis Sample Report

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Batch Info

Batch Data Path P:\Data, Organics Lab_Q1 Data Files\O-5030 PBDE\QuantResults\O-5030 PBDE.batch.bin
Analysis Time 11/19/2013 2:55 AM **Analyst Name** eugenechae
Report Time 6/16/2014 1:47 PM **Reporter Name** eugenechae
Last Calib Update 11/28/2013 3:11 PM **Batch State** Processed

Analysis Info

Acq Time
Level
Position
Sample Type Sample
Dilution 1
Sample Name PBDE200CCV
Data File PBDE200CCV.D
Acq Method File NCI-15m PBDE.M
Sample Info
Comment

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphe nyl	15.207	45543	1160726	0.0392	43.6458	ng
PBDE017	2,2',5,5'Tetrabromobiphe nyl	15.759	151098	1160726	0.1302	179.3849	ng
PBDE028	2,2',5,5'Tetrabromobiphe nyl	16.108	173235	1160726	0.1492	190.2253	ng
PBDE049	2,2',5,5'Tetrabromobiphe nyl	18.098	118481	1160726	0.1021	129.4435	ng
PBDE071	2,2',5,5'Tetrabromobiphe nyl	18.176	143470	1160726	0.1236	176.5586	ng
PBDE047	2,2',5,5'Tetrabromobiphe nyl	18.486	127642	1160726	0.1100	166.0503	ng
PBDE066	2,2',5,5'Tetrabromobiphe nyl	18.815	131782	1160726	0.1135	162.9608	ng
PBDE100	2,2',5,5'Tetrabromobiphe nyl	20.316	110057	1160726	0.0948	165.8426	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphe nyl	20.651	32460	1160726	0.0280	43.4373	ng
PBDE099	2,2',5,5'Tetrabromobiphe nyl	20.820	105893	1160726	0.0912	155.9251	ng
PBDE085	2,2',5,5'Tetrabromobiphe nyl	21.682	83057	1160726	0.0716	157.5065	ng
PBDE154	2,2',5,5'Tetrabromobiphe nyl	22.273	100538	1160726	0.0866	165.8283	ng
PBDE153	2,2',5,5'Tetrabromobiphe nyl	22.990	90682	1160726	0.0781	163.8286	ng
PBDE138	2,2',5,5'Tetrabromobiphe nyl	23.847	77358	1160726	0.0666	154.5164	ng
PBDE183	2,2',5,5'Tetrabromobiphe nyl	25.000	71849	1160726	0.0619	165.4188	ng
PBDE190	2,2',5,5'Tetrabromobiphe nyl	26.148	30804	1160726	0.0265	157.9903	ng
PBDE209	2,2',5,5'Tetrabromobiphe nyl	30.037	1960	1160726		934.3413	ng

Quantitative Analysis Sample Report

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Batch Info

Batch Data Path P:\Data, Organics Lab_Q1 Data Files\O-5030 PBDE\QuantResults\O-5030 PBDE.batch.bin
Analysis Time 11/19/2013 9:56 AM **Analyst Name** eugenechae
Report Time 6/16/2014 1:47 PM **Reporter Name** eugenechae
Last Calib Update 11/28/2013 3:11 PM **Batch State** Processed

Analysis Info

Acq Time
Level
Position
Sample Type Sample
Dilution 1
Sample Name PBDE200FCV
Data File PBDE200FCV.D
Acq Method File NCI-15m PBDE.M
Sample Info
Comment

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
(FTBDE)	2,2',5,5'Tetrabromobiphe nyl	15.202	48114	1090824	0.0441	49.0642	ng
PBDE017	2,2',5,5'Tetrabromobiphe nyl	15.759	155121	1090824	0.1422	195.9623	ng
PBDE028	2,2',5,5'Tetrabromobiphe nyl	16.108	167243	1090824	0.1533	195.4142	ng
PBDE049	2,2',5,5'Tetrabromobiphe nyl	18.093	100932	1090824	0.0925	117.3378	ng
PBDE071	2,2',5,5'Tetrabromobiphe nyl	18.181	122061	1090824	0.1119	159.8378	ng
PBDE047	2,2',5,5'Tetrabromobiphe nyl	18.486	108860	1090824	0.0998	150.6912	ng
PBDE066	2,2',5,5'Tetrabromobiphe nyl	18.820	112006	1090824	0.1027	147.3819	ng
PBDE100	2,2',5,5'Tetrabromobiphe nyl	20.316	89747	1090824	0.0823	143.9037	ng
(DFPBDE)	2,2',5,5'Tetrabromobiphe nyl	20.651	24836	1090824	0.0228	35.3647	ng
PBDE099	2,2',5,5'Tetrabromobiphe nyl	20.820	85716	1090824	0.0786	134.3019	ng
PBDE085	2,2',5,5'Tetrabromobiphe nyl	21.687	62203	1090824	0.0570	125.5185	ng
PBDE154	2,2',5,5'Tetrabromobiphe nyl	22.273	78129	1090824	0.0716	137.1253	ng
PBDE153	2,2',5,5'Tetrabromobiphe nyl	22.990	68801	1090824	0.0631	132.2618	ng
PBDE138	2,2',5,5'Tetrabromobiphe nyl	23.852	54263	1090824	0.0497	115.3314	ng
PBDE183	2,2',5,5'Tetrabromobiphe nyl	24.995	49319	1090824	0.0452	120.8238	ng
PBDE190	2,2',5,5'Tetrabromobiphe nyl	26.148	17217	1090824	0.0158	93.9611	ng
PBDE209	2,2',5,5'Tetrabromobiphe nyl	29.998	639	1090824	0.0006	324.3565	ng

