

Table 2-1. Water Balance Monthly Summary, 2016

Month	Flow from Portal ^a		Precipitation to Sediment Ponds ^b			Precipitation to PAG Site ^b			Total Flow to Sediment Ponds ^c		Flow to LAD Site ^d	
	(gal)	(gal/min)	(inches)	(gal)	(gal/min)	(inches)	(gal)	(gal/min)	(gal)	(gal/min)	(gal)	(gal/min)
Jan-16	6,648,318	149	24.9	233,002	5.2	24.9	270,282	6.1	7,151,602	160	6,918,600	155
Feb-16	6,306,233	156	25.0	233,937	5.8	25.0	271,367	6.7	6,811,537	169	6,577,600	163
Mar-16	5,306,480	119	17.4	162,690	3.6	17.4	188,720	4.2	5,657,890	127	5,495,200	123
Apr-16	6,177,840	143	17.9	167,552	3.9	17.9	194,360	4.5	6,539,752	151	6,372,200	148
May-16	6,578,421	147	8.8	82,654	1.9	8.8	95,879	2.1	6,756,954	151	6,674,300	150
Jun-16	7,040,152	163	6.4	60,214	1.39	6.4	69,848	1.6	7,170,214	166	7,110,000	165
Jul-16	5,757,319	129	3.8	35,156	0.79	3.8	40,781	0.9	5,833,256	131	5,798,100	130
Aug-16	5,648,181	127	5.5	51,051	1.1	5.5	59,219	1.3	5,758,451	129	5,707,400	128
Sep-16	5,740,895	133	15.5	144,832	3.4	15.5	168,005	3.9	6,053,732	140	5,908,900	137
Oct-16	6,099,182	137	4.8	44,413	1.0	4.8	51,519	1.2	6,195,113	139	6,150,700	138
Nov-16	6,605,927	153	11.7	109,115	2.5	11.7	126,573	2.9	6,841,615	158	6,732,500	156
Dec-16	7,219,659	162	6.3	59,279	1.3	6.3	68,764	1.5	7,347,702	165	7,288,423	163

Notes:

Italicized values indicate an estimated number.

LAD = land application/dispersion

PAG = potentially acid-generating

^a Portal flow estimated based on LAD system flow meter measurements and estimates of precipitation to the sediment ponds and PAG facility according to the following equation: Portal Flow = LAD Flow – (Precipitation to Sediment Ponds + Precipitation to PAG Site).

^b Note: Onsite weather station precipitation data was not available from June to December 2016 due to instrument malfunction. Precipitation data from the Annette station was used during this time period. Precipitation to settling ponds based on settling pond surface area of 15,000 ft²; precipitation to PAG site based on PAG facility surface area of 17,400 ft².

^c Flow to sediment ponds estimated as the sum of portal flow, precipitation to sediment ponds, and precipitation to PAG site.

^d Flow to LAD site metered near the outlet of the sediment ponds.

Table 3-1. Water Quality Monitoring Stations

Monitoring Point	Location	Coordinates (NAD27, UTM Zone 8N)		Status	Purpose			
		Easting	Northing		Pre-project Reference Conditions	Compliance Location	Information Only	Post-closure Monitoring
Surface Waters								
WQ1	Offsite at Deer Pasture Creek – downstream	684358.0	6104664.0	Inactive			X	
WQ2	Offsite at Lookout Creek – downstream	683575.0	6105162.0	Active			X	
WQ3	Offsite at Myrtle Creek – downstream	683179.0	6105980.0	Inactive			X	
WQ4	Waterfall Creek – downstream	682283.3	6105575.9	Active	X	X		X
WQ8	Waterfall Creek – upstream	682054.7	6105518.6	Discontinued ^a	X			
WQ5	Camp Creek – middle reach of creek	682054.7	6105518.6	Inactive	X			
WQ6	Camp Creek – downstream	682259.5	6105682.2	Active	X	X		
WQ7	Camp Creek – upstream	681989.1	6105602.1	Discontinued ^a	X			
WQ10	Unnamed Creek 1 – downstream	682171.0	6105725.0	Active	X	X		
WQ12	Unnamed Creek 1 – upstream	682019.5	6105713.6	Discontinued ^a	X			
Seep	Unnamed Creek 1 – upstream groundwater seep	682306.0	6105546.4	Inactive	X			
WQ13	Unnamed Creek 2 – downstream	682306.0	6105546.4	Active	X	X		X
WQ14	Unnamed Creek on South side of Lookout Mountain	682955.0	6101933.0	Discontinued ^b			X	
Groundwater Wells								
MW1	Wetlands below NAG site	682335.3	6105502.0	Active	X	X ^c		X
MW2	Wetlands below settling ponds and LAD area	682191.0	6105606.0	Active	X	X ^c		X
MW3	Wetlands below PAG site and LAD area	682219.1	6105684.2	Active	X	X ^c		X
MW4	Wetlands below and LAD area	682288.0	6105792.0	Active	X	X ^c		X
MW7	Wetlands – offsite and to the east of the project	682607.0	6105469.0	Discontinued ^a	X			
MW8	Upgradient of LAD area and MW3	682028.0	6105561.0	Discontinued ^a			X	
MW9	Upgradient of and LAD area and MW4	682064.0	6105796.0	Discontinued ^a			X	
GW1	Pre-existing drill hole	682134.0	6105711.0	Inactive	X			
GW2	Upgradient of LAD area and MW6	682178.0	6105640.0	Inactive	X			

Table 3-1. Water Quality Monitoring Stations

Monitoring Point	Location	Coordinates (NAD27, UTM Zone 8N)		Status	Purpose			
		Easting	Northing		Pre-project Reference Conditions	Compliance Location	Information Only	Post-closure Monitoring
Effluent, PAG Pond, and Barrels								
EFF1	Settling ponds at point of discharge to LAD	682103.6	6105572.1	Active			X	
PAG Pond	PAG leachate/runoff capture pond	682046.3	6105664.3	Active			X	
PAG Underdrain	PAG leak detection system	--	--	Active (no water) ^d			X ^d	
LO1	Field kinetic test barrel	--	--	Discontinued ^e			X	
LO2	Field kinetic test barrel	--	--	Discontinued ^e			X	
HW1	Field kinetic test barrel	--	--	Discontinued ^e			X	
PORTAL/Drift	Mine drift water at point of entry to the settling ponds	--	--	Active (intermittent)			X	
Portal (multiple locations)	Mine drift sampled within the drift or at the portal entrance	--	--	Active (intermittent)	X ^f		X	

Notes:

ADEC = Alaska Department of Environmental Conservation

LAD = land application/dispersion

NAG = non-acid-generating

PAG = potentially acid-generating

^a Removed from the water quality monitoring network subsequent to Q3 2008, as per agreement with ADEC.

^b Monitoring at station WQ14 was discontinued following collection of 20 baseline samples in the second quarter of 2012.

^c MW1, MW2, MW3, and MW4 will be used to monitor changes to natural water quality in wetlands water when compared to historical values and remote wetland wells.

^d A visual monitoring station was established below the PAG waste disposal area as part of a leak detection system. No water is anticipated to collect at this point unless there is a breach in the liner.

^e LO1, LO2, and HW1 were maintained for informational purposes only and were closed in-place on July 20, 2015. This temporary closure of the barrels may be removed and sampling resumed at the discretion of Niblack Project LLC.

^f As specified in Niblack Waste Management Permit 2013DB0001, samples were to be collected at seeps or drill holes near the portal entrance to determine natural groundwater quality to support post-closure monitoring of drainage water from the closed adit (if drainage occurs).

Table 3-2. Sampling Event Summary, 2016

Date of Sampling Event	Stations Sampled	QA/QC Samples Collected	Parameters Collected
January 15, 2016	EFF1, PAG pond	None	Field parameters only
January 31, 2016	MW1, MW2, MW3, WQ4, WQ6, WQ10, WQ13, EFF1, PAG pond	Field replicates of MW1 and WQ6, total and dissolved field blanks	Analytical chemistry and field parameters
February 14, 2016	EFF1, PAG pond	None	Field parameters only
March 27, 2016	EFF1, PAG pond	None	Field parameters only
April 1, 2016	MW1, MW2, MW3, WQ4, WQ6, WQ10, WQ13, EFF1, PAG pond	Field replicates of MW1 and WQ10, total and dissolved field blanks	Analytical chemistry and field parameters
April 30, 2016	EFF1, PAG pond	None	Field parameters only
May 28, 2016	EFF1, PAG pond	None	Field parameters only
June 29, 2016	EFF1, PAG pond	None	Field parameters only
July 26, 2016	EFF1, PAG pond	None	Field parameters only
August 25, 2016	EFF1, PAG pond	None	Field parameters only
September 24, 2016	EFF1, PAG pond	None	Field parameters only
October 10-11, 2016	MW1, MW2, MW3, WQ4, WQ6, WQ10, WQ13, EFF1, PAG pond	Field replicates of MW1 and WQ13, total and dissolved field blanks	Analytical chemistry and field parameters

Table 3-2. Sampling Event Summary, 2016

Date of Sampling Event	Stations Sampled	QA/QC Samples Collected	Parameters Collected
October 22, 2016	EFF1, PAG pond	None	Field parameters only
November 20, 2016	EFF1, PAG pond	None	Field parameters only
December 17, 2016	EFF1, PAG pond	None	Field parameters only

Notes:

The analyte list for each sampling event is presented in Tables 3-3 and 3-4.

PAG = potentially acid-generating

QA/QC = quality assurance and quality control

Table 3-3. Water Quality Parameters Monitored in Surface Water, Groundwater, and Effluent

Characteristic	Sample Type
Monitoring Required in Permit 2013DB0001	
<i>Field Parameters</i>	
Conductivity	Field test
Dissolved oxygen ^a	Field test
pH	Field test
Temperature	Field test
Turbidity ^a	Field test
<i>Conventional Analyses</i>	
Hardness (as CaCO ₃)	Grab
Total dissolved solids	Grab
<i>Cation, Anions, and Nutrients</i>	
Sulfate	Grab
Nitrogen (nitrate + nitrite)	Grab
<i>Total and Dissolved Metals ^b</i>	
Aluminum	Grab
Arsenic	Grab
Cadmium	Grab
Chromium	Grab
Copper	Grab
Lead	Grab
Mercury	Grab
Selenium	Grab
Zinc	Grab
Optional/Historical Monitoring (Not Required in Permit 2013DB0001) ^c	
<i>Field Parameters</i>	
Sulfate ^a	Hach field test
<i>Conventional Analyses</i>	
Total suspended solids	Grab
<i>Cation, Anions, and Nutrients</i>	
Alkalinity (as CaCO ₃)	Grab
Chloride	Grab
Ammonia as nitrogen	Grab
<i>Total and Dissolved Metals</i>	
Calcium	Grab
Iron	Grab
Magnesium	Grab
Nickel	Grab
Sodium	Grab

Table 3-3. Water Quality Parameters Monitored in Surface Water, Groundwater, and Effluent

Characteristic	Sample Type
Potassium	Grab
Silver	Grab

Notes:

NPLLC = Niblack Project LLC

PAG = potentially acid-generating

^a Permit 2013DB0001 requires field monitoring of conductivity, pH, and temperature at all stations on a quarterly basis. For stations PAG Pond and EFF1, conductivity, dissolved oxygen, pH, temperature, and turbidity are monitored when trained project field staff are onsite. Sulfate will also be measured in the field at the PAG Pond and EFF1 at the discretion of NPLLC.

