

A

Analytical Data Summary Tables, 2013 RI Results

Table A-1 Background Red Devil Creek Surface Water and Sediment Results	RD01	RD01	RD01
	10RD01SW	11RD01SW	10RD01SD
Analyte			
Total Inorganic Elements (SW=µg/L, SD=mg/kg)			
Aluminum	80	30.5 J	10800
Antimony	1.4	1.52 J	0.54 UJ
Arsenic	0.8	1.1	65
Barium	26.4	23.8	159
Beryllium	0.027 U	0.006 U	0.5
Cadmium	0.022 U	0.005 U	0.3
Calcium	18400	17500	2380
Chromium	0.053 U	0.43	20.4
Cobalt	0.007 U	0.066	12.3
Copper	0.232 U	0.37	21.7
Iron	110	138	32100
Lead	0.2 U	0.021	8
Magnesium	9680	9460	2990
Manganese	10.2	17.5	579
Mercury			0.18
Nickel	0.081 U	0.44	32
Potassium	69.1 U	218 J	1200
Selenium	0.125 U	0.5 J	0.78 U
Silver	0.009 U	0.004 U	0.053 U
Sodium	1580	1470	19.9 U
Thallium	0.003 U	0.005 U	0.33 U
Vanadium	0.3	0.16 J	35.4
Zinc	0.81 U	0.5 J	80
Total Low Level Mercury (SW=ng/L)			
Mercury, Total	3.17	6.37	
Dissolved Inorganic Elements (SW=µg/L)			
Aluminum, Dissolved	14.8 U	11.9 J	
Antimony, Dissolved	1.3	1.4 J	
Arsenic, Dissolved	0.6	0.9	
Barium, Dissolved	24	23	
Beryllium, Dissolved	0.027 U	0.006 U	
Cadmium, Dissolved	0.022 U	0.005 U	
Calcium, Dissolved	19200	17300	
Chromium, Dissolved	0.053 U	0.23	
Cobalt, Dissolved	0.007 U	0.056	
Copper, Dissolved	0.232 U	0.27	
Iron, Dissolved	7.2 U	100	
Lead, Dissolved	0.2 U	0.005 U	
Magnesium, Dissolved	10200	9340	
Manganese, Dissolved	7.2	15.9	
Nickel, Dissolved	0.081 U	0.35	
Potassium, Dissolved	69.1 U	220 J	
Selenium, Dissolved	0.125 U	0.5 J	
Silicon, Dissolved	3.3	3680	
Silver, Dissolved	0.009 U	0.004 U	
Sodium, Dissolved	1610	1450	
Thallium, Dissolved	0.003 U	0.005 U	
Vanadium, Dissolved	0.026 U	0.13 J	
Zinc, Dissolved	0.81 U	0.2 U	
Dissolved Low Level Mercury (SW=ng/L)			
Mercury, Dissolved	1.95	2.63	

Table A-1 Background Red Devil Creek Surface Water and Sediment Results	RD01	RD01	RD01
	10RD01SW	11RD01SW	10RD01SD
Analyte			
Arsenic Speciation (SW=µg/L, SD=mg/kg)			
Arsenate	0.578	0.774 J	48.7 J
Arsenite	0.102	0.089 J	4.13 J
Inorganic Arsenic	0.68	0.863 J	52.8 J
Mercury Selective Sequential Extraction (sd=ng/g)			
Hg(F0)		3.36 U	
Hg(F1)		1.19 J	
Hg(F2)		0.25 U	
Hg(F3)		57.3 J	
Hg(F4)		17.3 J	
Hg(F5)		24.7	
Hg(F6)		4.98 J	
Methylmercury (SW=ng/L, SD=ng/g)			
Methylmercury	0.074	0.08 J	0.177
Semi-Volatile Organic Compounds (SW=ng/L)			
2-Methylnaphthalene			
Naphthalene			
1-Methylnaphthalene			
2-Methylnaphthalene			
Unknown Hydrocarbon			
Gasoline, Diesel, and Residual Range Organics (SW=mg/L)			
Gasoline Range Organics			
Diesel Range Organics			
Residual Range Organics			
Total Organic Carbon (SD=%)			
Carbon, Total Organic (TOC)		1.47	
General Chemistry (SW=mg/L)			
Bicarbonate	81	74.1	
Carbonate	1 U	3 U	
Hydroxide	1 U		
Hydroxide			
Total Dissolved Solids		74	
Total Suspended Solids		5 U	
Total Dissolved Solids	102		
Total Suspended Solids	2		
Chloride	0.4	0.35 J	
Fluoride	0.022 U	0.05 J	
Sulfate	11.2	9.58	
Nitrate+Nitrite as Nitrogen	0.166	0.208	

Key

J = Analyte detected but relative percent difference was outside control limits; therefore, concentration is estimated.

µg/L = micrograms per liter

mg/kg = milligrams per kilogram

mg/L = milligrams per liter

ng/g = nanograms per gram

ng/L = nanograms per liter

% = percent

SD = sediment

SW = surface water

U = Analyte was analyzed for but not detected. Value provided is reporting limit.

UJ = Indicates the compound of analyte was analyzed for but not detected. The sample detection limit is an estimated value.

Table A-2 Background Statistics for Red Devil Creek Sediment and Surface Water Samples	Sediment					Surface Water - Total					
	Analyte	10RD01SD Conc.(mg/kg)	Sample Size	Number Detections	Recommended Background Level (mg/kg)	Background Rationale	10RD01SW Conc. (µg/L)	11RD01SW Conc. (µg/L)	Sample Size	Number Detections	Recommended Background Level (µg/L)
Aluminum	10800	1	1	10800	Single Result	80	30.5 J	2	2	80	Maximum Detection
Antimony	ND	1	0	ND	Single Result	1.4	1.52 J	2	2	1.52 J	Maximum Detection
Arsenic	65	1	1	65	Single Result	0.8	1.1	2	2	1.1	Maximum Detection
Inorganic Arsenic	NA	0	0	NA	Single Result	0.68	0.863	2	2	0.863	Maximum Detection
Barium	159	1	1	159	Single Result	26.4	23.8	2	2	26.4	Maximum Detection
Beryllium	0.5	1	1	0.5	Single Result	ND	ND	2	0	ND	Maximum Detection
Cadmium	0.3	1	1	0.3	Single Result	ND	ND	2	0	ND	Maximum Detection
Calcium	2380	1	1	2380	Single Result	18400	17500	2	2	18400	Maximum Detection
Chromium	20.4	1	1	20.4	Single Result	ND	0.43	2	1	0.43	Maximum Detection
Cobalt	12.3	1	1	12.3	Single Result	ND	0.066	2	1	0.066	Maximum Detection
Copper	21.7	1	1	21.7	Single Result	ND	0.37	2	1	0.37	Maximum Detection
Iron	32100	1	1	32100	Single Result	110	138	2	2	138	Maximum Detection
Lead	8	1	1	8	Single Result	ND	0.021	2	1	0.021	Maximum Detection
Magnesium	2990	1	1	2990	Single Result	9680	9460	2	2	9680	Maximum Detection
Manganese	579	1	1	579	Single Result	10.2	17.5	2	2	17.5	Maximum Detection
Methylmercury	0.000177	1	1	0.000177	Single Result	0.000074	0.00008 J	2	2	0.00008 J	Maximum Detection
Mercury	0.18	1	1	0.18	Single Result	0.00195	0.00263	2	2	0.00263	Maximum Detection
Nickel	32	1	1	32	Single Result	ND	0.44	2	1	0.44	Maximum Detection
Potassium	1200	1	1	1200	Single Result	ND	218 J	2	1	218 J	Maximum Detection
Selenium	ND	1	0	ND	Single Result	ND	0.5 J	2	1	0.5 J	Maximum Detection
Silver	ND	1	0	ND	Single Result	ND	ND	2	0	ND	Maximum Detection
Sodium	ND	1	0	ND	Single Result	1580	1470	2	2	1580	Maximum Detection
Thallium	ND	1	0	ND	Single Result	ND	ND	2	0	ND	Maximum Detection
Vanadium	35.4	1	1	35.4	Single Result	0.3	0.16 J	2	2	0.3	Maximum Detection
Zinc	80	1	1	80	Single Result	ND	0.5 J	2	1	0.5 J	Maximum Detection