	PBDE200 CCV			PBDE200 FCV		
	11/19/13 2:55 AM			11/19/13 9:56 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	% Drift	(ng)	(ng)	% Drift
FTBDE	50	44	13	50	49	2
DFTBDE	50	43	13	50	35	29
PBDE017	200	179	10	200	196	2
PBDE028	200	190	5	200	195	2
PBDE049	200	129	35	200	117	41
PBDE071	200	177	12	200	160	20
PBDE047	200	166	17	200	151	25
PBDE066	200	163	19	200	147	26
PBDE100	200	166	17	200	144	28
PBDE099	200	156	22	200	134	33
PBDE085	200	158	21	200	126	37
PBDE154	200	166	17	200	137	31
PBDE153	200	164	18	200	132	34
PBDE138	200	155	23	200	115	42
PBDE183	200	165	17	200	121	40
PBDE190	200	158	21	200	94	53
PBDE209	1000	934	7	1000	324	68
Average	-	-	17	-	-	30

PHYSIS

Pyrethroids

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS

Summary of Internal Standards

TERRA FACTA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

	2,2',5,5' - Tetrabromobiphenyl	
	Response	Retention Time
PYR25.D	461728	27.3052
PYR50.D	297346	27.2471
PYR100.D	226266	27.1938
PYR250.D	157420	27.1406
PYR500.D	144271	27.0825
PYR1000.D	131446	27.0292
TRALO1000CCV.D	146306	26.9759
PYR1000SPEX.D	116409	26.9275
22623.D	153934	26.5884
PYR1000CCV.D	61091	26.3269
PYR1000FCV.D	26043	25.9298
TRALO1000FCV.D	25672	25.9298

PHYSIS

Initial Calibration Data

TERRA

FAUNA

FLORA

AQUA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Quantitative Analysis Calibration Report

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Batch Data Path	C:\RHMP Level 3\O-5005 22623 NCI\QuantResults\22623 PYR.batch.bin		
Analysis Time	10/16/2013 4:16 PM	Analyst Name	ryanhong
Report Time	9/14/2014 3:06 PM	Reporter Name	ryanhong
Last Calib Update	9/14/2014 3:00 PM	Batch State	Processed

Calibration Information

Allethrin

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\RHMP Level 3\O-5005 22623 NCI\PYR100.D	Calibration	4	5941	100.0000	0.2626 17.64706
C:\RHMP Level 3\O-5005 22623 NCI\PYR1000.D	Calibration	1	30213	1000.0000	0.2299
C:\RHMP Level 3\O-5005 22623 NCI\PYR25.D	Calibration	6	4133	25.0000	0.3580
C:\RHMP Level 3\O-5005 22623 NCI\PYR250.D	Calibration	3	10337	250.0000	0.2627
C:\RHMP Level 3\O-5005 22623 NCI\PYR50.D	Calibration	5	4719	50.0000	0.3174
C:\RHMP Level 3\O-5005 22623 NCI\PYR500.D	Calibration	2	17410	500.0000	0.2413

Prallethrin

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\RHMP Level 3\O-5005 22623 NCI\PYR100.D	Calibration	4	23776	100.0000	1.0508 16.50092
C:\RHMP Level 3\O-5005 22623 NCI\PYR1000.D	Calibration	1	115861	1000.0000	0.8814
C:\RHMP Level 3\O-5005 22623 NCI\PYR25.D	Calibration	6	15420	25.0000	1.3358
C:\RHMP Level 3\O-5005 22623 NCI\PYR250.D	Calibration	3	39261	250.0000	0.9976
C:\RHMP Level 3\O-5005 22623 NCI\PYR50.D	Calibration	5	17969	50.0000	1.2086
C:\RHMP Level 3\O-5005 22623 NCI\PYR500.D	Calibration	2	66115	500.0000	0.9165