^b Permit 2013DB0001 requires collection of total (unfiltered) and dissolved (filtered) fractions for cadmium, copper, and zinc. Only the total fraction is required for aluminum, arsenic, chromium, lead, mercury, and selenium.

^c Optional/Historical monitoring parameters are those which are not required under Permit 2013DB0001, but which NPLLC may chose to monitor to enhance understanding of site.

Table 3-4. Alaska Water Quality Criteria, Analytical Methods, and Detection Limits

Parameter	Units	Screening Criteria (Fresh Water Aquatic Life) ^a				Criteria Source	Analytical Method	MDL ^b	MRL ^b
		Fraction	Project Applicability	Criteria					
Monitoring Required in Permit 2013DB0001									
Field Parameters									
Conductivity	mS/m	--	--	--	--		Field test	--	--
Dissolved oxygen	mg/L	--	--	--	--		Field test	--	--
pH	pH units	--	Surface Water	6.5 - 8.5 ^c	18 AAC 70		Field test	--	--
Temperature	°C	--	Surface Water	13 ^d	18 AAC 70		Field test	--	--
Turbidity	ntu	--	--	--	--		Field test	--	--
Physical Tests									
Hardness (as CaCO ₃)	mg/L	--	--	--	--		SM 2340C	0.8	2
Total Dissolved Solids	mg/L	--	Surface Water	1000 ^e	18 AAC 70		SM 2540C	5	5
Cation, Anions, and Nutrients									
Nitrogen (nitrate + nitrite)	mg/L	--	--	--	--		EPA 353.2	0.009	0.05
Sulfate	mg/L	--	--	--	--		EPA 300.0	0.01	0.2
Total and Dissolved Metals ^f									
Aluminum	µg/L	Total	Surface Water	Surface water, chronic: 87 - 750 ^g Surface water, acute: 750	18 AAC 70		EPA 6020	0.3	2
Arsenic	µg/L	Dissolved	Surface Water	Surface water, chronic: 150 Surface water, acute: 340	18 AAC 70		EPA 6020	0.1	0.5
Cadmium	µg/L	Dissolved	Surface Water, Groundwater	Surface water, chronic: 0.01 - 0.17 ^h Surface water, acute: 0.02 - 1 ^h Groundwater: 0.044 - 0.07 ⁱ	Surface water: 18 AAC 70 Groundwater: Permit 2013DB0001		EPA 6020	0.005	0.02
Chromium (Cr III + Cr VI)	µg/L	Dissolved	Surface Water, Groundwater	Surface water, chronic: 11 ^j Surface water, acute: 16 ^j Groundwater: 6.31 ^k	Surface water: 18 AAC 70 Groundwater: Permit 2013DB0001		EPA 6020	0.04	0.2
Copper	µg/L	Dissolved	Surface Water, Groundwater	Surface water, chronic: 0.18 - 6 ^h Surface water, acute: 0.18 - 8 ^h Groundwater: 2.61 ^l	Surface water: 18 AAC 70 Groundwater: Permit 2013DB0001		EPA 6020	0.02	0.1
Lead	µg/L	Dissolved	Surface Water	Surface water, chronic: 0.01 - 1 ^h Surface water, acute: 0.34 - 38 ^h	18 AAC 70		EPA 6020	0.005	0.02
Mercury	µg/L	Dissolved	Surface Water	Surface water, human health: 0.051	18 AAC 70		EPA 7470A	0.02	0.2
Selenium	µg/L	Total	Surface Water	Surface water, chronic: 5 Surface water, acute: none	18 AAC 70		EPA 6020	0.3	1
Zinc	µg/L	Dissolved	Surface Water, Groundwater	Surface water, chronic: 2 - 78 ^h Surface water, acute: 2 - 77 ^h Groundwater: 7.59 - 11.76 ^m	Surface water: 18 AAC 70 Groundwater: Permit 2013DB0001		EPA 6020	0.2	0.5

Table 3-4. Alaska Water Quality Criteria, Analytical Methods, and Detection Limits

Parameter	Units	Screening Criteria (Fresh Water Aquatic Life) ^a					MDL ^b	MRL ^b
		Fraction	Project Applicability	Criteria	Criteria Source	Analytical Method		
Optional/Historical Monitoring (Not Required in Permit 2013DB0001) ⁿ								
Field Parameters								
Sulfate	mg/L	--	PAG Pond	--	--	Hach field test	--	--
Physical Tests								
Total Suspended Solids	mg/L	--	Surface Water	--	--	SM 2540D	5	5
Cation, Anions, and Nutrients								
Alkalinity (as CaCO ₃)	mg/L	--	Surface Water	--	--	SM 2320B	3	9
Ammonia as nitrogen	mg/L	--	Surface Water	--	--	SM 4500-NH3E	0.009	0.05
Bromide	mg/L	--	Surface Water	--	--	EPA 300.0	0.004	0.1
Chloride	mg/L	--	Surface Water	--	--	EPA 300.0	0.03	0.2
Fluoride	mg/L	--	Surface Water	--	--	EPA 300.0	0.003	0.2
o -Phosphate as phosphorus, dissolved	mg/L	--	Surface Water	--	--	EPA 365.3	0.004	0.01
Phosphate as phosphorus, dissolved	mg/L	--	Surface Water	--	--	EPA 365.3	0.004	0.01
Phosphate as phosphorus, total	mg/L	--	Surface Water	--	--	EPA 365.3	0.004	0.01
Total and Dissolved Metals								
Antimony	µg/L	--	Surface Water	--	--	EPA 6020	0.02	0.05
Barium	µg/L	--	Surface Water	--	--	EPA 6020	0.02	0.05
Beryllium	µg/L	--	Surface Water	--	--	EPA 6020	0.006	0.02
Bismuth	µg/L	--	Surface Water	--	--	EPA 6020	0.02	0.1
Boron	µg/L	--	Surface Water	--	--	EPA 6010	2	50
Calcium	µg/L	--	Surface Water	--	--	EPA 6010	9	50
Cobalt	µg/L	--	Surface Water	--	--	EPA 6020	0.006	0.02
Iron	µg/L	--	Surface Water	--	--	EPA 6010	3	20
Lithium	µg/L	--	Surface Water	--	--	EPA 6010	2	10
Magnesium	µg/L	--	Surface Water	--	--	EPA 6010	0.4	20
Manganese	µg/L	--	Surface Water	--	--	EPA 6020	0.006	0.05
Molybdenum	µg/L	--	Surface Water	--	--	EPA 6020	0.008	0.05
Nickel	µg/L	--	Surface Water	--	--	EPA 6020	0.03	0.2
Phosphorus	µg/L	--	Surface Water	--	--	EPA 6010	60	200
Potassium	µg/L	--	Surface Water	--	--	EPA 6010	40	400
Silicon	µg/L	--	Surface Water	--	--	EPA 6010	6	400
Silver	µg/L	--	Surface Water	--	--	EPA 6020	0.004	0.02
Sodium	µg/L	--	Surface Water	--	--	EPA 6010	20	200
Strontium	µg/L	--	Surface Water	--	--	EPA 6010	0.9	10
Thallium	µg/L	--	Surface Water	--	--	EPA 6020	0.005	0.02
Tin	µg/L	--	Surface Water	--	--	EPA 6010	9	50
Titanium	µg/L	--	Surface Water	--	--	EPA 6010	4	10
Uranium	µg/L	--	Surface Water	--	--	EPA 6020	0.003	0.02
Vanadium	µg/L	--	Surface Water	--	--	EPA 6020	0.03	0.2

Table 3-4. Alaska Water Quality Criteria, Analytical Methods, and Detection Limits

Parameter	Units	Fraction	Screening Criteria (Fresh Water Aquatic Life) ^a			Analytical Method	MDL ^b	MRL ^b
			Project Applicability	Criteria	Criteria Source			

Notes:

-- = Not applicable to the Niblack Project and/or not included in *Alaska Water Quality Manual for Toxic and Other Deleterious Organic and Inorganic Substances* or *18 AAC 70 Water Quality Standards*.

MDL = method detection limit

MRL = method reporting limit

NPLLC = Niblack Project LLC

TDS = total dissolved solids

^a Freshwater Aquatic Life Criteria from *Alaska Water Quality Criteria Manual for Toxic and Other Deleterious Organic and Inorganic Substances*, December 12, 2008 and from *18 AAC 70 Water Quality Standards*, September 19, 2009.

^b ALS periodically updates MDLs and MRLs. Listed MDLs and MRLs are current as of May 3, 2012.

^c pH, for freshwater uses (variation of pH for water naturally outside the specified range must be toward the range). May not be less than 6.5 or greater than 8.5. May not vary more than 0.5 pH unit from natural conditions.

^d Temperature may not exceed 20°C at any time. The following maximum temperatures may not be exceeded, where applicable: migration routes, 13°C; spawning areas, 13°C; rearing areas, 15°C; and egg and fry incubation, 13°C. For all other waters, the weekly average temperature may not exceed site-specific requirements needed to preserve normal species diversity or to prevent appearance of nuisance organisms.

^e TDS may not exceed 1,000 mg/L. A concentration of TDS may not be present in water if that concentration causes or reasonably could be expected to cause an adverse effect to aquatic life.

^f Permit 2013DB0001 requires collection of total (unfiltered) and dissolved (filtered) fractions for cadmium, copper, and zinc. Only the total fraction is required for aluminum, arsenic, chromium, lead, mercury, and selenium. However, NPLLC may collect both total and dissolved data for all trace elements to allow for screening against water quality criteria and to enhance understanding of trace element behavior in site waters.

^g Aluminum chronic standards are pH and hardness dependent. Where the pH is greater than or equal to 7.0 and the hardness is greater than or equal to 50 ppm as CaCO₃, the chronic aluminum standard will then be equal to the acute aluminum standard, 750 µg/L as total recoverable aluminum.

^h Water quality criterion is hardness dependent. A range of values based on hardness measured at surface water stations from 2007 to 2012 is presented.

ⁱ Niblack Permit 2013DB0001 specifies facility-specific groundwater well threshold values for dissolved cadmium of 0.044 µg/L at MW2 and 0.07 µg/L at MW3.

^j No aquatic life screening value is available for total recoverable chromium (III + VI). The chromium VI screening levels are presented here for comparison. As noted in Niblack Permit 2013DB0001, Table B, if the unfiltered total chromium value exceeds the chromium (VI) water quality standard of 50 µg/L, samples of dissolved chromium (VI) may be requested.

^k Niblack Permit 2013DB0001 specifies a facility-specific groundwater well threshold value for total recoverable chromium of 6.31 µg/L at MW3. As noted in Niblack Permit 2013DB0001, Table B, if the unfiltered total chromium value exceeds the chromium (VI) water quality standard of 50 µg/L, samples of dissolved chromium (VI) may be requested.

^l Niblack Permit 2013DB0001 specifies a facility-specific groundwater well threshold value for dissolved copper of 2.61 µg/L at MW1.

^m Niblack Permit 2013DB0001 specifies facility-specific groundwater well threshold values for dissolved zinc of 7.59 µg/L at MW2 and 11.76 µg/L at MW3.

ⁿ Optional/Historical monitoring parameters are those which are not required under Permit 2013DB0001, but which NPLLC may chose to monitor to enhance understanding of site water quality.