Analyte	Surface Water - Dissolved					
	10RD01SW Conc. (µg/L)	11RD01SW Conc. (µg/L)	Sample Size	Number Detections	Recommended Background Level (µg/L)	Background Rationale
Aluminum	ND	11.9 J	2	1	11.9 J	Maximum Detection
Antimony	1.3	1.4 J	2	2	1.4 J	Maximum Detection
Arsenic	0.6	0.9	2	2	0.9	Maximum Detection
Inorganic Arsenic	NA	NA	0	0	NA	Maximum Detection
Barium	24	23	2	2	24	Maximum Detection
Beryllium	ND	ND	2	0	ND	Maximum Detection
Cadmium	ND	ND	2	0	ND	Maximum Detection
Calcium	19200	17300	2	2	19200	Maximum Detection
Chromium	ND	0.23	2	1	0.23	Maximum Detection
Cobalt	ND	0.056	2	1	0.056	Maximum Detection
Copper	ND	0.27	2	1	0.27	Maximum Detection
Iron	ND	100	2	1	100	Maximum Detection
Lead	ND	ND	2	0	ND	Maximum Detection
Magnesium	10200	9340	2	2	10200	Maximum Detection
Manganese	7.2	15.9	2	2	15.9	Maximum Detection
Methylmercury	NA	NA	0	0	NA	Maximum Detection
Mercury	0.00317	0.00637	2	2	0.00637	Maximum Detection
Nickel	ND	0.35	2	1	0.35	Maximum Detection
Potassium	ND	220 J	2	1	220 J	Maximum Detection
Selenium	ND	0.5 J	2	1	0.5 J	Maximum Detection
Silver	ND	ND	2	0	ND	Maximum Detection
Sodium	1610	1450	2	2	1610	Maximum Detection
Thallium	ND	ND	2	0	ND	Maximum Detection
Vanadium	ND	0.13 J	2	1	0.13 J	Maximum Detection
Zinc	ND	ND	2	0	ND	Maximum Detection

Key:

- µg/L = micrograms per liter
- J = Analyte detected but relative percent difference was outside control limits; there
- mg/kg = milligrams per kilogram
- NA = Not Available, not analyzed
- ND = Not Detected

Table A-3 Red Devil Creek Sediment Results	Background Screening Criteria	Station ID	Units	RD01	RD02	RD03	RD11	RD10	RD04
		Sample ID		10RD01SD	10RD02SD	10RD03SD	11RD11SD	11RD10SD	10RD04SD
Analyte		Method							
Total Inorganic Elements									
Aluminum	10800	SW6010B-Total	mg/kg	10800	14700	9340	9930	7290	9350
Antimony	ND	SW6010B-Total	mg/kg	0.54 UJ	1.2 UJ	1.2 UJ			2510 J
Antimony	ND	SW6020A-Total	mg/kg				7.39 J	5.71 J	
Arsenic	65	SW6010B-Total	mg/kg	65	50	60			2290
Arsenic	65	SW6020A-Total	mg/kg				32.5	62	
Barium	159	SW6010B-Total	mg/kg	159	278	146			401
Barium	159	SW6020A-Total	mg/kg				130 J	119	
Beryllium	0.5	SW6010B-Total	mg/kg	0.5	0.4	0.6			0.9
Beryllium	0.5	SW6020A-Total	mg/kg				0.311	0.417	
Cadmium	0.3	SW6010B-Total	mg/kg	0.3	0.059 U	0.06 U			0.062 U
Cadmium	0.3	SW6020A-Total	mg/kg				0.163 J	0.232	
Calcium	2380	SW6010B-Total	mg/kg	2380	6170	1960	2070 J	1660 J	5530
Chromium	20.4	SW6010B-Total	mg/kg	20.4	25	19			29
Chromium	20.4	SW6020A-Total	mg/kg				14.9 J	11.8 J	
Cobalt	12.3	SW6010B-Total	mg/kg	12.3	13.7	16.5			17.8
Cobalt	12.3	SW6020A-Total	mg/kg				8.69	11.9	
Copper	21.7	SW6010B-Total	mg/kg	21.7	23.4	24.4			45.7
Copper	21.7	SW6020A-Total	mg/kg				13.2 J	14.9 J	
Iron	32100	SW6010B-Total	mg/kg	32100	29200	38300	33200	36100	52000
Lead	8	SW6010B-Total	mg/kg	8	7	8			14
Lead	8	SW6020A-Total	mg/kg				6.22 J	7.99 J	
Magnesium	2990	SW6010B-Total	mg/kg	2990	4110	2710	3250 J	2780 J	8690
Manganese	579	SW6010B-Total	mg/kg	579	2610	1310	854	1480	1350
Mercury	0.18	SW7471A-Total	mg/kg	0.18	0.55	0.42	1.57 J	0.232 J	36
Nickel	32	SW6010B-Total	mg/kg	32	30	38			67
Nickel	32	SW6020A-Total	mg/kg				22 J	26 J	
Potassium	1200	SW6010B-Total	mg/kg	1200	1300	900	636 J	510 J	2660
Selenium	ND	SW6010B-Total	mg/kg	0.78 U	1.7 U	1.8 U			1.8 U
Selenium	ND	SW7742-Total	mg/kg				0.39	0.33	
Silver	ND	SW6010B-Total	mg/kg	0.053 U	0.117 U	0.12 U			0.124 U
Silver	ND	SW6020A-Total	mg/kg				0.062 J	0.04	
Sodium	ND	SW6010B-Total	mg/kg	19.9 U	44.3 U	45.4 U	39.6	21.1	240
Thallium	ND	SW6010B-Total	mg/kg	0.33 U	0.7 U	0.8 U			0.8 U
Thallium	ND	SW6020A-Total	mg/kg				0.055	0.043	
Vanadium	35.4	SW6010B-Total	mg/kg	35.4	39.3	37.9			32.2
Vanadium	35.4	SW6020A-Total	mg/kg				24.7	25.9	
Zinc	80	SW6010B-Total	mg/kg	80	78	91			106
Zinc	80	SW6020A-Total	mg/kg				51.1 J	58.6	
Arsenic Speciation									
Arsenate		EPA 1632-As-Cryo-S-Speciation	mg/kg	48.7 J	50.4 J	53.7 J		53.9	2480 J
Arsenite		EPA 1632-As3-CRYO-T	mg/kg	4.13 J	4.39 J	1.34 J		1.7	57.8 J
Inorganic Arsenic		EPA 1632-Total Inorganic As - Solid	mg/kg	52.8 J	54.8 J	55 J		55.6	2540 J