Resmethrin

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\RHMP Level 3\O-5005 22623 NCI\PYR100.D	Calibration	4	19326	100.0000	0.8541 15.5519
C:\RHMP Level 3\O-5005 22623 NCI\PYR1000.D	Calibration	1	95360	1000.0000	0.7255
C:\RHMP Level 3\O-5005 22623 NCI\PYR25.D	Calibration	6	12500	25.0000	1.0829
C:\RHMP Level 3\O-5005 22623 NCI\PYR250.D	Calibration	3	35190	250.0000	0.8942
C:\RHMP Level 3\O-5005 22623 NCI\PYR50.D	Calibration	5	15724	50.0000	1.0576
C:\RHMP Level 3\O-5005 22623 NCI\PYR500.D	Calibration	2	58448	500.0000	0.8102

(PCB112)

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\RHMP Level 3\O-5005 22623 NCI\PYR100.D	Calibration	4	16034	400.0000	0.1772 28.59616
C:\RHMP Level 3\O-5005 22623 NCI\PYR1000.D	Calibration	1	5472	400.0000	0.1041
C:\RHMP Level 3\O-5005 22623 NCI\PYR25.D	Calibration	6	41376	400.0000	0.2240
C:\RHMP Level 3\O-5005 22623 NCI\PYR250.D	Calibration	3	8641	400.0000	0.1372
C:\RHMP Level 3\O-5005 22623 NCI\PYR50.D	Calibration	5	23526	400.0000	0.1978
C:\RHMP Level 3\O-5005 22623 NCI\PYR500.D	Calibration	2	7279	400.0000	0.1261

Quantitative Analysis Calibration Report

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TBBP

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\RHMP Level 3\O-5005 22623 NCI\PYR100.D	Calibration	4	226266	1000.0000	226.2662 53.61486
C:\RHMP Level 3\O-5005 22623 NCI\PYR1000.D	Calibration	1	131446	1000.0000	131.4461
C:\RHMP Level 3\O-5005 22623 NCI\PYR25.D	Calibration	6	461728	1000.0000	461.7281
C:\RHMP Level 3\O-5005 22623 NCI\PYR250.D	Calibration	3	157420	1000.0000	157.4196
C:\RHMP Level 3\O-5005 22623 NCI\PYR50.D	Calibration	5	297346	1000.0000	297.3458
C:\RHMP Level 3\O-5005 22623 NCI\PYR500.D	Calibration	2	144271	1000.0000	144.2710

Bifenthrin

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\RHMP Level 3\O-5005 22623 NCI\PYR100.D	Calibration	4	165	100.0000	0.0073 26.96086
C:\RHMP Level 3\O-5005 22623 NCI\PYR1000.D	Calibration	1	1504	1000.0000	0.0114
C:\RHMP Level 3\O-5005 22623 NCI\PYR25.D	Calibration	6	112	25.0000	0.0097
C:\RHMP Level 3\O-5005 22623 NCI\PYR250.D	Calibration	3	187	250.0000	0.0048
C:\RHMP Level 3\O-5005 22623 NCI\PYR50.D	Calibration	5	125	50.0000	0.0084
C:\RHMP Level 3\O-5005 22623 NCI\PYR500.D	Calibration	2	625	500.0000	0.0087

Danitol (Fenpropathrin)

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\RHMP Level 3\O-5005 22623 NCI\PYR100.D	Calibration	4	11140	100.0000	0.4924 20.92733
C:\RHMP Level 3\O-5005 22623 NCI\PYR1000.D	Calibration	1	60589	1000.0000	0.4609
C:\RHMP Level 3\O-5005 22623 NCI\PYR25.D	Calibration	6	8305	25.0000	0.7194
C:\RHMP Level 3\O-5005 22623 NCI\PYR250.D	Calibration	3	19192	250.0000	0.4877
C:\RHMP Level 3\O-5005 22623 NCI\PYR50.D	Calibration	5	10346	50.0000	0.6959
C:\RHMP Level 3\O-5005 22623 NCI\PYR500.D	Calibration	2	35454	500.0000	0.4915

L-Cyhalothrin

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\RHMP Level 3\O-5005 22623 NCI\PYR100.D	Calibration	4	4208	100.0000	0.1860 29.41758
C:\RHMP Level 3\O-5005 22623 NCI\PYR1000.D	Calibration	1	18281	1000.0000	0.1391
C:\RHMP Level 3\O-5005 22623 NCI\PYR25.D	Calibration	6	3420	25.0000	0.2963
C:\RHMP Level 3\O-5005 22623 NCI\PYR250.D	Calibration	3	6993	250.0000	0.1777
C:\RHMP Level 3\O-5005 22623 NCI\PYR50.D	Calibration	5	4152	50.0000	0.2793
C:\RHMP Level 3\O-5005 22623 NCI\PYR500.D	Calibration	2	13657	500.0000	0.1893