Table 3-5. Summary of Water Quality Monitoring Conducted through Q4 2016

Year	Quarter	Month	Permit-Required Stations (Active)		Discharge Water and Waste Rock Monitoring (Active)			Reference/Background Stations (Discontinued)			Offsite Stations (As-needed)				Portal Stations (As-Needed)
			Surface Water (WQ4, WQ6, WQ10, WQ13)	Monitoring Wells (MW1, MW2, MW3, MW4)	Settling Ponds (EFF1)	PAG Pond (PAG)	Kinetic Test Barrels (LO1, LO2, HW1)	Surface Water (WQ7, WQ8, WQ12) ^a	Monitoring Wells (MW7, MW8, MW9)	Monitoring Wells & Seep (GW1, GW2, SEEP) ^b	Surface Water (WQ1)	Surface Water (WQ2)	Surface Water (WQ3)	Surface Water (WQ14)	PORTAL/Drift
2016	Q1	Jan	X	X	X	X									
		Feb													
		Mar													
	Q2	Apr	X	X	X	X									
		May													
		Jun													
	Q3	Jul													
		Aug													
		Sep													
	Q4	Oct	X	X	X	X									
		Nov													
		Dec													
2015	Q1	Jan	X	X ^c	X	X	X								
		Feb													
		Mar													
	Q2	Apr													
		May	X	X	X	X	X								
		Jun													
	Q3	Jul													
		Aug	X	X	X	X									
		Sep													
	Q4	Oct													
		Nov	X	X	X	X									
		Dec	X	X	X	X	X								
2014	Q1	Jan	X	X	X	X	X								
		Feb													
		Mar													
	Q2	Apr													
		May													
		Jun	X	X	X	X	X								
	Q3	Jul													
		Aug	X	X ^d	X	X	X								
		Sep													
	Q4	Oct	X	X	X	X	X								
		Nov													
		Dec													
2013	Q1	Jan	X	X	X	X	X								
		Feb													
		Mar													
	Q2	Apr	X	X	X	X	X					X		X	
		May													
		Jun													
	Q3	Jul	X	X	X	X	X					X			X
		Aug													
		Sep													
	Q4	Oct	X	X	X	X	X					X			X
		Nov													
		Dec													

Table 3-5. Summary of Water Quality Monitoring Conducted through Q4 2016

Year	Quarter	Month	Permit-Required Stations (Active)		Discharge Water and Waste Rock Monitoring (Active)			Reference/Background Stations (Discontinued)			Offsite Stations (As-needed)				Portal Stations (As-Needed)
			Surface Water (WQ4, WQ6, WQ10, WQ13)	Monitoring Wells (MW1, MW2, MW3, MW4)	Settling Ponds (EFF1)	PAG Pond (PAG)	Kinetic Test Barrels (LO1, LO2, HW1)	Surface Water (WQ7, WQ8, WQ12) ^a	Monitoring Wells (MW7, MW8, MW9)	Monitoring Wells & Seep (GW1, GW2, SEEP) ^b	Surface Water (WQ1)	Surface Water (WQ2)	Surface Water (WQ3)	Surface Water (WQ14)	PORTAL/Drift
2012	Q1	Jan	X	X	X	X	X								
		Feb				X									
		Mar				X									
	Q2	Apr	X	X	X	X	X				X		X		
May															
2011	Q3	Jul	X	X	X	X	X							X	
		Aug													
		Sep													
	Q4	Oct	X	X	X	X					X			X	
Nov															
2010	Q1	Jan	X	X	X	X							X		
		Feb				X							X		
		Mar				X							X		
	Q2	Apr	X	X	X	X	X						X		
May					X							X			
2009	Q3	Jul				X	X						X		
		Aug	X	X	X	X	X						X		
		Sep				X	X						X		
	Q4	Oct	X	X	X	X	X						X		
Nov					X							X			
2008	Q1	Jan													
		Feb													
		Mar	X	X	X	X							X		
	Q2	Apr	X	X	X	X	X						X		
May					X										
2007	Q3	Jul	X	X	X	X	X						X		
		Aug				X							X		
		Sep				X	X						X		
	Q4	Oct	X	X	X	X	X						X		
Nov												X			
2006	Q1	Jan													
		Feb													
		Mar													
	Q2	Apr													
May															
2005	Q3	Jul													
		Aug													
		Sep													
	Q4	Oct													
Nov															
2004	Q1	Jan													
		Feb													
		Mar													
	Q2	Apr													
May															
2003	Q3	Jul													
		Aug													
		Sep													
	Q4	Oct													
Nov															
2002	Q1	Jan													
		Feb													
		Mar													
	Q2	Apr													
May															
2001	Q3	Jul													
		Aug													
		Sep													
	Q4	Oct													
Nov															
2000	Q1	Jan													
		Feb													
		Mar													
	Q2	Apr													
May															
1999	Q3	Jul													
		Aug													
		Sep													
	Q4	Oct													
Nov															
1998	Q1	Jan													
		Feb													
		Mar													
	Q2	Apr													
May															
1997	Q3	Jul													
		Aug													
		Sep													
	Q4	Oct													
Nov															
1996	Q1	Jan													
		Feb													
		Mar													
	Q2	Apr													
May															
1995	Q3	Jul													
		Aug													
		Sep													
	Q4	Oct													
Nov															
1994	Q1	Jan													
		Feb													
		Mar													
	Q2	Apr													
May															
1993	Q3	Jul													
		Aug													
		Sep													
	Q4	Oct													
Nov															
1992	Q1	Jan													
		Feb													
		Mar													
	Q2	Apr													
May															
1991	Q3	Jul													
		Aug													
		Sep													
	Q4	Oct													
Nov															
1990	Q1	Jan													
		Feb													
		Mar													
	Q2	Apr													
May															
1989	Q3	Jul													
		Aug													
		Sep													
	Q4	Oct													
Nov															
1988	Q1	Jan													
		Feb													
		Mar													
	Q2	Apr													
May															
1987	Q3	Jul													
		Aug													
		Sep													
	Q4	Oct													
Nov															
1986	Q1	Jan													
		Feb													
		Mar													
	Q2	Apr													
May															
1985	Q3	Jul													
		Aug													
		Sep													
	Q4	Oct													
Nov															
1984	Q1	Jan													
		Feb													
		Mar													
	Q2	Apr													
May															
1983	Q3	Jul													
		Aug													
		Sep													
	Q4	Oct													
Nov															
1982	Q1	Jan													
		Feb													
		Mar													
	Q2	Apr													
May															
1981	Q3	Jul													
		Aug													
		Sep													
	Q4	Oct													
Nov															
1980	Q1	Jan													
		Feb													
		Mar													
	Q2	Apr													
May															
1979	Q3	Jul													
		Aug													
		Sep													
	Q4	Oct													
Nov															
1978	Q1	Jan													
		Feb													
		Mar													
	Q2	Apr													
May															
1977	Q3	Jul													
		Aug													
		Sep													
	Q4	Oct													
Nov															
1976	Q1	Jan													
		Feb													
		Mar													
	Q2	Apr													
May															
1975</															

Table 3-5. Summary of Water Quality Monitoring Conducted through Q4 2016

Year	Quarter	Month	Permit-Required Stations (Active)		Discharge Water and Waste Rock Monitoring (Active)			Reference/Background Stations (Discontinued)			Offsite Stations (As-needed)				Portal Stations (As-Needed)
			Surface Water (WQ4, WQ6, WQ10, WQ13)	Monitoring Wells (MW1, MW2, MW3, MW4)	Settling Ponds (EFF1)	PAG Pond (PAG)	Kinetic Test Barrels (LO1, LO2, HW1)	Surface Water (WQ7, WQ8, WQ12) ^a	Monitoring Wells (MW7, MW8, MW9)	Monitoring Wells & Seep (GW1, GW2, SEEP) ^b	Surface Water (WQ1)	Surface Water (WQ2)	Surface Water (WQ3)	Surface Water (WQ14)	PORTAL/Drift
2008	Q1	Jan	X	X	X			X	X		X		X		
		Feb	X	X	X			X	X		X		X		
		Mar	X	X	X			X	X		X		X		
	Q2	Apr	X	X	X			X	X		X		X		
		May	X	X	X			X	X		X		X		
		Jun	X	X	X			X	X		X		X		
	Q3	Jul	X	X	X		X	X	X ^e		X		X		
		Aug		X	X	X	X								
		Sep		X	X	X	X								
	Q4	Oct	X	X	X	X	X								
		Nov													
		Dec													
2007	Q1	Jan													
		Feb	X	X				X	X ^e		X		X		
		Mar													
	Q2	Apr	X	X				X	X ^e		X		X		
		May	X	X				X	X ^e		X		X		
		Jun	X	X				X	X ^e	X	X		X		
	Q3	Jul	X	X				X	X		X		X		
		Aug	X	X				X	X		X		X		
		Sep	X	X				X	X		X		X		
	Q4	Oct	X	X				X	X		X		X		
		Nov	X	X	X			X	X		X		X		
		Dec	X	X	X			X	X		X		X		

Notes:

Monitoring for full analyte list (does not include field parameter-only monitoring events)
PAG = potentially acid-generating

^a Surface Water station WQ5 (Camp Creek middle reach) was monitored 6 times from 1996 - 2006. No samples have been collected since 2006.
^b Preliminary Monitoring Wells GW1 and GW2 were also sampled in October and December 2006. The SEEP station was also monitored in August, October, and December 2006.
^c MW4 was not monitored during Q1 2015 because a stormwater flow event exposed the well screen at the ground surface.
^d Sample not collected at MW4; well was dry.
^e Monitoring at MW7 only. Completion and monitoring of wells MW8 and MW9 began in July 2007.

Table 3-6a. QA/QC Replicate Results and Relative Percent Differences, Physical Parameters, Anions and Nutrients, 2016

