Table 1
CHEMICAL ANALYSES

Analytical Parameter	Analytical Method (a)	Sample Matrix	Estimated Number of LAB QC Samples (b)		Estimated Number of FIELD QC Samples				Preservation	Number of Container(s)/ Minimum Volume (d)	Sample Hold Time (from collection)
			MS	MSD or DUP	Field Dup	Trip Blank	Field Blank	Rinsate Blank (c)			
Total Metals except Mercury	SW-846 6020/6010B	Water	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	to be completed by lab personnel	1 125 -ml poly	180 days
Total Metals except Mercury	SW-846 6020/6010B	Sed/soil	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	Cool to 4 °C	1 16-oz poly or glass	180 days
Total Metals except Mercury	SW-846 6020/6010B	Biota	1 per 20 samples		See SOP (e)	NA	0	1 per 20 samples	On ice	See SOP (e)	180 days
Total Mercury	SW-846 7470A	Water	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	pH < 2 with HNO_3	1 500-ml poly	28 days
Total Mercury	SW-846 7471A	Sed/soil	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	Cool to 4 °C	1 16-oz poly or glass	28 days
Total Mercury	SW-846 7471A	Biota	1 per 20 samples		See SOP (e)	NA	0	1 per 20 samples	On ice	See SOP (e)	28 days
Diss. Metals except Mercury	SW-846 6020/6010B	Water	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	to be completed by lab personnel	1 125-ml poly	180 days
Diss. Mercury	SW-846 7470A	Water	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	pH < 2 with HNO_3	1 500-ml poly	28 days
TOC	SW-846 9060	Water	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	pH < 2 HCl/H_2S0_4	1 25-ml poly	28 days
Anions (Sulfate, Chloride)	SW-846 9056 or EPA 300.0	Water	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	Cool to 4°C	1 250-ml poly	28 days
Anions (Sulfate, Chloride)	SW-846 9056 or EPA 300.0	Sed/soil	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	Cool to 4°C	1 16-oz glass	28 days
Fluoride	340.2	Water	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	Cool to 4°C	1 – 250 ml poly	28 days
Fluoride	340.2	Sediment	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	Cool to 4°C	1 – 16 oz glass	28 days
Ammonia as N	EPA 350.1	Water	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	pH < 2 H_2S0_4	1- 500 ml poly	28 days
Nitrate/Nitrite as N	EPA 353.1	Water	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	chloroform	1- 250 ml poly	Several days
Nitrite as N	EPA 354.1	Water	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	Cool to 4°C	1 – 250 ml poly	48 hours
Total Carbonate, Bicarbonate and Hydroxide Alkalinity	EPA 310.1	Water	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	Cool to 4 °C	1 250-ml poly	14 days

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			MS	MSD or DUP	Field Dup	Trip Blank	Field Blank	Rinsate Blank (c)			
BOD	EPA 405.1	Water	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	Cool to 4 °C	1 – 1000 ml poly	48 hours
COD	EPA 410.4	Water	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	pH < 2 with H_2SO_4	1 – 50 ml poly	28 days
Paste pH	SW-846 9045C	Sed/soil	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	Cool to 4 °C	1 4 oz. Poly or glass	Analyze as soon as possible following receipt at laboratory
Hardness	Std. Method 2340 B	Water	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	NA	NA (calculated)	NA
Cation Exchange Capacity	SW-846 9080	Sed/soil	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	NA	1-8 oz glass	180 days
Particle Size Distribution	ASTM D422 63	Sed/soil	1 per 20 samples		1 per 20 samples	NA	0	NA	NA	1-8 oz glass	NA
Total Phosphorus and Ortho phosphate	EPA 365.1 and EPA 365.4	Water	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	2 ml of H_2SO_4 for every liter and Cool to 4 °C	1 500-ml poly	28 days for total phosphorus and 48 hours for orthophosphate
TOC	Agronomy #9	Sed/soil	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	Cool to 4°C	1 500-ml amber glass	28 days
TDS	EPA 160.2	Water	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	Cool to 4°C	1-100 ml poly	7 days
TSS	EPA 160.1	Water	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	Cool to 4°C	1-100 ml poly	7 days
AVS w/SEM	QSIA	Sed/soil	1 per 20 samples		1 per 20 samples	NA	1 per 20 samples	1 per 20 samples	Cool to 4°C	1-16 oz glass	14 days
SPLP Metals	1312/SW6020/ SW6010/ SW7470A	Sed/soil	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	Cool to 4°C	1-16 oz. glass	28 days to leach 28 days after leach
Nitrate/Nitrite as N	EPA 353.1	Sed/Soil	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	Cool to 4°C	1-16 oz glass	28 days
Nitrite as N	EPA 354.1	Sed/Soil	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	Cool to 4°C	1-16 oz glass	48 hours
Ammonia as N	EPA 350.1	Sed/soil	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	Cool to 4°C	1-16 oz glass	28 days
Total Phosphorus	EPA 365.1	Sed/soil	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	Cool to 4°C	1-16 oz glass	28 days