(PCB198)

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\RHMP Level 3\O-5005 22623 NCI\PYR100.D	Calibration	4	631	400.0000	0.0070 65.59375
C:\RHMP Level 3\O-5005 22623 NCI\PYR1000.D	Calibration	1	200	400.0000	0.0038
C:\RHMP Level 3\O-5005 22623 NCI\PYR25.D	Calibration	6	2372	400.0000	0.0128
C:\RHMP Level 3\O-5005 22623 NCI\PYR250.D	Calibration	3	213	400.0000	0.0034

Quantitative Analysis Calibration Report

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C:\RHMP Level 3\O-5005

File Name	Calibration	Level	Response	Exp Conc	RF
22623 NCI\PYR50.D	Calibration	5	1763	400.0000	0.0148

C:\RHMP Level 3\O-5005

22623 NCI\PYR500.D	Calibration	2	230	400.0000	0.0040
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Permethrin-cis

Calibration STD

File Name	CalType	Level	Response	Exp Conc	RF
C:\RHMP Level 3\O-5005					
22623 NCI\PYR100.D	Calibration	4	114	26.7000	0.0189

C:\RHMP Level 3\O-5005

22623 NCI\PYR1000.D	Calibration	1	312	267.0000	0.0089
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C:\RHMP Level 3\O-5005

22623 NCI\PYR25.D	Calibration	6		6.6750	
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C:\RHMP Level 3\O-5005

22623 NCI\PYR250.D	Calibration	3	92	66.7500	0.0087
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C:\RHMP Level 3\O-5005

22623 NCI\PYR50.D	Calibration	5		13.3500	
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C:\RHMP Level 3\O-5005

22623 NCI\PYR500.D	Calibration	2	146	133.5000	0.0076
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Permethrin-trans

Calibration STD

File Name	CalType	Level	Response	Exp Conc	RF
C:\RHMP Level 3\O-5005					
22623 NCI\PYR100.D	Calibration	4		71.6000	28.38152

C:\RHMP Level 3\O-5005

22623 NCI\PYR1000.D	Calibration	1	696	716.0000	0.0074
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C:\RHMP Level 3\O-5005

22623 NCI\PYR25.D	Calibration	6		17.9000	
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C:\RHMP Level 3\O-5005

22623 NCI\PYR250.D	Calibration	3	127	179.0000	0.0045
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C:\RHMP Level 3\O-5005

22623 NCI\PYR50.D	Calibration	5		35.8000	
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C:\RHMP Level 3\O-5005

22623 NCI\PYR500.D	Calibration	2	416	358.0000	0.0081
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Cyfluthrin-1

Calibration STD

File Name	CalType	Level	Response	Exp Conc	RF
C:\RHMP Level 3\O-5005					
22623 NCI\PYR100.D	Calibration	4	738	100.0000	0.0326

C:\RHMP Level 3\O-5005

22623 NCI\PYR1000.D	Calibration	1	5189	1000.0000	0.0395
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C:\RHMP Level 3\O-5005

22623 NCI\PYR25.D	Calibration	6	387	25.0000	0.0335
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C:\RHMP Level 3\O-5005

22623 NCI\PYR250.D	Calibration	3	1456	250.0000	0.0370
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C:\RHMP Level 3\O-5005

22623 NCI\PYR50.D	Calibration	5	1074	50.0000	0.0722
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C:\RHMP Level 3\O-5005

22623 NCI\PYR500.D	Calibration	2	3225	500.0000	0.0447
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Cyfluthrin-2

Calibration STD

File Name	CalType	Level	Response	Exp Conc	RF
C:\RHMP Level 3\O-5005					
22623 NCI\PYR100.D	Calibration	4	669	100.0000	0.0296

C:\RHMP Level 3\O-5005

22623 NCI\PYR1000.D	Calibration	1	4895	1000.0000	0.0372
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C:\RHMP Level 3\O-5005

22623 NCI\PYR25.D	Calibration	6	731	25.0000	0.0633
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C:\RHMP Level 3\O-5005

22623 NCI\PYR250.D	Calibration	3	1302	250.0000	0.0331
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C:\RHMP Level 3\O-5005

22623 NCI\PYR50.D	Calibration	5	838	50.0000	0.0563
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C:\RHMP Level 3\O-5005