Station ID Sample ID ALS Kelso Lab SDG Collection Contractor Sample Event Date Time							Analytical Physical Tests			Dissolved Anions and Nutrients						
							TDS (mg/L)	Hardness as CaCO ₃ (mg/L)	TSS (mg/L)	Alkalinity as CaCO ₃ (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
Permit Stations - Surface Water																
WQ6	WQ6	K1601004	Integral	January 2016	01/31/2016	11:00	14.5	15.6	--	--	--	1.98	--	0.046 <i>J</i>	--	--
WQ6	WQ20	K1601004	Integral	January 2016	01/31/2016	11:00	12.5	14.4	--	--	--	1.97	--	0.047 <i>J</i>	--	--
			Sample Difference				-2	-1.2	NC	NC	NC	-0.01	NC	NC	NC	NC
			RPD				15%	8%	NC	NC	NC	1%	NC	NC	NC	NC
			abs (RPD)				15%	8%	NC	NC	NC	1%	NC	NC	NC	NC
WQ10	WQ10	K1603321	Integral	April 2016	04/01/2016	12:25	53	38	--	--	--	5.05	--	0.054	--	--
WQ10	WQ20	K1603321	Integral	April 2016	04/01/2016	12:25	63	34	--	--	--	5.12	--	0.058	--	--
			Sample Difference				10	-4	NC	NC	NC	0.07	NC	0.004	NC	NC
			RPD				-17%	11%	NC	NC	NC	-1%	NC	-7%	NC	NC
			abs (RPD)				17%	11%	NC	NC	NC	1%	NC	7%	NC	NC
WQ13	WQ13	K1612340	Integral	October 2016	10/10/2016	12:15	31	40.4	--	--	--	13.3	--	0.128	--	--
WQ13	WQ20	K1612340	Integral	October 2016	10/10/2016	12:15	41	31.2	--	--	--	13.3	--	0.128	--	--
			Sample Difference				10	-9.2	NC	NC	NC	0	NC	0	NC	NC
			RPD				-28%	26%	NC	NC	NC	0%	NC	0%	NC	NC
			abs (RPD)				28%	26%	NC	NC	NC	0%	NC	0%	NC	NC
Permit Stations - Groundwater																
MW1	MW1	K1601004	Integral	January 2016	01/31/2016	09:20	54	42	--	--	--	14.7	--	0.02 <i>U</i>	--	--
MW1	MW20	K1601004	Integral	January 2016	01/31/2016	09:20	53	42.4	--	--	--	15.1	--	0.02 <i>U</i>	--	--
			Sample Difference				-1	0.4	NC	NC	NC	0.4	NC	NC	NC	NC
			RPD				2%	-1%	NC	NC	NC	-3%	NC	NC	NC	NC
			abs (RPD)				2%	1%	NC	NC	NC	3%	NC	NC	NC	NC
MW1	MW1	K1603321	Integral	April 2016	04/01/2016	08:30	89	60.4	--	--	--	20	--	0.02 <i>U</i>	--	--
MW1	MW20	K1603321	Integral	April 2016	04/01/2016	08:30	82	68.4	--	--	--	20	--	0.02 <i>U</i>	--	--
			Sample Difference				-7	8	NC	NC	NC	0	NC	NC	NC	NC
			RPD				8%	-12%	NC	NC	NC	0%	NC	NC	NC	NC
			abs (RPD)				8%	12%	NC	NC	NC	0%	NC	NC	NC	NC
MW1	MW1	K1612340	Integral	October 2016	10/10/2016	10:20	89	59.2	--	--	--	23	--	0.02 <i>U</i>	--	--
MW1	MW20	K1612340	Integral	October 2016	10/10/2016	10:20	79	70	--	--	--	22.5	--	0.02 <i>U</i>	--	--
			Sample Difference				-10	10.8	NC	NC	NC	-0.5	NC	NC	NC	NC
			RPD				12%	-17%	NC	NC	NC	2%	NC	NC	NC	NC
			abs (RPD)				12%	17%	NC	NC	NC	2%	NC	NC	NC	NC

Notes:

Relative Percent Difference (RPD) calculated by:

RPD = [X1 - X2] / [Xavg x 100]

where:

X1 = concentration of normal sample

X2 = concentration of duplicate

Xavg = average concentration [(X1 + X2)/2]

abs(RPD) = absolute value of the RPD

-- = data not available

ALS = ALS Laboratory Group

QA/QC = quality assurance and quality control

SDG = sample digestion group

TDS = total dissolved solids

TSS = total suspended solids

NC = RPD not calculated in cases where one or more concentrations were below reporting limits or not available (i.e., U or J qualified data not included in RPD calculation).

Sample Difference = (replicate sample - primary sample)

Replicate pairs are in bold.

Data Qualifiers:

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.

U = The analyte was not detected above the reported sample quantitation limit.

Table 3-6b. QA/QC Replicate Results and Relative Percent Differences, Trace Elements, 2016

ALS Kelso Lab Collection SDG Contractor Sample Event Date Time							Trace Elements							
							Aluminum (µg/L), Total	Aluminum (µg/L), Dissolved	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total	Calcium (µg/L), Dissolved
Permit Stations - Surface Water														
WQ6	WQ6	K1601004	Integral	January 2016	01/31/2016	11:00	20.6	--	0.2 <i>U</i>	--	0.011 <i>J</i>	0.012 <i>U</i>	--	--
WQ6	WQ20	K1601004	Integral	January 2016	01/31/2016	11:00	21.4	--	0.2 <i>U</i>	--	0.011 <i>J</i>	0.01 <i>U</i>	--	--
		Sample Difference					0.8	NC	NC	NC	NC	NC	NC	NC
		RPD					-4%	NC	NC	NC	NC	NC	NC	NC
		abs (RPD)					4%	NC	NC	NC	NC	NC	NC	NC
WQ10	WQ10	K1603321	Integral	April 2016	04/01/2016	12:25	24.1	--	0.2 <i>U</i>	--	0.05	0.048	--	--
WQ10	WQ20	K1603321	Integral	April 2016	04/01/2016	12:25	24.8	--	0.2 <i>U</i>	--	0.054	0.046	--	--
		Sample Difference					0.7	NC	NC	NC	0.004	-0.002	NC	NC
		RPD					-3%	NC	NC	NC	-8%	4%	NC	NC
		abs (RPD)					3%	NC	NC	NC	8%	4%	NC	NC
WQ13	WQ13	K1612340	Integral	October 2016	10/10/2016	12:15	23.8	--	0.2 <i>U</i>	--	0.007 <i>J</i>	0.009 <i>U</i>	--	--
WQ13	WQ20	K1612340	Integral	October 2016	10/10/2016	12:15	23.8	--	0.2 <i>U</i>	--	0.007 <i>U</i>	0.01 <i>U</i>	--	--
		Sample Difference					0	NC	NC	NC	NC	NC	NC	NC
		RPD					0%	NC	NC	NC	NC	NC	NC	NC
		abs (RPD)					0%	NC	NC	NC	NC	NC	NC	NC
Permit Stations - Groundwater														
MW1	MW1	K1601004	Integral	January 2016	01/31/2016	09:20	68.2	--	0.2 <i>U</i>	--	0.02	0.02	--	--
MW1	MW20	K1601004	Integral	January 2016	01/31/2016	09:20	67.6	--	0.2 <i>U</i>	--	0.021	0.016 <i>U</i>	--	--
		Sample Difference					-0.6	NC	NC	NC	0.001	NC	NC	NC
		RPD					1%	NC	NC	NC	-5%	NC	NC	NC
		abs (RPD)					1%	NC	NC	NC	5%	NC	NC	NC
MW1	MW1	K1603321	Integral	April 2016	04/01/2016	08:30	105	--	0.2	--	0.033	0.018 <i>U</i>	--	--
MW1	MW20	K1603321	Integral	April 2016	04/01/2016	08:30	102	--	0.2 <i>U</i>	--	0.026	0.019 <i>U</i>	--	--
		Sample Difference					-3	NC	NC	NC	-0.007	NC	NC	NC
		RPD					3%	NC	NC	NC	24%	NC	NC	NC
		abs (RPD)					3%	NC	NC	NC	24%	NC	NC	NC
MW1	MW1	K1612340	Integral	October 2016	10/10/2016	10:20	113	--	0.2 <i>U</i>	--	0.019 <i>J</i>	0.014 <i>U</i>	--	--
MW1	MW20	K1612340	Integral	October 2016	10/10/2016	10:20	110	--	0.2 <i>U</i>	--	0.014 <i>J</i>	0.013 <i>U</i>	--	--
		Sample Difference					-3	NC	NC	NC	NC	NC	NC	NC
		RPD					3%	NC	NC	NC	NC	NC	NC	NC
		abs (RPD)					3%	NC	NC	NC	NC	NC	NC	NC

Table 3-6b. QA/QC Replicate Results and Relative Percent Differences, Trace Elements, 201

Station ID Sample ID ALS Kelso Lab SDG Collection Contractor Sample Event Date Time							Trace Elements							
							Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved
Permit Stations - Surface Water														
WQ6	WQ6	K1601004	Integral	January 2016	01/31/2016	11:00	0.13 <i>U</i>	--	0.43	0.41 <i>J</i>	--	--	0.004 <i>U</i>	--
WQ6	WQ20	K1601004	Integral	January 2016	01/31/2016	11:00	0.15 <i>U</i>	--	0.43	0.4 <i>J</i>	--	--	0.004 <i>U</i>	--
		Sample Difference					NC	NC	0	NC	NC	NC	NC	NC
		RPD					NC	NC	0%	NC	NC	NC	NC	NC
		abs (RPD)					NC	NC	0%	NC	NC	NC	NC	NC
WQ10	WQ10	K1603321	Integral	April 2016	04/01/2016	12:25	0.18 <i>U</i>	--	0.76	0.65	--	--	0.013 <i>U</i>	--
WQ10	WQ20	K1603321	Integral	April 2016	04/01/2016	12:25	0.18 <i>U</i>	--	0.76	0.65	--	--	0.012 <i>U</i>	--
		Sample Difference					NC	NC	0	0	NC	NC	NC	NC
		RPD					NC	NC	0%	0%	NC	NC	NC	NC
		abs (RPD)					NC	NC	0%	0%	NC	NC	NC	NC
WQ13	WQ13	K1612340	Integral	October 2016	10/10/2016	12:15	0.28	--	0.67	0.64	--	--	0.005 <i>J</i>	--
WQ13	WQ20	K1612340	Integral	October 2016	10/10/2016	12:15	0.22	--	0.65	0.58	--	--	0.005 <i>J</i>	--
		Sample Difference					-0.06	NC	-0.02	-0.06	NC	NC	NC	NC
		RPD					24%	NC	3%	10%	NC	NC	NC	NC
		abs (RPD)					24%	NC	3%	10%	NC	NC	NC	NC
Permit Stations - Groundwater														
MW1	MW1	K1601004	Integral	January 2016	01/31/2016	09:20	0.17 <i>U</i>	--	1.35	0.77 <i>J</i>	--	--	0.279	--
MW1	MW20	K1601004	Integral	January 2016	01/31/2016	09:20	0.16 <i>U</i>	--	1.32	0.81 <i>J</i>	--	--	0.281	--
		Sample Difference					NC	NC	-0.03	NC	NC	NC	0.002	NC
		RPD					NC	NC	2%	NC	NC	NC	-1%	NC
		abs (RPD)					NC	NC	2%	NC	NC	NC	1%	NC
MW1	MW1	K1603321	Integral	April 2016	04/01/2016	08:30	0.25	--	1.7	0.87	--	--	0.496	--
MW1	MW20	K1603321	Integral	April 2016	04/01/2016	08:30	0.25	--	1.68	0.85	--	--	0.454	--
		Sample Difference					0	NC	-0.02	-0.02	NC	NC	-0.042	NC
		RPD					0%	NC	1%	2%	NC	NC	9%	NC
		abs (RPD)					0%	NC	1%	2%	NC	NC	9%	NC
MW1	MW1	K1612340	Integral	October 2016	10/10/2016	10:20	0.32	--	1.18	0.72	--	--	0.322	--
MW1	MW20	K1612340	Integral	October 2016	10/10/2016	10:20	0.31	--	1.17	0.65	--	--	0.31	--
		Sample Difference					-0.01	NC	-0.01	-0.07	NC	NC	-0.012	NC
		RPD					3%	NC	1%	10%	NC	NC	4%	NC
		abs (RPD)					3%	NC	1%	10%	NC	NC	4%	NC

Table 3-6b. QA/QC Replicate Results and Relative Percent Differences, Trace Elements, 201

