

APPENDIX B

Chemicals Analyzed and Methods

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

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

Notes:

Metals analysis included of both total and dissolved fractions. Filtering for the dissolved fraction took place in the field immediately after collection.

a Reporting limits provided by Physis Environmental Laboratories.

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

°C = degrees Celsius; µS/cm = microSiemens per centimeter; µg/L = micrograms per liter (parts per billion); cm = centimeter; EPA = United States Environmental Protection Agency method; mg/L = milligrams per liter; ng/L = nanograms per liter; ppt = parts per thousand; SM = Standard Method

**Table B-2.
Chemical Analyses of Sediment Samples**

Analyte	Analysis Method	Sediment Target Reporting Limits ^{a,b}	Units
Total Solids	SM 2540 B ^c	0.1	%
Total Organic Carbon	9060	0.01	%
Grain Size	SM 2560	0.1	%
Aluminum	6020/6010B ^d	5.0	mg/kg
Antimony	6020/6010B ^d	0.05	mg/kg
Arsenic	6020/6010B ^d	0.05	mg/kg
Barium	6020/6010B ^d	0.05	mg/kg
Beryllium	6020/6010B ^d	0.05	mg/kg
Cadmium	6020/6010B ^d	0.01	mg/kg
Chromium	6020/6010B ^d	0.05	mg/kg
Copper	6020/6010B ^d	0.01	mg/kg
Iron	6020/6010B ^d	5.0	mg/kg
Lead	6020/6010B ^d	0.01	mg/kg
Mercury	6020/6010B ^d	0.02	mg/kg
Nickel	6020/6010B ^d	0.02	mg/kg
Selenium	6020/6010B ^d	0.05	mg/kg
Silver	6020/6010B ^d	0.02	mg/kg
Zinc	6020/6010B ^d	0.05	mg/kg
Total Nitrogen	EPA 6090	4.0	mg/kg
Total Phosphorus	EPA 6020	4.0	mg/kg
Ammonia	SM 4500-NH ³	0.2	mg/kg
Acid Volatile Sulfides	Plumb 1981 and TERL	0.1	mg/kg
Simultaneous Extracted Metals	EPA 200.8	0.0004-0.0124	µmol/g
PAHs ^e	EPA 8270C ^d	5.0	µg/kg
Chlorinated Pesticides ^f	EPA 8270C ^d	0.5-50	µg/kg
Pyrethroid Pesticides	EPA 8270 C NCI	0.5-10	µg/kg
PCB Congeners ^g	EPA 8270C ^d	0.2	µg/kg
PBDEs ^h	EPA 8270 C NCI	0.1	µg/kg
Alkylphenol ^{i,j}	GC/MS SIM	0.02-0.6	mg/kg
Perfluorinated Compounds ^{i,k}	EPA 537M	5.0	µg/kg

Notes:

- a Sediment minimum detection limits are on a dry-weight basis.
b Reporting limits provided by Physis Environmental Laboratories.
c Standard Methods for the Examination of Water and Wastewater, 19th Ed. American Public Health Association, 1995.
d United States Environmental Protection Agency (USEPA) 1986-1996. SW-846. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 3rd Ed.
e Includes acenaphthene, acenaphthylene, anthracene, benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[e]pyrene, benzo[g,h,i]perylene, benzo[k]fluoranthene, biphenyl, chrysene, dibenz[a,h]anthracene, dibenzothiophene, fluoranthene, fluorene, indeno(1,2,3-c,d)pyrene, naphthalene, perylene, phenanthrene, pyrene, 2,6-dimethylnaphthalene, 1-methylnaphthalene, 2-methylnaphthalene, 1-methylphenanthrene, and 2,3,5-trimethylnaphthalene.
f Includes alpha-chlordane, gamma-chlordane, cis-chlordane, trans-chlordane, o,p'-DDT, p,p'-DDT, o,p'-DDD, p,p'-DDD, o,p'-DDE, p,p'-DDE, p,p'-DDMU, aldrin, BHC-alpha, BHC-beta, BHC-gamma, cis-nonachlor, trans-nonachlor, oxychlordane, DCPA (Dacthal), dicofol, dieldrin, toxaphene, endosulfan sulfate, endosulfan-I, endosulfan-II, endrin, endrin aldehyde, enrin ketone, heptachlor, heptachlor epoxide, methoxychlor, mirex, and perthane.
g Includes congeners: PCB-3, 5, 8, 15, 18, 27-29, 31, 33, 37, 44, 49, 52, 56(60), 66, 70, 74, 77, 81, 87, 95, 97, 99, 101, 105, 110, 114, 118-119, 123, 126, 128, 137-138, 141, 149, 151, 153, 156-158, 167, 168+132, 169, 170, 174, 177, 180, 183, 187, 189, 194-195, 199(200), 201, 203, 206, and 209.
h Includes PBDE-17, 28, 47, 49, 66, 85, 99, 100, 138, 153, 154, 183, 190, and 209.
i Collected only at Stations B13-8163, B13-8040, B13-8077; transferred to SCCWRP for analysis.
j Includes nonylphenol, nonylphenol diethoxylate, nonylphenol monoethoxylate, 4-tert-octylphenol, and bisphenol A.
k Includes perfluorooctanoic acid and perfluorooctane sulfonate.
µg/kg = micrograms per kilogram (parts per billion); mg/kg = milligrams per kilogram (parts per million); N/A = not applicable; SM = Standard Method; SOP = standard operating procedure