22623 NCI\PYR500.D	Calibration	2	2714	500.0000	0.0376
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Cyfluthrin-3

Calibration STD

File Name	CalType	Level	Response	Exp Conc	RF
C:\RHMP Level 3\O-5005					
22623 NCI\PYR100.D	Calibration	4	899	100.0000	0.0397

C:\RHMP Level 3\O-5005

22623 NCI\PYR1000.D	Calibration	1	4973	1000.0000	0.0378
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Quantitative Analysis Calibration Report

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C:\RHMP Level 3\O-5005 22623 NCI\PYR25.D	Calibration	6	538	25.0000	0.0466
C:\RHMP Level 3\O-5005 22623 NCI\PYR250.D	Calibration	3	1718	250.0000	0.0436
C:\RHMP Level 3\O-5005 22623 NCI\PYR50.D	Calibration	5	962	50.0000	0.0647
C:\RHMP Level 3\O-5005 22623 NCI\PYR500.D	Calibration	2	3545	500.0000	0.0491

Cyfluthrin-4

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\RHMP Level 3\O-5005 22623 NCI\PYR100.D	Calibration	4	414	100.0000	0.0183 40.7014
C:\RHMP Level 3\O-5005 22623 NCI\PYR1000.D	Calibration	1	4085	1000.0000	0.0311
C:\RHMP Level 3\O-5005 22623 NCI\PYR25.D	Calibration	6	532	25.0000	0.0461
C:\RHMP Level 3\O-5005 22623 NCI\PYR250.D	Calibration	3	1366	250.0000	0.0347
C:\RHMP Level 3\O-5005 22623 NCI\PYR50.D	Calibration	5	966	50.0000	0.0650
C:\RHMP Level 3\O-5005 22623 NCI\PYR500.D	Calibration	2	2667	500.0000	0.0370

Cypermethrin-1

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\RHMP Level 3\O-5005 22623 NCI\PYR100.D	Calibration	4	874	100.0000	0.0386 13.99422
C:\RHMP Level 3\O-5005 22623 NCI\PYR1000.D	Calibration	1	4632	1000.0000	0.0352
C:\RHMP Level 3\O-5005 22623 NCI\PYR25.D	Calibration	6	374	25.0000	0.0324
C:\RHMP Level 3\O-5005 22623 NCI\PYR250.D	Calibration	3	1417	250.0000	0.0360
C:\RHMP Level 3\O-5005 22623 NCI\PYR50.D	Calibration	5	686	50.0000	0.0461
C:\RHMP Level 3\O-5005 22623 NCI\PYR500.D	Calibration	2	2331	500.0000	0.0323

Cypermethrin-2

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\RHMP Level 3\O-5005 22623 NCI\PYR100.D	Calibration	4	384	100.0000	0.0170 28.07456
C:\RHMP Level 3\O-5005 22623 NCI\PYR1000.D	Calibration	1	2769	1000.0000	0.0211
C:\RHMP Level 3\O-5005 22623 NCI\PYR25.D	Calibration	6	395	25.0000	0.0342
C:\RHMP Level 3\O-5005 22623 NCI\PYR250.D	Calibration	3	706	250.0000	0.0179
C:\RHMP Level 3\O-5005 22623 NCI\PYR50.D	Calibration	5	437	50.0000	0.0294
C:\RHMP Level 3\O-5005 22623 NCI\PYR500.D	Calibration	2	1904	500.0000	0.0264

Cypermethrin-3

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\RHMP Level 3\O-5005 22623 NCI\PYR100.D	Calibration	4	699	100.0000	0.0309 43.9157
C:\RHMP Level 3\O-5005 22623 NCI\PYR1000.D	Calibration	1	5591	1000.0000	0.0425
C:\RHMP Level 3\O-5005 22623 NCI\PYR25.D	Calibration	6	981	25.0000	0.0850
C:\RHMP Level 3\O-5005 22623 NCI\PYR250.D	Calibration	3	1469	250.0000	0.0373
C:\RHMP Level 3\O-5005 22623 NCI\PYR50.D	Calibration	5	687	50.0000	0.0462

Cypermethrin-4

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\RHMP Level 3\O-5005 22623 NCI\PYR100.D	Calibration	4	262	100.0000	0.0116 61.71703

Quantitative Analysis Calibration Report

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C:\RHMP Level 3\O-5005 22623 NCI\PYR1000.D	Calibration	1	3109	1000.0000	0.0237
C:\RHMP Level 3\O-5005 22623 NCI\PYR25.D	Calibration	6	668	25.0000	0.0579
C:\RHMP Level 3\O-5005 22623 NCI\PYR250.D	Calibration	3	731	250.0000	0.0186
C:\RHMP Level 3\O-5005 22623 NCI\PYR50.D	Calibration	5	348	50.0000	0.0234
C:\RHMP Level 3\O-5005 22623 NCI\PYR500.D	Calibration	2	1594	500.0000	0.0221