Station ID Sample ID ALS Kelso Lab SDG Collection Contractor Sample Event Date Time							Trace Elements							
							Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved
Permit Stations - Surface Water														
WQ6	WQ6	K1601004	Integral	January 2016	01/31/2016	11:00	--	--	0.02 <i>UJ</i>	--	--	--	--	--
WQ6	WQ20	K1601004	Integral	January 2016	01/31/2016	11:00	--	--	0.02 <i>UJ</i>	--	--	--	--	--
		Sample Difference					NC	NC	NC	NC	NC	NC	NC	NC
		RPD					NC	NC	NC	NC	NC	NC	NC	NC
		abs (RPD)					NC	NC	NC	NC	NC	NC	NC	NC
WQ10	WQ10	K1603321	Integral	April 2016	04/01/2016	12:25	--	--	0.02 <i>U</i>	--	--	--	--	--
WQ10	WQ20	K1603321	Integral	April 2016	04/01/2016	12:25	--	--	0.02 <i>U</i>	--	--	--	--	--
		Sample Difference					NC	NC	NC	NC	NC	NC	NC	NC
		RPD					NC	NC	NC	NC	NC	NC	NC	NC
		abs (RPD)					NC	NC	NC	NC	NC	NC	NC	NC
WQ13	WQ13	K1612340	Integral	October 2016	10/10/2016	12:15	--	--	0.02 <i>UJ</i>	--	--	--	--	--
WQ13	WQ20	K1612340	Integral	October 2016	10/10/2016	12:15	--	--	0.02 <i>UJ</i>	--	--	--	--	--
		Sample Difference					NC	NC	NC	NC	NC	NC	NC	NC
		RPD					NC	NC	NC	NC	NC	NC	NC	NC
		abs (RPD)					NC	NC	NC	NC	NC	NC	NC	NC
Permit Stations - Groundwater														
MW1	MW1	K1601004	Integral	January 2016	01/31/2016	09:20	--	--	0.02 <i>UJ</i>	--	--	--	--	--
MW1	MW20	K1601004	Integral	January 2016	01/31/2016	09:20	--	--	0.02 <i>UJ</i>	--	--	--	--	--
		Sample Difference					NC	NC	NC	NC	NC	NC	NC	NC
		RPD					NC	NC	NC	NC	NC	NC	NC	NC
		abs (RPD)					NC	NC	NC	NC	NC	NC	NC	NC
MW1	MW1	K1603321	Integral	April 2016	04/01/2016	08:30	--	--	0.02 <i>U</i>	--	--	--	--	--
MW1	MW20	K1603321	Integral	April 2016	04/01/2016	08:30	--	--	0.02 <i>U</i>	--	--	--	--	--
		Sample Difference					NC	NC	NC	NC	NC	NC	NC	NC
		RPD					NC	NC	NC	NC	NC	NC	NC	NC
		abs (RPD)					NC	NC	NC	NC	NC	NC	NC	NC
MW1	MW1	K1612340	Integral	October 2016	10/10/2016	10:20	--	--	0.02 <i>UJ</i>	--	--	--	--	--
MW1	MW20	K1612340	Integral	October 2016	10/10/2016	10:20	--	--	0.02 <i>UJ</i>	--	--	--	--	--
		Sample Difference					NC	NC	NC	NC	NC	NC	NC	NC
		RPD					NC	NC	NC	NC	NC	NC	NC	NC
		abs (RPD)					NC	NC	NC	NC	NC	NC	NC	NC

Table 3-6b. QA/QC Replicate Results and Relative Percent Differences, Trace Elements, 201

ALS Kelso Lab Collection Contractor Sample Event Date Time							Trace Elements															
							Selenium (µg/L), Total		Selenium (µg/L), Dissolved		Silver (µg/L), Total		Silver (µg/L), Dissolved		Sodium (µg/L), Total		Sodium (µg/L), Dissolved		Zinc (µg/L), Total		Zinc (µg/L), Dissolved	
Permit Stations - Surface Water																						
WQ6	WQ6	K1601004	Integral	January 2016	01/31/2016	11:00	0.4	U	--	--	--	--	--	--	1.7	U	1.7	U				
WQ6	WQ20	K1601004	Integral	January 2016	01/31/2016	11:00	0.4	U	--	--	--	--	--	--	1.7	U	1.7	U				
Sample Difference							NC		NC		NC		NC		NC		NC					
RPD							NC		NC		NC		NC		NC		NC					
abs (RPD)							NC		NC		NC		NC		NC		NC					
WQ10	WQ10	K1603321	Integral	April 2016	04/01/2016	12:25	0.4	U	--	--	--	--	--	--	9.7	J	8.9	J				
WQ10	WQ20	K1603321	Integral	April 2016	04/01/2016	12:25	0.4	U	--	--	--	--	--	--	10	J	9.4	J				
Sample Difference							NC		NC		NC		NC		NC		NC					
RPD							NC		NC		NC		NC		NC		NC					
abs (RPD)							NC		NC		NC		NC		NC		NC					
WQ13	WQ13	K1612340	Integral	October 2016	10/10/2016	12:15	0.4	J	--	--	--	--	--	--	1.03	U	1.03	U				
WQ13	WQ20	K1612340	Integral	October 2016	10/10/2016	12:15	0.5	J	--	--	--	--	--	--	0.99	U	1.06	U				
Sample Difference							NC		NC		NC		NC		NC		NC					
RPD							NC		NC		NC		NC		NC		NC					
abs (RPD)							NC		NC		NC		NC		NC		NC					
Permit Stations - Groundwater																						
MW1	MW1	K1601004	Integral	January 2016	01/31/2016	09:20	0.4	U	--	--	--	--	--	--	3.3	U	3.3	U				
MW1	MW20	K1601004	Integral	January 2016	01/31/2016	09:20	0.4	U	--	--	--	--	--	--	3.3	U	3	U				
Sample Difference							NC		NC		NC		NC		NC		NC					
RPD							NC		NC		NC		NC		NC		NC					
abs (RPD)							NC		NC		NC		NC		NC		NC					
MW1	MW1	K1603321	Integral	April 2016	04/01/2016	08:30	0.4	U	--	--	--	--	--	--	3.5	U	2.5	U				
MW1	MW20	K1603321	Integral	April 2016	04/01/2016	08:30	0.4	U	--	--	--	--	--	--	2.9	U	2.5	U				
Sample Difference							NC		NC		NC		NC		NC		NC					
RPD							NC		NC		NC		NC		NC		NC					
abs (RPD)							NC		NC		NC		NC		NC		NC					
MW1	MW1	K1612340	Integral	October 2016	10/10/2016	10:20	0.4	U	--	--	--	--	--	--	2.53	U	2.41	U				
MW1	MW20	K1612340	Integral	October 2016	10/10/2016	10:20	0.4	U	--	--	--	--	--	--	2.51	U	2.33	U				
Sample Difference							NC		NC		NC		NC		NC		NC					
RPD							NC		NC		NC		NC		NC		NC					
abs (RPD)							NC		NC		NC		NC		NC		NC					

Notes:

Relative Percent Difference (RPD) calculated by:
RPD = [X1 - X2] / [Xavg x 100]
where:
X1 = concentration of normal sample
X2 = concentration of duplicate
Xavg = average concentration [(X1 + X2)/2]
abs(RPD) = absolute value of the RPD

-- = data not available
ALS = ALS Laboratory Group
QA/QC = quality assurance and quality control
SDG = sample digestion group
TDS = total dissolved solids
TSS = total suspended solids

NC = RPD not calculated in cases where one or more concentrations were below reporting limits or not available (i.e., U or J qualified data not included in RPD calculation).

Sample Difference = (replicate sample - primary sample)
Replicate pairs are in bold.

Data Qualifiers:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
U = The analyte was not detected above the reported sample quantitation limit.

Table 3-7. Zinc Concentrations in Field Blanks, 2008–2016

Sampling Event	Quarter	Sample ID	Description	Blank Concentration ^a		95 th Percentile		U-qualified 2 × 95 th Percentile		J-qualified 5 × 95 th Percentile		Notes
				Total Zinc (µg/L)	Dissolved Zinc (µg/L)	Total	Dissolved	Total	Dissolved	Total	Dissolved	
December 2016	Q4 2016	WQ21	DI blank, GW protocol	0.2	0.2	4.0	3.7	8.1	7.4	20.2	18.5	Qualifiers for samples collected after October 2008 calculated individually for each sample event based on 95 th percentile calculations for all blank data collected starting in April 2008. These action levels were derived by calculating 2 times the 95 th percentile of the distribution of blanks and 5 times the 95th percentile of the distribution for the J qualifiers.
April 2016	Q2 2016	WQ21	DI blank, GW protocol	0.3	0.2	4.0	3.7	8.1	7.4	20.2	18.6	
January 2016	Q1 2016	WQ21	DI blank, GW protocol	0.7	0.3	4.00	3.7	8.1	7.4	20.2	18.6	
December 2015	Q4 2015	WQ21	DI blank, GW protocol	0.67	0.36	4.1	3.7	8.1	7.5	20.3	18.7	
August 2015	Q3 2015	WQ21	DI blank, GW protocol	0.3	0.3	4.1	3.7	8.1	7.5	20.3	18.7	
May 2015	Q2 2015	WQ21	DI blank, GW protocol	0.2	0.2	4.1	3.8	8.1	7.5	20.4	18.8	
January 2015	Q1 2015	WQ21	DI blank, GW protocol	0.2	0.2	4.1	3.8	8.2	7.5	20.4	18.8	
October 2014	Q4 2014	WQ21	DI blank, GW protocol	0.2	0.2	4.1	3.8	8.2	7.5	20.4	18.8	
August 2014	Q3 2014	WQ21	DI blank, GW protocol	0.2	0.2	4.1	3.8	8.2	7.6	20.5	18.9	
June 2014	Q2 2014	WQ21	DI blank, GW protocol	0.2	0.2	4.1	3.8	8.2	7.6	20.5	18.9	
January 2014	Q1 2014	WQ21	DI blank, GW protocol	0.23	0.22	4.1	3.8	8.2	7.6	20.6	19.0	
October 2013	Q4 2013	WQ21	DI blank, GW protocol	0.5	0.3	4.1	3.8	8.2	7.6	20.6	19.0	
July 2013	Q3 2013	WQ21	DI blank, GW protocol	0.3	0.3	4.1	3.8	8.3	7.6	20.6	19.1	
April 2013	Q2 2013	WQ21	DI blank, GW protocol	0.33	0.39	4.1	3.8	8.3	7.6	20.7	19.1	
January 2013	Q1 2013	WQ21	DI blank, GW protocol	0.3	3.5	4.1	3.8	8.3	7.7	20.7	19.2	
October 2012	Q4 2012	WQ21	DI blank, GW protocol	0.2	0.6	4.2	3.8	8.3	7.7	20.8	19.2	
July 2012	Q3 2012	WQ21	DI blank, GW protocol	0.23	0.32	4.2	3.9	8.3	7.7	20.8	19.3	
April 2012	Q2 2012	WQ21	DI blank, GW protocol	0.2	0.32	4.2	3.9	8.4	7.7	20.9	19.3	
January 2012	Q1 2012	WQ21	DI blank, GW protocol	0.2	0.39	4.2	3.9	8.4	7.8	21.1	19.4	
December 2011	Q4 2011	WQ21	DI blank, GW protocol	0.2	0.24	4.2	3.9	8.5	7.8	21.2	19.5	
September 2011		WQ21	DI blank, GW protocol	3	0.32	4.3	3.9	8.6	7.8	21.4	19.6	
July/August 2011	Q3 2011	WQ21	DI blank, GW protocol	0.2	0.3	4.3	3.9	8.6	7.9	21.5	19.7	
July 2011		WQ21	DI blank, GW protocol	0.2	0.25	4.3	4.0	8.7	7.9	21.7	19.8	
June 2011		WQ21	DI blank, GW protocol	0.2	3.85	4.4	4.0	8.7	8.0	21.8	19.9	
May 2011	Q2 2011	WQ21	DI blank, GW protocol	0.2	0.2	4.4	3.9	8.8	7.8	22.0	19.4	
April 2011		WQ21	DI blank, GW protocol	0.2	0.92	4.4	3.9	8.9	7.8	22.1	19.6	
March 2011		WQ21	DI blank, GW protocol	1.15	0.81	4.5	3.9	8.9	7.9	22.3	19.7	
February 2011	Q1 2011	WQ21	DI blank, GW protocol	0.63	0.2	4.5	4.0	9.0	7.9	22.4	19.8	
January 2011		WQ21	DI blank, GW protocol	0.4	0.27	4.5	4.0	9.0	8.0	22.6	20.0	
December 2010		WQ21	DI blank, GW protocol	0.2	0.2	4.5	4.0	9.1	8.0	22.7	20.1	
November 2010	Q4 2010	WQ21	DI blank, GW protocol	0.82	0.29	4.6	4.0	9.1	8.1	22.9	20.2	
October 2010		WQ21	DI blank, GW protocol	0.2	0.2	4.6	4.1	9.2	8.2	23.0	20.4	
September 2010		WQ21	DI blank, GW protocol	1.15	0.88	4.6	4.1	9.3	8.2	23.2	20.5	
August 2010	Q3 2010	WQ21	DI blank, GW protocol	1.95	3.67	4.7	4.2	9.3	8.2	23.2	20.5	
July 2010		WQ21	DI blank, GW protocol	0.23	0.41	4.7	4.1	9.4	8.2	23.5	20.4	
April 2010	Q2 2010	WQ21	DI blank, GW protocol	1.55	0.7	4.8	4.2	9.6	8.5	24.1	21.1	
March 2010		WQ21	DI blank, GW protocol	0.2	0.41	4.9	4.2	9.8	8.5	24.5	21.2	