Table A-3 Red Devil Creek Sediment Results	Background Screening Criteria	Station ID	Units	RD01	RD02	RD03	RD11	RD10	RD04
		Sample ID		10RD01SD	10RD02SD	10RD03SD	11RD11SD	11RD10SD	10RD04SD
Analyte		Method							
Mercury Selective Sequential Extraction									
Hg(F0)		EPA 1631	ng/g	3.36 U		2.48 U		297	2.92 U
Hg(F1)		BRL SOP No. BR-0013	ng/g	1.19 J		2.55 J		3	529 J
Hg(F2)		BRL SOP No. BR-0013	ng/g	0.25 U		0.39 J		1.14 J	107 J
Hg(F3)		BRL SOP No. BR-0013	ng/g	57.3 J		212 J		194 J	3840 J
Hg(F4)		BRL SOP No. BR-0013	ng/g	17.3 J		146 J		37.3	23700 J
Hg(F5)		BRL SOP No. BR-0013	ng/g	24.7		643		166	969000
Hg(F6)		BRL SOP No. BR-0013	ng/g	4.98 J		25.9 J			22.9 J
Methylmercury									
Methylmercury	0.000177	CAS SOP	ng/g					0.1 J	
Methylmercury	0.000177	EPA 1630	ng/g	0.177	7.02	0.218			0.766
Semi-volatile Organic Compounds									
.gamma.-Sitosterol		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg					390 J	230 J
Benzo(b)fluoranthene		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg					1.5 J	1.2 U
Benzoic Acid		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg					220	96 U
Benzyl Alcohol		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg					3.1 J	2.1 U
Diethyl Phthalate		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg					1.7 J	1.3 U
Di-n-butyl Phthalate		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg					9 J	7.9 U
Docosanoic acid		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg					710 J	190 J
Heptacosane		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg						270 J
Pentachlorophenol (PCP)		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg					22 J	20 U
Phenanthrene		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg					1.9 J	2.1 J
Phenol		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg					4.1 J	2 U
Unknown		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg					700 J	180 J
Unknown Alkane		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg						99 J
Unknown Alkene		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg						240 J
Unknown Carboxylic Acid		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg					370 J	130 J
Total Organic Carbon									
Carbon, Total Organic (TOC)		SW9060M-Total Organic Carbon, Modified for Matrix	%	1.47	8.33	0.951	1.3	0.501	1.02

Key**Bold** = detection

Gray shading = exceedance of background

J = Analyte detected but relative percent difference was outside control limits; therefore, concentration is estimated.

µg/kg = micrograms per kilogram

mg/kg = milligrams per kilogram

ND = not detected

ng/g = nanograms per gram

% = percent

U = Analyte was analyzed for but not detected. Value provided is reporting limit.

UJ = Indicates the compound of analyte was analyzed for but not detected. The sample detection limit is an estimated value.

Table A-3 Red Devil Creek Sediment Results	Background Screening Criteria	Station ID	Units	RD05	RD12	RD09	RD06	RD07	RD08
		Sample ID		10RD05SD	11RD12SD	10RD09SD	10RD06SD	10RD07SD	10RD08SD
Analyte		Method							
Total Inorganic Elements									
Aluminum	10800	SW6010B-Total	mg/kg	910	10600	11900	10200	9620	8440
Antimony	ND	SW6010B-Total	mg/kg	1590 J	6360 J	3600 J	4060 J	3430 J	1900 J
Antimony	ND	SW6020A-Total	mg/kg						
Arsenic	65	SW6010B-Total	mg/kg	130000	3610 J	2920	2950	2370	1890
Arsenic	65	SW6020A-Total	mg/kg						
Barium	159	SW6010B-Total	mg/kg	1990		521	459	542	379
Barium	159	SW6020A-Total	mg/kg		985 J				
Beryllium	0.5	SW6010B-Total	mg/kg	1.39 U		0.9	0.8	0.8	0.7
Beryllium	0.5	SW6020A-Total	mg/kg		0.705				
Cadmium	0.3	SW6010B-Total	mg/kg	1.4 U		0.057 U	0.059 U	0.06 U	0.057 U
Cadmium	0.3	SW6020A-Total	mg/kg		0.317 J				
Calcium	2380	SW6010B-Total	mg/kg	23400	3450 J	4080	3910	5000	4190
Chromium	20.4	SW6010B-Total	mg/kg	18.1 U		29	31	32	25
Chromium	20.4	SW6020A-Total	mg/kg		47.4 J				
Cobalt	12.3	SW6010B-Total	mg/kg	50		20.5	21.5	22.3	14.7
Cobalt	12.3	SW6020A-Total	mg/kg		12.5				
Copper	21.7	SW6010B-Total	mg/kg	30 J		55.6 J	58.2 J	55.5 J	39.9 J
Copper	21.7	SW6020A-Total	mg/kg		45.7 J				
Iron	32100	SW6010B-Total	mg/kg	344000	28900	35200	39200	34000	31000
Lead	8	SW6010B-Total	mg/kg	12.5 U		12	11	13	7
Lead	8	SW6020A-Total	mg/kg		1.72 J				
Magnesium	2990	SW6010B-Total	mg/kg	6440	5200 J	5440	5530	7700	4960
Manganese	579	SW6010B-Total	mg/kg	986	552	1250	1560	1690	784
Mercury	0.18	SW7471A-Total	mg/kg	8.6 J	77 J	46 J	63 J	60 J	79 J
Nickel	32	SW6010B-Total	mg/kg	240		64	61	62	49
Nickel	32	SW6020A-Total	mg/kg		47.2 J				
Potassium	1200	SW6010B-Total	mg/kg	814 U	2870 J	2850	2810	2770	2320
Selenium	ND	SW6010B-Total	mg/kg	41 U		1.7 U	1.7 U	1.8 U	1.7 U
Selenium	ND	SW7742-Total	mg/kg		0.62				
Silver	ND	SW6010B-Total	mg/kg	2.8 U		0.113 U	0.117 U	0.12 U	0.113 U
Silver	ND	SW6020A-Total	mg/kg		0.135 J				
Sodium	ND	SW6010B-Total	mg/kg	1050 U	225	270	250	230	210
Thallium	ND	SW6010B-Total	mg/kg	17.4 U		0.7 U	0.7 U	0.7 U	0.7 U
Thallium	ND	SW6020A-Total	mg/kg		0.297				
Vanadium	35.4	SW6010B-Total	mg/kg	4.2 U		26.8	25	27.6	25.1
Vanadium	35.4	SW6020A-Total	mg/kg		22.8				
Zinc	80	SW6010B-Total	mg/kg	120		96	100	91	83
Zinc	80	SW6020A-Total	mg/kg		65.7 J				
Arsenic Speciation									
Arsenate		EPA 1632-As-Cryo-S-Speciation	mg/kg	182000 J	2160	2930 J	4180 J	3680 J	2330 J
Arsenite		EPA 1632-As3-CRYO-T	mg/kg	5960 J	333	104 J	155 J	88.2 J	63.2 J
Inorganic Arsenic		EPA 1632-Total Inorganic As - Solid	mg/kg	188000 J	2490	3030 J	4340 J	3770 J	2390 J