Fenvalerate

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\RHMP Level 3\O-5005 22623 NCI\PYR100.D	Calibration	4	7606	100.0000	0.3362 15.74827
C:\RHMP Level 3\O-5005 22623 NCI\PYR1000.D	Calibration	1	37938	1000.0000	0.2886
C:\RHMP Level 3\O-5005 22623 NCI\PYR25.D	Calibration	6	4925	25.0000	0.4266
C:\RHMP Level 3\O-5005 22623 NCI\PYR250.D	Calibration	3	13017	250.0000	0.3308
C:\RHMP Level 3\O-5005 22623 NCI\PYR50.D	Calibration	5	6366	50.0000	0.4282
C:\RHMP Level 3\O-5005 22623 NCI\PYR500.D	Calibration	2	24620	500.0000	0.3413

Esfenvalerate

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\RHMP Level 3\O-5005 22623 NCI\PYR100.D	Calibration	4	6259	100.0000	0.2766 19.75404
C:\RHMP Level 3\O-5005 22623 NCI\PYR1000.D	Calibration	1	31083	1000.0000	0.2365
C:\RHMP Level 3\O-5005 22623 NCI\PYR25.D	Calibration	6	4270	25.0000	0.3699
C:\RHMP Level 3\O-5005 22623 NCI\PYR250.D	Calibration	3	8926	250.0000	0.2268
C:\RHMP Level 3\O-5005 22623 NCI\PYR50.D	Calibration	5	5137	50.0000	0.3455
C:\RHMP Level 3\O-5005 22623 NCI\PYR500.D	Calibration	2	20869	500.0000	0.2893

Fluvalinate

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\RHMP Level 3\O-5005 22623 NCI\PYR100.D	Calibration	4	2245	100.0000	0.0992 37.9152
C:\RHMP Level 3\O-5005 22623 NCI\PYR1000.D	Calibration	1	11836	1000.0000	0.0900
C:\RHMP Level 3\O-5005 22623 NCI\PYR25.D	Calibration	6	2421	25.0000	0.2097
C:\RHMP Level 3\O-5005 22623 NCI\PYR250.D	Calibration	3	4673	250.0000	0.1188
C:\RHMP Level 3\O-5005 22623 NCI\PYR50.D	Calibration	5	2707	50.0000	0.1821
C:\RHMP Level 3\O-5005 22623 NCI\PYR500.D	Calibration	2	7070	500.0000	0.0980

Deltamethrin/Tralomethrin

Calibration STD	CalType	Level	Response	Exp Conc	RF
C:\RHMP Level 3\O-5005 22623 NCI\PYR100.D	Calibration	4	362	100.0000	0.0160 55.45578
C:\RHMP Level 3\O-5005 22623 NCI\PYR1000.D	Calibration	1	1998	1000.0000	0.0152
C:\RHMP Level 3\O-5005 22623 NCI\PYR25.D	Calibration	6	0	25.0000	0.0000
C:\RHMP Level 3\O-5005 22623 NCI\PYR250.D	Calibration	3	915	250.0000	0.0232
C:\RHMP Level 3\O-5005 22623 NCI\PYR50.D	Calibration	5	230	50.0000	0.0155
C:\RHMP Level 3\O-5005 22623 NCI\PYR500.D	Calibration	2	908	500.0000	0.0126

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Quantitative Analysis Sample Report

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Batch Data Path	C:\RHMP Level 3\O-5005 22623 NCI\QuantResults\22623 PYR.batch.bin		
Analysis Time	10/17/2013 11:49 PM	Analyst Name	ryanhong
Report Time	9/14/2014 3:06 PM	Reporter Name	ryanhong
Last Calib Update	9/14/2014 3:00 PM	Batch State	Processed