Table 3-7. Zinc Concentrations in Field Blanks, 2008–2016

Sampling Event	Quarter	Sample ID	Description	Blank Concentration ^a		95 th Percentile		U-qualified 2 × 95 th Percentile		J-qualified 5 × 95 th Percentile		Notes
				Total Zinc (µg/L)	Dissolved Zinc (µg/L)	Total	Dissolved	Total	Dissolved	Total	Dissolved	
February 2010	Q1 2010	WQ21	DI blank, GW protocol	4.16	0.69	5.0	4.3	9.9	8.5	24.9	21.3	Qualifiers for April 2008 to October 2008 samples based on blank values from January 2008 to March 2008 (excluding dissolved zinc blank outlier value of 51.9 µg/L). These action levels were derived by calculating 2 times the 95 th percentile of the distribution of blanks and 5 times the 95 th percentile of the distribution for the J qualifiers.
January 2010		WQ21	DI blank, GW protocol	6.23	1.29	5.0	4.3	10.1	8.5	25.2	21.4	
December 2009		WQ21	DI blank, GW protocol	0.49	0.48	4.2	4.3	8.4	8.6	20.9	21.5	
October/November 2009	Q4 2009	WQ21	DI blank, GW protocol	0.61	0.53	4.2	4.3	8.5	8.6	21.1	21.5	
October 2009		WQ21	DI blank, GW protocol	1.32	0.58	4.3	4.3	8.5	8.6	21.3	21.6	
September 2009		WQ21	DI blank, GW protocol	1.57	2.92	4.3	4.3	8.6	8.7	21.5	21.7	
September 2009	Q3 2009	WQ21	DI blank, GW protocol	0.3	0.3	4.3	4.4	8.7	8.7	21.7	21.8	
September 2009		WQ21	DI blank, GW protocol	0.9	2.2	4.4	4.4	8.8	8.7	21.9	21.9	
July 2009		WQ21	DI blank, GW protocol	0.94	0.36	4.4	4.4	8.8	8.8	22.1	21.9	
May 2009	Q2 2009	WQ21	DI blank, GW protocol	0.92	2.07	4.5	4.4	8.9	8.8	22.3	22.0	
March 2009	Q1 2009	WQ21	DI blank, GW protocol	3.83	4.53	4.5	4.4	9.0	8.8	22.4	22.1	
October 2008	Q4 2008	WQ21	DI blank, GW protocol	1.17	1.55	3.0	3.4	5.9	6.8	14.8	17.1	
September 2008		WQ21	DI blank, GW protocol	2.98	2.7	3.0	3.4	5.9	6.8	14.8	17.1	Qualifiers for January 2008 to March 2008 samples based on blank values from July 2007 to December 2007 analyzed by Columbia Analytical Services. These action levels were derived by calculating 2 times the 95 th percentile of the distribution of blanks and 5 times the 95 th percentile of the distribution for the J qualifiers.
August 2008	Q3 2008	WQ21	DI blank, GW protocol	4.75	4.21	3.0	3.4	5.9	6.8	14.8	17.1	
July 2008		WQ21	DI blank, GW protocol	4	0.7	3.0	3.4	5.9	6.8	14.8	17.1	
June 2008		WQ21	DI blank, GW protocol	2.6	2.7	3.0	3.4	5.9	6.8	14.8	17.1	
May 2008	Q2 2008	WQ21	DI blank, GW protocol	3.3	0.5	3.0	3.4	5.9	6.8	14.8	17.1	
April 2008		WQ21	DI blank, GW protocol	1	0.5	3.0	3.4	5.9	6.8	14.8	17.1	
March 2008		MW22	DI blank, acid rinse, GW protocol	1	0.8	5.0	6.2	10.0	12.4	25.0	30.9	
March 2008		MW21	DI blank, GW protocol	1.7	0.7	5.0	6.2	10.0	12.4	25.0	30.9	
March 2008		WQ22	DI blank, acid rinse, SW protocol	1.6	51.9	5.0	6.2	10.0	12.4	25.0	30.9	
March 2008		WQ21	DI blank, SW protocol	3	1	5.0	6.2	10.0	12.4	25.0	30.9	
February 2008	Q1 2008	WQ23	DI blank, SW protocol	1.8	2.59	5.0	6.2	10.0	12.4	25.0	30.9	
February 2008		WQ22	DI blank, SW protocol	1.3	3.77	5.0	6.2	10.0	12.4	25.0	30.9	
February 2008		WQ21	DI blank, SW protocol	2.9	2.49	5.0	6.2	10.0	12.4	25.0	30.9	
February 2008		WQ24	DI blank, GW protocol	2	2.77	5.0	6.2	10.0	12.4	25.0	30.9	
January 2008		WQ21	DI blank, SW protocol	0.7	2.1	5.0	6.2	10.0	12.4	25.0	30.9	

Notes:

Data Qualifiers:

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.

U = The analyte was not detected above the reported sample quantitation limit.

DI = deionized water

GW = groundwater

SW = surface water

^a All concentrations are presented as reported by the laboratory. Validation qualifiers have not been applied.

Table 3-8a. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2011–2016

Sample	Date Collected	Units	Analyte	Spike Concentration	Matrix Spike		Matrix Spike Duplicate		Acceptance Limits	RPD
					Sample Result	Percent Recovery ^a	Sample Result	Percent Recovery ^a		
WQ4	19/01/2011	mg/L	Orthophosphate as Phosphorus	0.2	0.2	100	--	--	94-106	--
		mg/L	Phosphorus, Dissolved	0.5	0.529	106	--	--	50-144	--
		µg/L	Barium, Total	2000	1990	99.5	--	--	80-124	--
		µg/L	Boron, Total	1000	1020	102	--	--	75-130	--
		µg/L	Calcium, Total	10000	14000	104.6	--	--	75-125	--
		µg/L	Iron, Total	1000	1600	103.2	--	--	72-131	--
		µg/L	Lithium, Total	10000	10900	109	--	--	70-130	--
		µg/L	Magnesium, Total	10000	11100	103.7	--	--	75-125	--
		µg/L	Potassium, Total	10000	10600	104	--	--	75-125	--
		µg/L	Silicon, Total	10000	12500	113.9	--	--	75-125	--
		µg/L	Sodium, Total	10000	13300	103.7	--	--	75-125	--
		µg/L	Strontium, Total	10000	10500	104.9	--	--	75-125	--
		mg/L	Nitrate+Nitrite as Nitrogen	2	2.21	103	2.21	102	86-117	<1
		mg/L	Ammonia as Nitrogen	10	10.2	102	--	--	80-115	--
WQ4	25/07/2011	µg/L	Aluminum, Total	20	99.7	104.5	--	--	75-125	--
		µg/L	Arsenic, Total	20	20	99.5	--	--	75-125	--
		µg/L	Cadmium, Total	20	20.3	101.4	--	--	87-113	--
		µg/L	Chromium, Total	20	19.9	98	--	--	76-115	--
		µg/L	Copper, Total	20	21.1	96.4	--	--	75-125	--
		µg/L	Lead, Total	20	20.1	100.5	--	--	76-117	--
		µg/L	Nickel, Total	20	19.3	95.7	--	--	78-117	--
		µg/L	Selenium, Total	20	20.7	103.5	--	--	75-125	--
		µg/L	Silver, Total	20	18	89.9	--	--	76-114	--
WQ4	09/01/2012	µg/L	Zinc, Total	20	20.8	98.5	--	--	75-125	--
		mg/L	Chloride	10	17.5	98	17.4	97	90-110	<1
		mg/L	Nitrate+Nitrite as Nitrogen	2	2.13	103	2.13	102	89-114	<1
		mg/L	Sulfate	10	11.4	96	11.5	96	90-110	<1
WQ4	21/07/2012	µg/L	Mercury, Total	1	0.97	97	--	--	76-123	--
		mg/L	Ammonia as Nitrogen	10	9.86	99	--	--	80-115	--
		mg/L	Chloride	4	5.57	98	5.55	97	90-110	<1
		µg/L	Mercury, Total	1	1.03	103	--	--	76-126	--
		mg/L	Nitrate+Nitrite as Nitrogen	2	2.12	103	2.11	102	89-114	<1
WQ4	27/10/2012	mg/L	Sulfate	4	6.12	98	6.14	99	90-110	<1
		mg/L	Ammonia as Nitrogen	10	9.78	97	--	--	80-115	--
		mg/L	Chloride	10	14	99	14	100	90-110	<1
		µg/L	Mercury, Total	1	0.95	95	--	--	76-126	--
WQ4	06/01/2013	mg/L	Sulfate	10	16.1	101	15.9	99	90-110	2
		mg/L	Chloride	4	8.48	118	8.51	119	90-110	<1
		mg/L	Sulfate	4	5.33	100	5.33	100	90-110	<1