Table A-3 Red Devil Creek Sediment Results	Background Screening Criteria	Station ID	Units	RD05	RD12	RD09	RD06	RD07	RD08
		Sample ID		10RD05SD	11RD12SD	10RD09SD	10RD06SD	10RD07SD	10RD08SD
Analyte		Method							
Mercury Selective Sequential Extraction									
Hg(F0)		EPA 1631	ng/g	13.2 U	41500		2.36 U		18.5
Hg(F1)		BRL SOP No. BR-0013	ng/g	7.24 J	79.4 J		640 J		1180 J
Hg(F2)		BRL SOP No. BR-0013	ng/g	7.09 J	4.94 J		166 J		27.6 J
Hg(F3)		BRL SOP No. BR-0013	ng/g	6580 J	1890 J		5090 J		1360 J
Hg(F4)		BRL SOP No. BR-0013	ng/g	1280 J	4090 J		21900 J		17700 J
Hg(F5)		BRL SOP No. BR-0013	ng/g	2550 M	17200 J		100000		142000
Hg(F6)		BRL SOP No. BR-0013	ng/g	63000 J			3040 J		7550 J
Methylmercury									
Methylmercury	0.000177	CAS SOP	ng/g		0.4 J				
Methylmercury	0.000177	EPA 1630	ng/g	12.7		0.69	0.993	0.578	1
Semi-volatile Organic Compounds									
.gamma.-Sitosterol		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg						
Benzo(b)fluoranthene		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg						
Benzoic Acid		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg						
Benzyl Alcohol		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg						
Diethyl Phthalate		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg						
Di-n-butyl Phthalate		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg						
Docosanoic acid		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg						
Heptacosane		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg						
Pentachlorophenol (PCP)		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg						
Phenanthrene		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg						
Phenol		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg						
Unknown		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg						
Unknown Alkane		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg						
Unknown Alkene		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg						
Unknown Carboxylic Acid		SW8270C-Low Level Semivolatile Organics using LVI	µg/kg						
Total Organic Carbon									
Carbon, Total Organic (TOC)		SW9060M-Total Organic Carbon, Modified for Matrix	%	2.28	0.476	0.882	0.868	0.827	0.94

Key**Bold** = detection

Gray shading = exceedance of background

J = Analyte detected but relative percent difference was outside control limits; therefore, concentration is estimated.

µg/kg = micrograms per kilogram

mg/kg = milligrams per kilogram

ND = not detected

ng/g = nanograms per gram

% = percent

U = Analyte was analyzed for but not detected. Value provided is reporting limit.

UJ = Indicates the compound of analyte was analyzed for but not detected. The sample detection limit is an estimated value.

Table A-4 Surface Water Results	Background Screening Criteria	Station ID	Units	RD02	RD02	RD03	RD03	RD11	RD10	RD04
		Sample ID		10RD02SW	11RD02SW	10RD03SW	11RD03SW	11RD11SW	11RD10SW	10RD04SW
Analyte		Method								
Total Inorganic Elements										
Aluminum	80	SW6010B-Total	µg/L	14.8 U	16.6 J	14.8 U	18.4 J	30.9 J	20.1 J	14.8 U
Antimony	1.52	SW6020A-Total	µg/L	1.3	1.42 J	1.5	1.51	8.81	1.95	11
Arsenic	1.1	SW6020A-Total	µg/L	1	1	0.9	0.8	6.7	1	8.2
Barium	26.4	SW6020A-Total	µg/L	25.2	21.6	23.4	21.2	32.1	22.3	24
Beryllium	ND	SW6020A-Total	µg/L	0.027 U	0.006 U	0.027 U	0.006 U	0.006 U	0.006 U	0.027 U
Cadmium	ND	SW6020A-Total	µg/L	0.022 U	0.005 U	0.022 U	0.006 J	0.005 U	0.005 U	0.022 U
Calcium	18400	SW6010B-Total	µg/L	18500	17300	18400	16800	8580	17200	18600
Chromium	0.43	SW6020A-Total	µg/L	0.053 U	0.22	0.053 U	0.23	0.22	0.37	0.053 U
Cobalt	0.066	SW6020A-Total	µg/L	0.007 U	0.061	0.007 U	0.046	0.677	0.06	0.007 U
Copper	0.37	SW6020A-Total	µg/L	0.232 U	0.29	0.232 U	0.28	0.71	0.35	0.232 U
Iron	138	SW6010B-Total	µg/L	190	131	140	118	2470	128	190
Iron	138	SW6020A-Total	µg/L							
Lead	0.021	SW6020A-Total	µg/L	0.2 U	0.008 J	0.2 U	0.013 J	0.021	0.018 J	0.2 U
Magnesium	9680	SW6010B-Total	µg/L	9660	9370	9690	9070	4460	9410	9870
Manganese	17.5	SW6020A-Total	µg/L	29.5	19.1	11.8	11.8	86.4	13.3	15.4
Nickel	0.44	SW6020A-Total	µg/L	0.081 U	0.36	0.081 U	0.39	1.38	0.46	0.081 U
Potassium	218 J	SW6010B-Total	µg/L	69.1 U	233 J	69.1 U	239 J	50 U	214 J	69.1 U
Selenium	0.5 J	SW6020A-Total	µg/L	0.125 U	0.5 J	0.125 U	0.4 J	0.3 U	0.3 U	0.125 U
Silver	ND	SW6020A-Total	µg/L	0.009 U	0.004 U	0.009 U	0.012 J	0.004 U	0.004 U	0.009 U
Sodium	1580	SW6010B-Total	µg/L	1700	1460	1730	1440	2370	1740	1820
Thallium	ND	SW6020A-Total	µg/L	0.003 U	0.005 U	0.003 U	0.007 J	0.005 U	0.005 U	0.003 U
Vanadium	0.3	SW6020A-Total	µg/L	0.026 U	0.1 J	0.026 U	0.16 J	0.22	0.15 J	0.026 U
Zinc	0.5 J	SW6020A-Total	µg/L	0.81 U	0.2 U	0.81 U	0.2 U	2.1	0.4 J	0.81 U
Total Low Level Mercury										
Mercury, Total	2.63	EPA 1631-Total	ng/L	2.83	3.94	2.33	4.5		4.27	15.8
Dissolved Inorganic Elements										
Aluminum, Dissolved	11.9 J	SW6010B-Diss	µg/L	14.8 U	8.7 J	14.8 U			10.2 J	14.8 U
Antimony, Dissolved	1.4 J	SW6020A-Diss	µg/L	1.2	1.41 J	1.4	1.5		1.57	10.4
Arsenic, Dissolved	0.9	SW6020A-Diss	µg/L	0.9	1	0.8	0.9		0.8	7.8
Barium, Dissolved	24	SW6020A-Diss	µg/L	24.3	21	22.8	21.2		20.7	23.6
Beryllium, Dissolved	ND	SW6020A-Diss	µg/L	0.027 U	0.006 U	0.027 U	0.006 U		0.006 U	0.027 U
Cadmium, Dissolved	ND	SW6020A-Diss	µg/L	0.022 U	0.005 U	0.022 U	0.005 U		0.005 U	0.022 U
Calcium, Dissolved	19200	SW6010B-Diss	µg/L	19000	17200	18600			16800	18600
Chromium, Dissolved	0.23	SW6020A-Diss	µg/L	0.053 U	0.2	0.053 U	0.21		0.3	0.053 U
Cobalt, Dissolved	0.056	SW6020A-Diss	µg/L	0.007 U	0.058	0.007 U	0.042		0.044	0.007 U
Copper, Dissolved	0.27	SW6020A-Diss	µg/L	0.232 U	0.36	0.232 U	0.26		0.29	0.232 U
Iron, Dissolved	100	SW6010B-Diss	µg/L	150	105	100			88.8	140
Lead, Dissolved	ND	SW6020A-Diss	µg/L	0.2 U	0.014 J	0.2 U	0.005 U		0.005 U	0.2 U
Magnesium, Dissolved	10200	SW6010B-Diss	µg/L	9990	9280	9870			9440	9930
Manganese, Dissolved	15.9	SW6020A-Diss	µg/L	24.9	18.5	8.2	8.49		9.41	13.6
Nickel, Dissolved	0.35	SW6020A-Diss	µg/L	0.081 U	0.58	0.081 U	0.32		0.37	0.081 U
Potassium, Dissolved	220 J	SW6010B-Diss	µg/L	69.1 U	256 J	69.1 U			215 J	69.1 U
Selenium, Dissolved	0.5 J	SW6020A-Diss	µg/L	0.125 U	0.6 J	0.125 U	0.3 J		0.3 U	0.125 U
Silver, Dissolved	ND	SW6020A-Diss	µg/L	0.009 U	0.004 U	0.009 U	0.004 U		0.004 U	0.009 U
Sodium, Dissolved	1610	SW6010B-Diss	µg/L	1680	1450	1690			1760	1770
Thallium, Dissolved	ND	SW6020A-Diss	µg/L	0.003 U	0.005 U	0.003 U	0.005 U		0.005 U	0.003 U
Vanadium, Dissolved	0.13 J	SW6020A-Diss	µg/L	0.026 U	0.11 J	0.026 U	0.11 J		0.12 J	0.026 U
Zinc, Dissolved	ND	SW6020A-Diss	µg/L	0.81 U	0.2 U	0.81 U	0.2 U		0.2 U	0.81 U
Dissolved Low Level Mercury										
Mercury, Dissolved	6.37	EPA 1631-Diss	ng/L	2.23	2.13	1.92	3.02		3.53	5.6
Arsenic Speciation										
Arsenate		EPA 1632 As-Cryo-W-Speciation	µg/L	0.862	0.828 J				0.595	1.58
Arsenite		EPA 1632 As3-CRYO-W	µg/L	0.122	0.089 J	1			0.227	0.342
Inorganic Arsenic		EPA 1632 Total Inorganic As - Water	µg/L	0.984	0.917 J				0.822	1.92