Analysis Info

Acq Time	2013-10-17 23:49	Sample Name	PYR1000SPEX
Level		Data File	PYR1000SPEX.D
Position	128	Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
Allethrin	TBBP	20.820	0	116409	0.0000	0.0000	ng
Prallethrin	TBBP	20.820	139644	116409	1.1996	1339.3756	ng
Resmethrin	TBBP	21.358	75266	116409	0.6466	860.7312	ng
(PCB112)	TBBP	23.004	4381	116409	0.0376	233.6619	ng
Bifenthrin	TBBP	29.276	1435	116409	0.0123	1166.7434	ng
Danitol (Fenpropathrin)	TBBP	30.032	55099	116409	0.4733	1009.7098	ng
L-Cyhalothrin	TBBP	32.628	14988	116409	0.1288	852.2759	ng
(PCB198)	TBBP	32.909	344	116409	0.0030	386.6275	ng
Permethrin-cis	TBBP	35.234	147	116409	0.0013	145.2435	ng
Permethrin-trans	TBBP	35.708	581	116409	0.0050	682.2454	ng
Cyfluthrin-1	TBBP	37.500	3226	116409	0.0277	686.7762	ng
Cyfluthrin-2	TBBP	37.917	4338	116409	0.0373	1004.2021	ng
Cyfluthrin-3	TBBP	38.086	4147	116409	0.0356	883.7377	ng
Cyfluthrin-4	TBBP	38.338	3883	116409	0.0334	1031.3851	ng
Cypermethrin-1	TBBP	38.696	3048	116409	0.0262	753.1729	ng
Cypermethrin-2	TBBP	39.220	2602	116409	0.0224	1019.9530	ng
Cypermethrin-3	TBBP	39.394	4331	116409	0.0372	893.1151	ng
Cypermethrin-4	TBBP	39.651	2585	116409	0.0222	963.7222	ng
Fenvalerate	TBBP	43.220	31827	116409	0.2734	907.6421	ng
Esfenvalerate	TBBP	44.290	26845	116409	0.2306	935.3413	ng
Fluvalinate	TBBP	44.479	11519	116409	0.0990	1061.7771	ng
Deltamethrin/Tralomethrin	TBBP	47.497	1641	116409	0.0141	934.2178	ng

Quantitative Analysis Sample Report

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Batch Data Path	C:\RHMP Level 3\O-5005 22623 NCI\QuantResults\22623 PYR.batch.bin		
Analysis Time	10/18/2013 1:38 PM	Analyst Name	ryanhong
Report Time	9/14/2014 3:06 PM	Reporter Name	ryanhong
Last Calib Update	9/14/2014 3:00 PM	Batch State	Processed

Analysis Info

Acq Time	2013-10-18 13:38	Sample Name	PYR1000CCV
Level		Data File	PYR1000CCV.D
Position	126	Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
Allethrin	TBBP	20.336	15315	61091	0.2507	1071.1123	ng
Prallethrin	TBBP	20.442	57505	61091	0.9413	1050.9883	ng
Resmethrin	TBBP	20.927	50892	61091	0.8330	1108.9785	ng
(PCB112)	TBBP	22.569	801	61091	0.0131	81.4265	ng
Bifenthrin	TBBP	28.574	782	61091	0.0128	1211.6338	ng
Danitol (Fenpropathrin)	TBBP	29.310	27398	61091	0.4485	956.7081	ng
L-Cyhalothrin	TBBP	31.863	6267	61091	0.1026	679.0985	ng
(PCB198)	TBBP	32.192	166	61091	0.0027	356.4323	ng
Permethrin-cis	TBBP	34.619	82	61091	0.0013	154.8621	ng
Permethrin-trans	TBBP	34.914	183	61091	0.0030	410.0318	ng
Cyfluthrin-1	TBBP	36.590	1573	61091	0.0257	637.9707	ng
Cyfluthrin-2	TBBP	36.977	1262	61091	0.0207	556.6165	ng
Cyfluthrin-3	TBBP	37.369	1306	61091	0.0214	530.4550	ng
Cyfluthrin-4	TBBP	37.399	601	61091	0.0098	304.0048	ng
Cypermethrin-1	TBBP	37.762	1371	61091	0.0224	645.4398	ng
Cypermethrin-2	TBBP	38.193	871	61091	0.0143	650.5495	ng
Cypermethrin-3	TBBP	38.391	936	61091	0.0153	367.5810	ng
Cypermethrin-4	TBBP	38.590	770	61091	0.0126	546.8381	ng
Fenvalerate	TBBP	41.927	12862	61091	0.2105	698.8996	ng
Esfenvalerate	TBBP	42.929	8889	61091	0.1455	590.1981	ng
Fluvalinate	TBBP	43.031	4703	61091	0.0770	826.0085	ng
Deltamethrin/Tralomethrin	TBBP	46.625	0	61091	0.0000	0.0000	ng

Quantitative Analysis Sample Report

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Batch Data Path	C:\RHMP Level 3\O-5005 22623 NCI\QuantResults\22623 PYR.batch.bin		
Analysis Time	10/19/2013 12:47 AM	Analyst Name	ryanhong
Report Time	9/14/2014 3:06 PM	Reporter Name	ryanhong
Last Calib Update	9/14/2014 3:00 PM	Batch State	Processed

Analysis Info

Acq Time	2013-10-19 00:47	Sample Name	PYR1000FCV
Level		Data File	PYR1000FCV.D
Position	126	Acq Method File	PYR_NCI.m
Sample Type	Sample	Sample Info	
Dilution	1	Comment	