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			MS	MSD or DUP	Field Dup	Trip Blank	Field Blank	Rinsate Blank (c)			
TKN	EPA 351.3	Sed/soil	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	Cool to 4°C	1-16 oz glass	28 days
Paste Specific Conductance	EPA 120.1	Sed/soil	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	Cool to 4°C	1-16 oz glass	Analyze as soon as possible following receipt at laboratory
Organic Matter	ASTM D-2974	Sed/soil	1 per 20 samples		1 per 20 samples	NA	0	1 per 20 samples	Cool to 4°C	1-16 oz glass	28 days
Sodium Adsorption Ratio	USDA Hbk. 60, SAR Method	Sed/soil	1 per 20 samples		1 per 20 samples	NA	0	NA	Cool to 4°C	1-16 oz glass	180 days to leach 180 days after leach
Nitrate as N	EPA 353.1	Water	1 per 20 samples		1 per 20 samples	NA	1 per 20 samples	1 per 20 samples	Cool to 4°C	1-250 ml poly	48 hours
Nitrate as N	EPA 353.1	Sed/soil	1 per 20 samples		1 per 20 samples	NA	1 per 20 samples	1 per 20 samples	Cool to 4°C	1-16 oz glass	48 hours
Particulate Matter 10 microns		Air filter	1 per 20 samples		NA	NA	NA	NA	NA	Container supplied by laboratory	NA
FIELD PARAMETERS											
Temperature	SOP 8	Water	NA		0	NA	NA	NA	NA	Poly or glass	Analyze Immediately
Specific Conductance	SOP 8	Water	NA		0	NA	NA	NA	NA	Poly or glass	Analyze Immediately
pH	SOP 8	Water	NA		0	NA	0	NA	NA	Poly or glass	Analyze Immediately upon receipt
Turbidity	SOP 8	Water	NA		0	NA	NA	NA	NA	Poly or glass	Analyze Immediately
Dissolved Oxygen	SOP 8	Water	NA		0	NA	NA	NA	NA	Poly or glass	Analyze Immediately

Table B.4.3-1 Footnotes:

(a) Proposed/equivalent analytical methods may be used pending EPA approval.
(b) As applicable to the Method.
(c) Assumes no dedicated or disposable sampling equipment will be used and therefore, equipment blanks are necessary for groundwater, surface water and sediment samples.
(d) Parameters requiring the same preservation, similar container type and being analyzed by the same laboratory may be collected as one aggregate volume.
(e) Field duplicate, sample volume, containers, and preservation requirements are given in the sample collection SOPs for each biological medium.

Definitions for Table B.4.3-1:

OLM03.2: USEPA CLP Program, Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration, Document # OLM03.2
SW846: Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Final Update III, December 1996.
EPA: USEPA Office of Research and Development, Environmental Monitoring and Support Laboratory, Methods for Chemical Analyses of Water and Wastes, March 1983
Std. Methods: Standard Methods for the Examination of Water and Wastewater, 17th Edition, 1989

QC:	Quality Control
VOA:	Volatile Organics Analysis
MS:	Matrix Spike
MSD:	Matrix Spike Duplicate
DUP:	Matrix Duplicate
Equip:	Equipment
VOC:	Volatile Organic Compounds
SVOC:	Semivolatile Organic Compounds
Diss:	Dissolved
TSS:	Total Suspended Solids
TDS:	Total Dissolved Solids
COD:	Chemical Oxygen Demand
BOD:	Biochemical Oxygen Demand
HCl:	Hydrochloric Acid
HNO_3:	Nitric Acid
H_2SO_4:	Sulfuric Acid
°C:	Degrees Celsius
ml:	milliliter
oz:	ounce
poly:	polyethylene
NA:	Not Applicable
USDA:	United States Department of Agriculture
ASTM:	American Society of Testing and Materials