Table A-4 Surface Water Results		Background Screening Criteria	Station ID		Units	RD02	RD02	RD03	RD03	RD11	RD10	RD04
Analyte	Sample ID		Method	10RD02SW		11RD02SW	10RD03SW	11RD03SW	11RD11SW	11RD10SW	10RD04SW	
Methylmercury												
Methylmercury		0.08 J	EPA 1630		ng/L	0.101	0.08 J	0.091	0.09 J		0.08 J	0.115
Semi-Volatile Organic Compounds												
1-Methylnaphthalene			SW8270D		µg/L			0.48 U				0.48 U
2-Methylnaphthalene			SW8270C Base Neutral/Acid Semivolatile Organic compounds		µg/L				0.24 U	0.24 U	0.24 U	
2-Methylnaphthalene			SW8270D		µg/L			0.48 U				0.48 U
Naphthalene			SW8270C Base Neutral/Acid Semivolatile Organic compounds		µg/L				0.37 U	0.37 U	0.37 U	
Unknown Hydrocarbon			SW8270D		µg/L			2 J				0 U
Gasoline, Diesel and Residual Range Organics												
Gasoline Range Organics			AK 101		mg/L							
Diesel Range Organics			AK 102		mg/L							
Residual Range Organics			AK 103		mg/L							
General Chemistry												
Bicarbonate			A2320 General Chemistry Parameters		mg/L	79.5	74.2	78.9	74		73.1	77.3
Carbonate			A2320 General Chemistry Parameters		mg/L	1 U	3 U	1 U	1 U		3 U	1 U
Hydroxide			A2320 General Chemistry Parameters		mg/L	1 U		1 U				1 U
Hydroxide			SM 2320		mg/L							
Total Dissolved Solids			A2540C General Chemistry Parameters		mg/L		76		51		71	
Total Suspended Solids			A2540D General Chemistry Parameters		mg/L		5 U		5 U		5 U	
Total Dissolved Solids			EPA 160.1		mg/L	84		81.5				87.5
Total Suspended Solids			EPA 160.2		mg/L	1 U		1.1 U				1.1 U
Chloride			EPA 300.0 General Chemistry Parameters		mg/L	0.4	0.36 J	0.5	0.39 J		0.38 J	0.5
Fluoride			EPA 300.0 General Chemistry Parameters		mg/L	0.022 U	0.05 J	0.022 U	0.08 J		0.06 J	0.022 U
Sulfate			EPA 300.0 General Chemistry Parameters		mg/L	10.8	9.55	10.1	8.63		8.69	10.3
Nitrate+Nitrite as Nitrogen			EPA 353.2 Nitrogen, Total Nitrate-Nitrite (Colorimetric, Automated, Cadmium Reduction)		mg/L	0.14	0.192	0.145	0.178		0.169	0.148
Field Parameters												
Temperature			Field Test		°C	5.84	6.69	5.95	6.38	5.75	5.13	5.66
pH			Field Test		N/A	7.45	7.66	7.39	7.58	7.06	7.08	7.34
ORP			Field Test		mV	101	114	87	94	-26	68	42
Conductance			Field Test		mS/cm	0.194	0.163	0.190	0.161	0.091	0.160	0.190
Turbidity			Field Test		NTU	0.79	0.00	0.00	0.00	60.60	0.00	0.77
Dissolved Oxygen			Field Test		mg/L	14.1	12.11	13.13	10.06	18.68	11.50	16.32
Total Dissolved Solids			Field Test		g/L	0.1	0.106	0.123	0.104	0.059	0.104	0.124

Key**Bold** = detection

°C = Degrees Celsius

g/L = grams per liter

Gray shading = exceedance of background

J = Analyte detected but relative percent difference was outside control limits; therefore, concentration is estimated.

µg/L = micrograms per liter

mg/L = milligrams per liter

mS/cm = Millisiemens per Centimeter

mV = Millivolt

N/A = not applicable

ng/L = nanograms per liter

NTU = Nephelometric Turbidity Unit

ORP = Oxidation reduction potential

U = Analyte was analyzed for but not detected. Value provided is reporting limit.

UJ = Indicates the compound of analyte was analyzed for but not detected. The sample detection limit is an estimated value.