Table 3-8a. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2011–2016

Sample	Date Collected	Units	Analyte	Spike Concentration	Matrix Spike		Matrix Spike Duplicate		Acceptance Limits	RPD
					Sample Result	Percent Recovery ^a	Sample Result	Percent Recovery ^a		
WQ4	26/04/2013	µg/L	Calcium, Total	10000	12000	102	--	--	75-125	--
		µg/L	Iron, Total	1000	1070	101	--	--	75-125	--
		µg/L	Magnesium, Total	10000	10500	102	--	--	75-125	--
		µg/L	Potassium, Total	10000	10300	102	--	--	75-125	--
		µg/L	Sodium, Total	10000	12400	106	--	--	75-125	--
WQ4	31/07/2013	mg/L	Nitrate+Nitrite as Nitrogen	2	2.17	100	2.13	99	89-114	1
		mg/L	Sulfate	10	14.9	95	14.9	95	90-110	<1
		µg/L	Aluminum, Total	100	120	100	--	--	75-125	--
		µg/L	Arsenic, Total	50	48.3	96.4	--	--	75-125	--
		µg/L	Cadmium, Total	25	25.2	100.8	--	--	75-125	--
		µg/L	Chromium, Total	10	9.96	97.4	--	--	75-125	--
		µg/L	Copper, Total	12.5	12.2	93.7	--	--	75-125	--
		µg/L	Lead, Total	50	49.8	99.6	--	--	75-125	--
		µg/L	Selenium, Total	50	49.8	99.6	--	--	75-125	--
		µg/L	Zinc, Total	25	25.2	99.6	--	--	75-125	--
WQ4	27/10/2013	mg/L	Nitrate+Nitrite as Nitrogen	2	2.14	101	2.07	97	89-114	3
		µg/L	Mercury, Total	1	1.04	104	--	--	76-126	--
		mg/L	Sulfate	4	7.78	111	7.8	112	90-110	<1
WQ4	25/01/2014	mg/L	Nitrate+Nitrite as Nitrogen	2	2.14	101	2.15	100	89-114	<1
		mg/L	Sulfate	10	13.9	101	13.9	101	90-110	<1
		µg/L	Aluminum, Total	100	128.8	100.6	--	--	75-125	--
		µg/L	Arsenic, Total	50	50.9	101.8	--	--	75-125	--
		µg/L	Cadmium, Dissolved	25	23.0	92.1	--	--	75-125	--
		µg/L	Cadmium, Total	25	23.4	93.8	--	--	75-125	--
		µg/L	Chromium, Total	10	9.75	94.0	--	--	75-125	--
		µg/L	Copper, Dissolved	12.5	12.4	95.4	--	--	75-125	--
		µg/L	Copper, Total	12.5	12.3	94.2	--	--	75-125	--
		µg/L	Lead, Total	50	45.6	97.1	--	--	75-125	--
		µg/L	Selenium, Total	50	50.3	100.6	--	--	75-125	--
		µg/L	Zinc, Dissolved	25	25.4	99.5	--	--	75-125	--
		µg/L	Zinc, Total	25	26.4	103.4	--	--	75-125	--
WQ4	07/06/2014	mg/L	Nitrate+Nitrite as Nitrogen	2	2.3	109	2.2	105	89-114	4
		µg/L	Aluminum, Total	100	123	95	--	--	75-125	--
		µg/L	Arsenic, Total	50	49.9	99.6	--	--	75-125	--
		µg/L	Cadmium, Total	25	25.4	101.5	--	--	75-125	--
		µg/L	Chromium, Total	10	9.87	96.9	--	--	75-125	--
		µg/L	Copper, Total	12.5	12.4	95	--	--	75-125	--
		µg/L	Lead, Total	50	49.6	99.1	--	--	75-125	--
		µg/L	Selenium, Total	50	50.1	99.6	--	--	75-125	--
		µg/L	Zinc, Total	25	25.3	99.2	--	--	75-125	--

Table 3-8a. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2011–2016

Sample	Date Collected	Units	Analyte	Spike Concentration	Matrix Spike		Matrix Spike Duplicate		Acceptance Limits	RPD
					Sample Result	Percent Recovery ^a	Sample Result	Percent Recovery ^a		
WQ4	14/08/2014	mg/L	Nitrate+Nitrite as Nitrogen	1	1.07	95	1.09	97	89-114	2
		mg/L	Sulfate	10	16.2	93	16.1	92	90-110	<1
		µg/L	Selenium, Total	16	15.4	94.8	--	--	75-125	--
WQ4	12/10/2014	mg/L	Sulfate	10	11.4	102	11.4	102	90-110	<1
		µg/L	Aluminum, Total	100	194	87	--	--	75-125	--
		µg/L	Arsenic, Total	50	49.4	98.6	--	--	75-125	--
		µg/L	Cadmium, Total	25	24.8	99.2	--	--	75-125	--
		µg/L	Chromium, Total	10	9.99	97.3	--	--	75-125	--
		µg/L	Copper, Total	12.5	13.5	97.3	--	--	75-125	--
		µg/L	Lead, Total	50	49.5	98.9	--	--	75-125	--
		µg/L	Selenium, Total	50	50.8	101.6	--	--	75-125	--
		µg/L	Zinc, Total	25	25.1	98.4	--	--	75-125	--
WQ4	11/01/2015	mg/L	Nitrate+Nitrite as Nitrogen	1	1.08	100	1.11	103	89-114	3
		mg/L	Sulfate	10	12.2	103	12.3	103	90-110	<1
		µg/L	Aluminum, Total	100	155	99.6	--	--	75-125	--
		µg/L	Arsenic, Total	50	50.1	100	--	--	75-125	--
		µg/L	Cadmium, Total	25	25.4	101.6	--	--	75-125	--
		µg/L	Copper, Total	12.5	13.6	102.2	--	--	75-125	--
		µg/L	Lead, Total	50	50.1	100.2	--	--	75-125	--
		µg/L	Selenium, Total	50	50.8	101.6	--	--	75-125	--
		µg/L	Zinc, Total	25	24.7	98	--	--	75-125	--
WQ4	10/05/2015	mg/L	Nitrate+Nitrite as Nitrogen	1	1.12	101	1.14	103	89-114	2
		mg/L	Sulfate	10	15.7	88	15.7	88	90-110	<1
		µg/L	Aluminum, Total	100	119	96	--	--	75-125	--
		µg/L	Arsenic, Total	50	49.4	99	--	--	75-125	--
		µg/L	Cadmium, Dissolved	25	24.6	98	--	--	75-125	--
		µg/L	Cadmium, Total	25	24.6	98	--	--	75-125	--
		µg/L	Chromium, Total	10	10	98	--	--	75-125	--
		µg/L	Copper, Dissolved	12.5	12.9	100	--	--	75-125	--
		µg/L	Copper, Total	12.5	12.4	97	--	--	75-125	--
		µg/L	Lead, Total	50	48.1	96	--	--	75-125	--
		µg/L	Selenium, Total	50	50.3	101	--	--	75-125	--
		µg/L	Zinc, Dissolved	25	24.8	98	--	--	75-125	--
		µg/L	Zinc, Total	25	24.7	98	--	--	75-125	--
WQ4	16/08/2015	mg/L	Mercury, Total	5	4.8	97	--	--	75-125	--
		mg/L	Nitrate+Nitrite as Nitrogen	1	1.11	100	1.15	104	89-114	4
WQ4	01/04/2016	mg/L	Nitrate+Nitrite as Nitrogen	1	1.02	96	1.07	101	90-110	5
WQ4	11/10/2016	mg/L	Nitrate+Nitrite as Nitrogen	1	1.13	100	1.13	100	90-110	<1

Table 3-8a. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2011–2016

Sample	Date Collected	Units	Analyte	Spike Concentration	Matrix Spike		Matrix Spike Duplicate		Acceptance Limits	RPD
					Sample Result	Percent Recovery ^a	Sample Result	Percent Recovery ^a		
WQ6	21/01/2011	mg/L	Chloride	4	6.99	87	6.96	86	80-120	<1
		mg/L	Sulfate	4	4.64	95	4.56	93	80-120	2
WQ6	08/01/2012	mg/L	Chloride	10	16.7	97	16.5	95	90-110	1
		mg/L	Sulfate	10	10.5	95	10.5	95	90-110	<1
		µg/L	Mercury, Dissolved	1	0.98	98	--	--	76-126	--
WQ6	08/04/2012	mg/L	Chloride	4	15.3	114	15.3	114	90-110	<1
		mg/L	Nitrate+Nitrite as Nitrogen	2	2.15	102	2.15	102	89-114	<1
		mg/L	Sulfate	4	5.05	96	5.05	96	90-110	<1
		µg/L	Mercury, Total	1	0.98	98	--	--	76-126	--
WQ6	21/07/2012	µg/L	Calcium, Total	10000	11600	95.1	--	--	75-125	--
		µg/L	Iron, Total	1000	979	96.4	--	--	75-125	--
		µg/L	Magnesium, Total	10000	9530	92	--	--	75-125	--
		µg/L	Potassium, Total	10000	9580	94.7	--	--	75-125	--
		µg/L	Sodium, Total	10000	11200	97.4	--	--	75-125	--
WQ6	27/10/2012	µg/L	Calcium, Total	10000	16900	107.4	--	--	75-125	--
		µg/L	Iron, Total	1000	1070	105.9	--	--	75-125	--
		µg/L	Magnesium, Total	10000	11100	102.1	--	--	75-125	--
		µg/L	Potassium, Total	10000	10200	100.8	--	--	75-125	--
		µg/L	Sodium, Total	10000	12900	102.9	--	--	75-125	--
WQ6	26/04/2013	µg/L	Aluminum, Total	100	164	86	--	--	75-125	--
		µg/L	Arsenic, Total	50	51.7	103	--	--	75-125	--
		µg/L	Cadmium, Total	25	26.6	106	--	--	75-125	--
		µg/L	Chromium, Total	10	10.8	102	--	--	75-125	--
		µg/L	Copper, Total	12.5	13.9	102	--	--	75-125	--
		µg/L	Lead, Total	50	50.5	101	--	--	75-125	--
		µg/L	Nickel, Total	25	25.3	101	--	--	75-125	--
		µg/L	Selenium, Total	50	52.2	104	--	--	75-125	--
		µg/L	Silver, Total	12.5	13.1	105	--	--	75-125	--
		µg/L	Zinc, Total	25	26.2	100	--	--	75-125	--
WQ6	30/07/2013	µg/L	Mercury, Total	1	1.02	102	--	--	76-126	--
WQ6	27/10/2013	µg/L	Aluminum, Total	100	150	93.9	--	--	75-125	--
		µg/L	Arsenic, Total	50	49.8	99.4	--	--	75-125	--
		µg/L	Cadmium, Total	25	24.3	97.2	--	--	75-125	--
		µg/L	Chromium, Total	10	9.91	97.6	--	--	75-125	--
		µg/L	Copper, Total	12.5	13.3	98.3	--	--	75-125	--
		µg/L	Lead, Total	50	48.6	97.2	--	--	75-125	--
		µg/L	Selenium, Total	50	46.9	93.2	--	--	75-125	--
		µg/L	Zinc, Total	25	25.5	99.6	--	--	75-125	--
WQ6	07/06/2014	mg/L	Sulfate	4	5.18	97	5.18	97	90-110	<1
		µg/L	Mercury, Total	1	1.1	110	--	--	80-120	--