Quantitation Results

Compound	ISTD	RT	Response	ISTD Resp	RR	Final Conc	
Allethrin	TBBP	20.157	6682	26043	0.2566	1096.2726	ng
Prallethrin	TBBP	20.224	30723	26043	1.1797	1317.1589	ng
Resmethrin	TBBP	20.699	27024	26043	1.0377	1381.3912	ng
(PCB112)	TBBP	22.225	173	26043	0.0066	41.2460	ng
Bifenthrin	TBBP	28.182	248	26043	0.0095	899.5952	ng
Danitol (Fenpropathrin)	TBBP	28.894	8785	26043	0.3373	719.6027	ng
L-Cyhalothrin	TBBP	31.393	1678	26043	0.0644	426.5088	ng
(PCB198)	TBBP	31.751	0	26043	0.0000	0.0000	ng
Permethrin-cis	TBBP	34.037	0	26043	0.0000	0.0000	ng
Permethrin-trans	TBBP	34.536	0	26043	0.0000	0.0000	ng
Cyfluthrin-1	TBBP	36.149	103	26043	0.0039	97.8648	ng
Cyfluthrin-2	TBBP	36.532	91	26043	0.0035	93.9816	ng
Cyfluthrin-3	TBBP	36.788	158	26043	0.0061	150.2586	ng
Cyfluthrin-4	TBBP	36.890	196	26043	0.0075	233.2660	ng
Cypermethrin-1	TBBP	37.331	60	26043	0.0023	66.4388	ng
Cypermethrin-2	TBBP	37.771	61	26043	0.0024	107.6073	ng
Cypermethrin-3	TBBP	37.839	80	26043	0.0031	74.1357	ng
Cypermethrin-4	TBBP	37.970	206	26043	0.0079	343.6808	ng
Fenvalerate	TBBP	42.116	747	26043	0.0287	95.1771	ng
Fluvalinate	TBBP	42.213	1015	26043	0.0390	418.2301	ng
Esfenvalerate	TBBP	42.712	86	26043	0.0033	13.4254	ng
Deltamethrin/Tralomethrin	TBBP	45.913	0	26043	0.0000	0.0000	ng

	PYR1000 ICV			PYR1000 CCV			PYR1000 FCV		
	10/17/13 11:49 PM			10/18/13 1:38 PM			10/19/13 12:47 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Allethrin	0	0	NA	1000	1071	7	1000	1096	10
Prallethrin	1000	1339	34	1000	1051	5	1000	1317	32
Resmethrin	1000	861	14	1000	1109	11	1000	1381	38
Bifenthrin	1000	1167	17	1000	1212	21	1000	900	10
Danitol (Fenpropathrin)	1000	1010	1	1000	957	4	1000	720	28
Cyhalothrin-lambda	1000	852	15	1000	679	32	1000	427	57
Permethrin-cis	267	145	46	267	155	42	267	0	100
Permethrin-trans	716	682	5	716	410	43	716	0	100
Cyfluthrin-1	1000	687	31	1000	638	36	1000	98	90
Cyfluthrin-2	1000	1004	0	1000	557	44	1000	94	91
Cyfluthrin-3	1000	884	12	1000	530	47	1000	150	85
Cyfluthrin-4	1000	1031	3	1000	304	70	1000	233	77
Cypermethrin-1	1000	753	25	1000	645	35	1000	66	93
Cypermethrin-2	1000	1020	2	1000	651	35	1000	108	89
Cypermethrin-3	1000	893	11	1000	368	63	1000	74	93
Cypermethrin-4	1000	964	4	1000	547	45	1000	344	66
Fenvalerate	1000	908	9	1000	699	30	1000	95	90
Esfenvalerate	1000	935	6	1000	590	41	1000	418	58
Fluvalinate	1000	1062	6	1000	826	17	1000	13	99
Deltamethrin-Tralomethrin	1000	934	7	1000	0	100	1000	0	100
Average	-	-	11	-	-	43	-	-	82

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Summary of Internal Standards

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	2,2',5,5' - Tetrabromobiphenyl	
	Response	Retention Time
TOX10000ICV.D	839849	25.92491667
22623.D	154012	26.58843333
TOX10000CCV.D	91223	26.28816667
TOX10000FCV.D	43637	25.92491667

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	TOX10000 CCV			TOX10000 FCV		
	10/18/13 2:42 PM			10/19/13 1:51 AM		
	True Value	Measured Value	Drift	True Value	Measured Value	Drift
Parameter	(ng)	(ng)	Percent	(ng)	(ng)	Percent
Toxaphene	10000	11092	11	10000	13663	37