Table A-4 Surface Water Results	Background Screening Criteria	Station ID	Units	RD04	RD05	RD05	RD12	RD09	RD09	RD06
		Sample ID		11RD04SW	10RD05SW	11RD05SW	11RD12SW	10RD09SW	11RD09SW	10RD06SW
Analyte		Method								
Total Inorganic Elements										
Aluminum	80	SW6010B-Total	µg/L	14.1 J	14.8 U	6.5 J	18.7 J	14.8 U	22.6 J	14.8 U
Antimony	1.52	SW6020A-Total	µg/L	17.3	26.7	32.6	61.6	108	126 J	141
Arsenic	1.1	SW6020A-Total	µg/L	11.3 J	903	1030	22.5	73.1	73.1	79.6
Barium	26.4	SW6020A-Total	µg/L	22	102	103	22.8	29.2	25.5	29.5
Beryllium	ND	SW6020A-Total	µg/L	0.006 U	0.027 U	0.009 J	0.006 U	0.027 U	0.006 U	0.027 U
Cadmium	ND	SW6020A-Total	µg/L	0.005 U	0.022 U	0.005 U	0.005 U	0.022 U	0.005 U	0.022 U
Calcium	18400	SW6010B-Total	µg/L	16600	34400	36000	17400	18700	17500	19600
Chromium	0.43	SW6020A-Total	µg/L	0.28	0.053 U	0.15 J	0.25	0.053 U	0.57	0.053 U
Cobalt	0.066	SW6020A-Total	µg/L	0.059	5.3	5.24	0.058	0.3	0.244	0.3
Copper	0.37	SW6020A-Total	µg/L	0.33	0.232 U	0.45	0.38	0.232 U	0.47	0.232 U
Iron	138	SW6010B-Total	µg/L	147	2160	2390	137	190	205	180
Iron	138	SW6020A-Total	µg/L							
Lead	0.021	SW6020A-Total	µg/L	0.012 J	0.2 U	0.079	0.013 J	0.2 U	0.024	0.2 U
Magnesium	9680	SW6010B-Total	µg/L	9010	33700	37100	9800	10900	10500	11600
Manganese	17.5	SW6020A-Total	µg/L	14.6	379	354	13.3	26.5	26.4	30.5
Nickel	0.44	SW6020A-Total	µg/L	0.43	19.2	17.1	0.45	1.1	1.25	1.1
Potassium	218 J	SW6010B-Total	µg/L	254 J	1130	1210	225 J	69.1 U	312 J	69.1 U
Selenium	0.5 J	SW6020A-Total	µg/L	0.4 J	0.125 U	0.2 U	0.5 J	0.125 U	0.4 J	0.125 U
Silver	ND	SW6020A-Total	µg/L	0.004 U	0.009 U	0.004 U	0.004 U	0.009 U	0.004 U	0.009 U
Sodium	1580	SW6010B-Total	µg/L	1530	12800	12900	1810	2320	2050	2580
Thallium	ND	SW6020A-Total	µg/L	0.005 U	0.003 U	0.005 U	0.005 U	0.003 U	0.005 U	0.003 U
Vanadium	0.3	SW6020A-Total	µg/L	0.12 J	0.026 U	0.1 J	0.15 J	0.026 U	0.14 J	0.026 U
Zinc	0.5 J	SW6020A-Total	µg/L	0.2 U	0.81 U	1.7	0.3 J	0.81 U	0.5	0.81 U
Total Low Level Mercury										
Mercury, Total	2.63	EPA 1631-Total	ng/L	20.4	43.4	63	71.1	183	312	208
Dissolved Inorganic Elements										
Aluminum, Dissolved	11.9 J	SW6010B-Diss	µg/L	7 J	14.8 U	3.5 J	7 J	14.8 U	11.1 J	14.8 U
Antimony, Dissolved	1.4 J	SW6020A-Diss	µg/L	17.4	3.2	1.37	60.1	101	124 J	130
Arsenic, Dissolved	0.9	SW6020A-Diss	µg/L	10.6	857	856	21.8	67.8	69.8	74.2
Barium, Dissolved	24	SW6020A-Diss	µg/L	21.8	98.7	99.5	22.3	28.2	25.2	28.6
Beryllium, Dissolved	ND	SW6020A-Diss	µg/L	0.006 U	0.027 U	0.012 J	0.006 U	0.027 U	0.006 U	0.027 U
Cadmium, Dissolved	ND	SW6020A-Diss	µg/L	0.005 U	0.022 U	0.005 U	0.005 U	0.022 U	0.005 U	0.022 U
Calcium, Dissolved	19200	SW6010B-Diss	µg/L	16700	35000	36000	16900	19400	17700	19200
Chromium, Dissolved	0.23	SW6020A-Diss	µg/L	0.28	0.053 U	0.16 J	0.21	0.053 U	0.18 J	0.053 U
Cobalt, Dissolved	0.056	SW6020A-Diss	µg/L	0.049	4.9	4.35	0.049	0.2	0.21	0.2
Copper, Dissolved	0.27	SW6020A-Diss	µg/L	0.34	0.232 U	0.15	0.35	0.232 U	0.35	0.232 U
Iron, Dissolved	100	SW6010B-Diss	µg/L	111	2020	2180	89.7	130	149	110
Lead, Dissolved	ND	SW6020A-Diss	µg/L	0.006 J	0.2 U	0.005 J	0.005 U	0.2 U	0.008 J	0.2 U
Magnesium, Dissolved	10200	SW6010B-Diss	µg/L	8930	34800	36400	9460	11400	10600	11500
Manganese, Dissolved	15.9	SW6020A-Diss	µg/L	12.1	380	345	10.8	24.9	23.6	28.8
Nickel, Dissolved	0.35	SW6020A-Diss	µg/L	0.44	17	10.9	0.43	0.8	0.92	1
Potassium, Dissolved	220 J	SW6010B-Diss	µg/L	267 J	1130	1170	230 J	69.1 U	293 J	69.1 U
Selenium, Dissolved	0.5 J	SW6020A-Diss	µg/L	0.4 J	0.125 U	0.2 U	0.4 J	0.125 U	0.3 J	0.125 U
Silver, Dissolved	ND	SW6020A-Diss	µg/L	0.004 U	0.009 U	0.004 U	0.004 U	0.009 U	0.004 U	0.009 U
Sodium, Dissolved	1610	SW6010B-Diss	µg/L	1500	13000	12500 J	1720	2300	2060	2430
Thallium, Dissolved	ND	SW6020A-Diss	µg/L	0.005 U	0.003 U	0.005 U	0.005 U	0.003 U	0.005 U	0.003 U
Vanadium, Dissolved	0.13 J	SW6020A-Diss	µg/L	0.1 J	0.026 U	0.07 J	0.14 J	0.026 U	0.13 J	0.026 U
Zinc, Dissolved	ND	SW6020A-Diss	µg/L	0.2 U	0.81 U	0.2 U	0.3 J	0.81 U	0.5 J	0.81 U
Dissolved Low Level Mercury										
Mercury, Dissolved	6.37	EPA 1631-Diss	ng/L	6.81	3.04	2.42	13.9	14.1	10.9	15.4
Arsenic Speciation										
Arsenate		EPA 1632 As-Cryo-W-Speciation	µg/L	8.36 J	70	234	21.3			51.5
Arsenite		EPA 1632 As3-CRYO-W	µg/L	0.961 J	667	510	0.714			14.7
Inorganic Arsenic		EPA 1632 Total Inorganic As - Water	µg/L	9.32 J	737	745	22			66.2

Table A-4 Surface Water Results	Background Screening Criteria	Station ID		Units	RD04	RD05	RD05	RD12	RD09	RD09	RD06
		Sample ID	Method		11RD04SW	10RD05SW	11RD05SW	11RD12SW	10RD09SW	11RD09SW	10RD06SW
Methylmercury											
Methylmercury	0.08 J	EPA 1630		ng/L	0.08 J	0.491	0.62	0.09 J	0.144	0.13	0.141
Semi-Volatile Organic Compounds											
1-Methylnaphthalene		SW8270D		µg/L		1.5			0.48 U		0.48 U
2-Methylnaphthalene		SW8270C Base Neutral/Acid Semivolatile Organic compounds		µg/L	0.24 U		1.2 J	0.24 U		0.24 U	
2-Methylnaphthalene		SW8270D		µg/L		1.5			0.48 U		0.48 U
Naphthalene		SW8270C Base Neutral/Acid Semivolatile Organic compounds		µg/L	0.37 U		0.68 J	0.37 U		0.37 U	
Unknown Hydrocarbon		SW8270D		µg/L		0 U			3 J		0 U
Gasoline, Diesel and Residual Range Organics											
Gasoline Range Organics		AK 101		mg/L							
Diesel Range Organics		AK 102		mg/L							
Residual Range Organics		AK 103		mg/L							
General Chemistry											
Bicarbonate		A2320 General Chemistry Parameters		mg/L	72.4	229	243	73.3	85.4	80.3	87.8
Carbonate		A2320 General Chemistry Parameters		mg/L	3 U	1 U	3 U	3 U	1 U	3 U	1 U
Hydroxide		A2320 General Chemistry Parameters		mg/L		1 U			1 U		1 U
Hydroxide		SM 2320		mg/L							
Total Dissolved Solids		A2540C General Chemistry Parameters		mg/L	82		244	72		81	
Total Suspended Solids		A2540D General Chemistry Parameters		mg/L	5 U		5 U	5 U		5 U	
Total Dissolved Solids		EPA 160.1		mg/L		110			116		83
Total Suspended Solids		EPA 160.2		mg/L		3.6			1.1 U		1.1 U
Chloride		EPA 300.0 General Chemistry Parameters		mg/L	0.38 J	0.6	0.46	0.35 J	0.5	0.36 J	0.5
Fluoride		EPA 300.0 General Chemistry Parameters		mg/L	0.07 J	0.1	0.13 J	0.07 J	0.022 U	0.05 J	0.022 U
Sulfate		EPA 300.0 General Chemistry Parameters		mg/L	9.1	28.5	27.7	9.07	13	11.9	13.2
Nitrate+Nitrite as Nitrogen		EPA 353.2 Nitrogen, Total Nitrate-Nitrite (Colorimetric, Automated, Cadmium Reduction)		mg/L	0.185	0.001 U	0.009 U	0.156	0.116	0.192	0.127
Field Parameters											
Temperature		Field Test		°C	5.00	3.79	6.77	5.09	4.84	6.77	4.43
pH		Field Test		N/A	6.66	6.11	5.37	5.97	7.16	7.71	6.98
ORP		Field Test		mV	15	-143	-38	71	57	9	113
Conductance		Field Test		mS/cm	0.162	0.524	0.387	0.177	0.215	0.166	0.072
Turbidity		Field Test		NTU	0.00	2.19	4.63	0.00	0.98	0.00	4.06
Dissolved Oxygen		Field Test		mg/L	16.00	16.29	9.00	13.61	14.55	15.61	15.06
Total Dissolved Solids		Field Test		g/L	0.106	0.335	0.251	0.115	0.14	0.108	0.046

Key**Bold** = detection

°C = Degrees Celsius

g/L = grams per liter

Gray shading = exceedance of background

J = Analyte detected but relative percent difference was outside control limits; therefore, concentration is estimated.

µg/L = micrograms per liter

mg/L = milligrams per liter

mS/cm = Millisiemens per Centimeter

mV = Millivolt

N/A = not applicable

ng/L = nanograms per liter

NTU = Nephelometric Turbidity Unit

ORP = Oxidation reduction potential

U = Analyte was analyzed for but not detected. Value provided is reporting limit.

UJ = Indicates the compound of analyte was analyzed for but not detected. The sample detection limit is an estimated value.

Table A-4 Surface Water Results	Background Screening Criteria	Station ID	Units	RD06	RD07	RD07	RD08	RD08
		Sample ID		11RD06SW	10RD07SW	11RD07SW	10RD08SW	11RD08SW
Analyte		Method						
Total Inorganic Elements								
Aluminum	80	SW6010B-Total	µg/L	20.1 J	14.8 U	19.3 J	14.8 U	19.4 J
Antimony	1.52	SW6020A-Total	µg/L	162 J	158	167 J	170	184
Arsenic	1.1	SW6020A-Total	µg/L	85.3	80.5	80	85.6	78.1
Barium	26.4	SW6020A-Total	µg/L	28.3	29.8	26.5	30.8	26.2
Beryllium	ND	SW6020A-Total	µg/L	0.006 U	0.027 U	0.006 U	0.027 U	0.006 U
Cadmium	ND	SW6020A-Total	µg/L	0.005 U	0.022 U	0.005 J	0.022 U	0.005 U
Calcium	18400	SW6010B-Total	µg/L	17800	18900	18000	19600	17900
Chromium	0.43	SW6020A-Total	µg/L	0.27	0.053 U	0.28	0.053 U	0.52
Cobalt	0.066	SW6020A-Total	µg/L	0.274	0.2	0.23	0.2	0.23
Copper	0.37	SW6020A-Total	µg/L	0.45	0.232 U	0.53	0.5	0.48 J
Iron	138	SW6010B-Total	µg/L	199	150	186	140	189
Iron	138	SW6020A-Total	µg/L					
Lead	0.021	SW6020A-Total	µg/L	0.02 J	0.2 U	0.026	0.2 U	0.029 J
Magnesium	9680	SW6010B-Total	µg/L	10600	11300	10700	11600	11000
Manganese	17.5	SW6020A-Total	µg/L	32.7	27.6	28.2	24.5	32
Nickel	0.44	SW6020A-Total	µg/L	1.18	1	1.13	1	1.23
Potassium	218 J	SW6010B-Total	µg/L	299 J	69.1 U	292 J	69.1 U	312 J
Selenium	0.5 J	SW6020A-Total	µg/L	0.3 J	0.125 U	0.4 J	0.125 U	0.5 J
Silver	ND	SW6020A-Total	µg/L	0.004 U	0.009 U	0.004 U	0.009 U	0.008 J
Sodium	1580	SW6010B-Total	µg/L	2130	2440	2150	2590	2430
Thallium	ND	SW6020A-Total	µg/L	0.005 U	0.003 U	0.005 U	0.003 U	0.005 U
Vanadium	0.3	SW6020A-Total	µg/L	0.15 J	0.026 U	0.12 J	0.026 U	0.14 J
Zinc	0.5 J	SW6020A-Total	µg/L	0.3 J	0.81 U	0.3 J	0.81 U	0.5 J
Total Low Level Mercury								
Mercury, Total	2.63	EPA 1631-Total	ng/L	214	233	200	385	239
Dissolved Inorganic Elements								
Aluminum, Dissolved	11.9 J	SW6010B-Diss	µg/L	15 J	14.8 U	11.1 J	14.8 U	19.7 J
Antimony, Dissolved	1.4 J	SW6020A-Diss	µg/L	148 J	143	163 J	158	184
Arsenic, Dissolved	0.9	SW6020A-Diss	µg/L	74.7	73.7	73.1	75.4	80.9
Barium, Dissolved	24	SW6020A-Diss	µg/L	25.9	28.5	26.2	29.5	27.3
Beryllium, Dissolved	ND	SW6020A-Diss	µg/L	0.006 U	0.027 U	0.006 U	0.027 U	0.006 U
Cadmium, Dissolved	ND	SW6020A-Diss	µg/L	0.005 U	0.022 U	0.005 U	0.022 U	0.005 U
Calcium, Dissolved	19200	SW6010B-Diss	µg/L	17900	19100	17800	19400	17900
Chromium, Dissolved	0.23	SW6020A-Diss	µg/L	0.11 J	0.053 U	0.33	0.053 U	0.39
Cobalt, Dissolved	0.056	SW6020A-Diss	µg/L	0.229	0.007 U	0.197	0.007 U	0.236
Copper, Dissolved	0.27	SW6020A-Diss	µg/L	0.32	0.232 U	0.32	0.232 U	0.5
Iron, Dissolved	100	SW6010B-Diss	µg/L	140	90	104	70	176
Lead, Dissolved	ND	SW6020A-Diss	µg/L	0.005 U	0.2 U	0.005 U	0.2 U	0.037
Magnesium, Dissolved	10200	SW6010B-Diss	µg/L	10900	11500	11000	11600	11000
Manganese, Dissolved	15.9	SW6020A-Diss	µg/L	27.5	24.6	24.3	20.1	27.5
Nickel, Dissolved	0.35	SW6020A-Diss	µg/L	0.99	0.9	1	0.8	1.26
Potassium, Dissolved	220 J	SW6010B-Diss	µg/L	287 J	69.1 U	286 J	69.1 U	382 J
Selenium, Dissolved	0.5 J	SW6020A-Diss	µg/L	0.3 J	0.125 U	0.3 J	0.125 U	0.3 U
Silver, Dissolved	ND	SW6020A-Diss	µg/L	0.004 U	0.009 U	0.004 U	0.009 U	0.009 J
Sodium, Dissolved	1610	SW6010B-Diss	µg/L	2180	2460	2190	2490	2430
Thallium, Dissolved	ND	SW6020A-Diss	µg/L	0.005 U	0.003 U	0.005 U	0.003 U	0.005 U
Vanadium, Dissolved	0.13 J	SW6020A-Diss	µg/L	0.09 J	0.026 U	0.09 J	0.026 U	0.13 J
Zinc, Dissolved	ND	SW6020A-Diss	µg/L	0.2 U	0.81 U	0.2 U	0.81 U	1
Dissolved Low Level Mercury								
Mercury, Dissolved	6.37	EPA 1631-Diss	ng/L	13.3	16.4	13.5	15.5	12.4
Arsenic Speciation								
Arsenate		EPA 1632 As-Cryo-W-Speciation	µg/L	55.7			83	76.9 J
Arsenite		EPA 1632 As3-CRYO-W	µg/L	19.5 J			3.76	10.2
Inorganic Arsenic		EPA 1632 Total Inorganic As - Water	µg/L	75.1			86.8	87.1 J

Table A-4 Surface Water Results		Background Screening Criteria	Station ID	Units	RD06	RD07	RD07	RD08	RD08
Analyte	Sample ID		Method		11RD06SW	10RD07SW	11RD07SW	10RD08SW	11RD08SW
Methylmercury									
Methylmercury	0.08 J		EPA 1630	ng/L	0.14	0.123	0.14	0.129	0.12
Semi-Volatile Organic Compounds									
1-Methylnaphthalene			SW8270D	µg/L		0.48 U		0.48 U	
2-Methylnaphthalene			SW8270C Base Neutral/Acid Semivolatile Organic compounds	µg/L	0.24 U		0.24 U		0.24 U
2-Methylnaphthalene			SW8270D	µg/L		0.48 U		0.48 U	
Naphthalene			SW8270C Base Neutral/Acid Semivolatile Organic compounds	µg/L	0.37 U		0.37 U		0.37 U
Unknown Hydrocarbon			SW8270D	µg/L		0 U		0 U	
Gasoline, Diesel and Residual Range Organics									
Gasoline Range Organics			AK 101	mg/L					
Diesel Range Organics			AK 102	mg/L					
Residual Range Organics			AK 103	mg/L					
General Chemistry									
Bicarbonate			A2320 General Chemistry Parameters	mg/L	81.2	87.8	81.3	87	81.9
Carbonate			A2320 General Chemistry Parameters	mg/L	3 U	1 U	3 U	1 U	3 U
Hydroxide			A2320 General Chemistry Parameters	mg/L		1 U		1 U	
Hydroxide			SM 2320	mg/L					
Total Dissolved Solids			A2540C General Chemistry Parameters	mg/L	78		84		89
Total Suspended Solids			A2540D General Chemistry Parameters	mg/L	5 U		5 U		5 U
Total Dissolved Solids			EPA 160.1	mg/L		115		220	
Total Suspended Solids			EPA 160.2	mg/L		1.1 U		1.1 U	
Chloride			EPA 300.0 General Chemistry Parameters	mg/L	0.37 J	0.5	0.45	0.5	0.37 J
Fluoride			EPA 300.0 General Chemistry Parameters	mg/L	0.04 J	0.022 U	0.09 J	0.022 U	0.06 J
Sulfate			EPA 300.0 General Chemistry Parameters	mg/L	12.2	13.2	11.9	13.1	12.1
Nitrate+Nitrite as Nitrogen			EPA 353.2 Nitrogen, Total Nitrate-Nitrite (Colorimetric, Automated, Cadmium Reduction)	mg/L	0.182	0.143	0.173	0.115	0.169
Field Parameters									
Temperature			Field Test	°C	6.59	4.22	6.31	4.40	5.60
pH			Field Test	N/A	7.62	6.56	7.57	6.27	7.49
ORP			Field Test	mV	86	177	80	2.53	36
Conductance			Field Test	mS/cm	0.168	0.220	0.170	0.229	0.120
Turbidity			Field Test	NTU	0.00	0.21	0.00	0.59	0.00
Dissolved Oxygen			Field Test	mg/L	9.77	16.96	10.75	13.9	11.66
Total Dissolved Solids			Field Test	g/L	0.109	0.143	0.11	0.149	0.077

Key**Bold** = detection

°C = Degrees Celsius

g/L = grams per liter

Gray shading = exceedance of background

J = Analyte detected but relative percent difference was outside control limits; therefore, concentration is estimated.

µg/L = micrograms per liter

mg/L = milligrams per liter

mS/cm = Millisiemens per Centimeter

mV = Millivolt

N/A = not applicable

ng/L = nanograms per liter

NTU = Nephelometric Turbidity Unit

ORP = Oxidation reduction potential

U = Analyte was analyzed for but not detected. Value provided is reporting limit.

UJ = Indicates the compound of analyte was analyzed for but not detected. The sample detection limit is an estimated value.