Table 3-8a. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2011–2016

Sample	Date Collected	Units	Analyte	Spike Concentration	Matrix Spike		Matrix Spike Duplicate		Acceptance Limits	RPD
					Sample Result	Percent Recovery ^a	Sample Result	Percent Recovery ^a		
WQ6	06/08/2014	mg/L	Sulfate	4	5.24	94	5.27	95	90-110	<1
		µg/L	Aluminum, Total	100	122	93.6	--	--	75-125	--
		µg/L	Arsenic, Total	50	50.2	100.2	--	--	75-125	--
		µg/L	Cadmium, Total	25	24.5	98	--	--	75-125	--
		µg/L	Chromium, Total	10	9.83	97	--	--	75-125	--
		µg/L	Copper, Total	12.5	12.9	97.9	--	--	75-125	--
		µg/L	Lead, Total	50	49.1	98.2	--	--	75-125	--
		µg/L	Zinc, Total	25	24.7	98	--	--	75-125	--
WQ6	12/10/2014	mg/L	Sulfate	4	4.74	103	4.78	103	90-110	<1
		µg/L	Mercury, Total	5	4.72	94.4	--	--	80-120	--
WQ6	10/05/2015	mg/L	Sulfate	10	10.5	87	10.6	88	90-110	<1
		µg/L	Mercury, Total	5	4.96	99	--	--	75-125	--
WQ10	20/04/2011	mg/L	Orthophosphate as Phosphorus, Dissolved	0.2	0.204	102	0.411	103	60-130	<1
		mg/L	Phosphorus, Dissolved	0.5	0.495	98	0.947	94	60-135	4
		mg/L	Sulfate	4	5.57	93	5.61	94	80-120	<1
		µg/L	Aluminum, Total	20	78.2	107.5	--	--	75-125	--
		µg/L	Antimony, Total	20	20	99.9	--	--	75-125	--
		µg/L	Arsenic, Total	20	20	100	--	--	75-125	--
		µg/L	Beryllium, Total	20	20.1	100.5	--	--	75-125	--
		µg/L	Bismuth, Total	20	21.2	106	--	--	75-125	--
		µg/L	Cadmium, Total	20	20	100	--	--	87-113	--
		µg/L	Chromium, Total	20	20.9	102	--	--	76-115	--
		µg/L	Cobalt, Total	20	20.4	101.8	--	--	84-115	--
		µg/L	Copper, Total	20	21.2	101.4	--	--	75-125	--
		µg/L	Lead, Total	20	20.7	103.4	--	--	76-117	--
		µg/L	Manganese, Total	20	23.8	101.8	--	--	75-125	--
		µg/L	Molybdenum, Total	20	20.3	101.2	--	--	75-125	--
		µg/L	Nickel, Total	20	20.4	100.3	--	--	78-117	--
		µg/L	Selenium, Total	20	20	100	--	--	75-125	--
		µg/L	Silver, Total	20	19.5	97.5	--	--	76-114	--
		µg/L	Thallium, Total	20	20.9	104.5	--	--	86-108	--
		µg/L	Tin, Total	20	20.4	102	--	--	75-125	--
		µg/L	Uranium, Total	40	40.3	100.8	--	--	75-125	--
		µg/L	Vanadium, Total	20	20.7	102.6	--	--	82-119	--
		µg/L	Zinc, Total	20	20.4	100	--	--	75-125	--
		µg/L	Phosphorus, Total	10000	9690	96.9	--	--	75-125	--
WQ10	25/07/2011	µg/L	Mercury, Total	1	1.05	105	--	--	76-126	--

Table 3-8a. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2011–2016

Sample	Date Collected	Units	Analyte	Spike Concentration	Matrix Spike		Matrix Spike Duplicate		Acceptance Limits	RPD
					Sample Result	Percent Recovery ^a	Sample Result	Percent Recovery ^a		
WQ10	08/01/2012	mg/L	Ammonia as Nitrogen	10	10.2	102	--	--	80-115	--
		µg/L	Calcium, Total	10000	12500	100.1	--	--	75-125	--
		µg/L	Iron, Total	1000	1000	97.2	--	--	75-125	--
		µg/L	Magnesium, Total	10000	10400	98.4	--	--	75-125	--
		µg/L	Potassium, Total	10000	9950	97.9	--	--	75-125	--
		µg/L	Sodium, Total	10000	14000	98.8	--	--	75-125	--
WQ10	26/04/2013	µg/L	Aluminum, Total	100	191	82	--	--	75-125	--
		µg/L	Arsenic, Total	50	51.8	103	--	--	75-125	--
		µg/L	Cadmium, Total	25	26.9	108	--	--	75-125	--
		µg/L	Chromium, Total	10	10.9	103	--	--	75-125	--
		µg/L	Copper, Total	12.5	13.4	97	--	--	75-125	--
		µg/L	Lead, Total	50	49.4	99	--	--	75-125	--
		µg/L	Nickel, Total	25	24.6	98	--	--	75-125	--
		µg/L	Selenium, Total	50	52.5	105	--	--	75-125	--
		µg/L	Silver, Total	12.5	12.5	100	--	--	75-125	--
		µg/L	Zinc, Total	25	25.4	99	--	--	75-125	--
WQ10	30/07/2013	mg/L	Sulfate	10	15.1	97	15.2	98	90-110	<1
WQ10	07/06/2014	mg/L	Sulfate	4	7.61	104	7.57	102	90-110	<1
WQ10	06/08/2014	µg/L	Aluminum, Total	100	134	98.2	--	--	75-125	--
		µg/L	Arsenic, Total	50	52.7	105.2	--	--	75-125	--
		µg/L	Cadmium, Total	25	25.3	101.2	--	--	75-125	--
		µg/L	Chromium, Total	10	10.1	98.5	--	--	75-125	--
		µg/L	Copper, Total	12.5	13.3	100.2	--	--	75-125	--
		µg/L	Lead, Total	50	50	100	--	--	75-125	--
		µg/L	Zinc, Total	25	25.6	100.8	--	--	75-125	--
WQ10	11/01/2015	mg/L	Sulfate	10	12.3	104	12.3	104	90-110	<1
WQ10	05/12/2015	mg/L	Nitrate+Nitrite as Nitrogen	1	0.964	94	0.981	96	90-110	2
WQ13	21/07/2012	µg/L	Aluminum, Total	100	172.7	102.5	--	--	75-125	--
		µg/L	Arsenic, Total	50	51.2	102.4	--	--	75-125	--
		µg/L	Cadmium, Total	25	25.8	103	--	--	75-125	--
		µg/L	Copper, Total	12.5	14.7	103	--	--	75-125	--
		µg/L	Lead, Total	50	51.9	103.6	--	--	75-125	--
		µg/L	Nickel, Total	25	25.4	100.8	--	--	75-125	--
		µg/L	Selenium, Total	50	49	98	--	--	75-125	--
		µg/L	Silver, Total	12.5	12.2	97.6	--	--	75-125	--
		µg/L	Zinc, Total	25	27.9	106.2	--	--	75-125	--

Table 3-8a. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2011–2016

Sample	Date Collected	Units	Analyte	Spike Concentration	Matrix Spike		Matrix Spike Duplicate		Acceptance Limits	RPD
					Sample Result	Percent Recovery ^a	Sample Result	Percent Recovery ^a		
WQ13	27/10/2012	µg/L	Aluminum, Total	100	114.0	93.1	--	--	75-125	--
		µg/L	Arsenic, Total	50	49.4	98.6	--	--	75-125	--
		µg/L	Cadmium, Total	25	25.9	103.6	--	--	87-113	--
		µg/L	Chromium, Total	10	9.9	97.3	--	--	76-115	--
		µg/L	Copper, Total	12.5	12.6	95.4	--	--	75-125	--
		µg/L	Lead, Total	50	50.5	101	--	--	76-117	--
		µg/L	Nickel, Total	25	23.3	92.5	--	--	78-117	--
		µg/L	Selenium, Total	50	51.5	103	--	--	75-125	--
		µg/L	Silver, Total	12.5	12.3	98.2	--	--	76-114	--
		µg/L	Zinc, Total	25	24.9	94	--	--	75-125	--
WQ13	12/10/2014	mg/L	Nitrate+Nitrite as Nitrogen	1	1.07	97	1.12	102	89-114	5

Notes:

Percent recovery = spike concentration/(sample concentration + spike concentration) × 100

RPD = (((replicate sample - primary sample)/(replicate sample + primary sample))/2) × 100

RPD = relative percent difference

-- = data not available

^a Bold font indicates a case where the percent recovery falls outside of acceptance limits.

Table 3-8b. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2011–2016

Sample	Date Collected	Units	Analyte	Spike Concentration	Matrix Spike		Matrix Spike Duplicate		Acceptance Limits	RPD
					Sample Result	Percent Recovery ^a	Sample Result	Percent Recovery ^a		
EFF1	21/04/2011	µg/L	Calcium, Total	10000	42200	103	--	--	75-125	--
		µg/L	Iron, Total	1000	2590	<i>J</i> 170.9	--	--	75-125	--
		µg/L	Magnesium, Total	10000	13900	111.1	--	--	75-125	--
		µg/L	Potassium, Total	10000	11100	105.8	--	--	75-125	--
		µg/L	Sodium, Total	10000	14900	101	--	--	75-125	--
EFF1	07/09/2011	µg/L	Mercury, Total	1	1	100	--	--	76-126	--
		mg/L	Ammonia as Nitrogen	10	10.1	101	--	--	80-115	--
		mg/L	Chloride	10	12.9	95	12.9	95	90-110	<1
		mg/L	Sulfate	10	35.5	<i>J</i> 117	35.5 <i>J</i>	117	90-110	<1
		µg/L	Calcium, Total	10000	38300	92	--	--	75-125	--
		µg/L	Iron, Total	1000	2880	141	--	--	75-125	--
		µg/L	Magnesium, Total	10000	12500	102.3	--	--	75-125	--
		µg/L	Potassium, Total	10000	10700	100.7	--	--	75-125	--
		µg/L	Sodium, Total	10000	14100	95.6	--	--	75-125	--
EFF1	11/10/2011	µg/L	Aluminum, Total	100	386	132	--	--	75-125	--
		µg/L	Arsenic, Total	50	52.1	103.2	--	--	75-125	--
		µg/L	Cadmium, Total	25	26.1	104.1	--	--	87-113	--
		µg/L	Chromium, Total	10	11.8	101.7	--	--	76-115	--
		µg/L	Copper, Total	12.5	15.8	100.6	--	--	75-125	--
		µg/L	Lead, Total	50	49.9	99.4	--	--	76-117	--
		µg/L	Nickel, Total	25	25.2	98.2	--	--	78-117	--
		µg/L	Selenium, Total	50	51.6	102	--	--	75-125	--
		µg/L	Silver, Total	12.5	12.7	100.8	--	--	76-114	--
		µg/L	Zinc, Total	25	34.9	100.9	--	--	75-125	--
EFF1	21/12/2011	µg/L	Calcium, Total	10000	37700	95	--	--	75-125	--
		µg/L	Chromium, Hexavalent, Total	10	10.6	106	--	--	85-115	--
		µg/L	Iron, Total	1000	1110	103.2	--	--	75-125	--
		µg/L	Magnesium, Total	10000	12200	95.5	--	--	75-125	--
		µg/L	Potassium, Total	10000	10800	103.2	--	--	75-125	--
		µg/L	Sodium, Total	10000	14900	96.5	--	--	75-125	--
EFF1	08/01/2012	µg/L	Calcium, Total	10000	35200	98	--	--	75-125	--
		µg/L	Iron, Total	1000	1050	99.4	--	--	75-125	--
		µg/L	Magnesium, Total	10000	12200	100.9	--	--	75-125	--
		µg/L	Potassium, Total	10000	10600	101.2	--	--	75-125	--
		µg/L	Sodium, Total	10000	15500	105.3	--	--	75-125	--
EFF1	26/04/2013	mg/L	Chloride	10	12.7	95	12.9	97	90-110	1
		mg/L	Nitrate+Nitrite as Nitrogen	2	1.95	96	2.02	99	90-110	3
		mg/L	Sulfate	10	26.3	97	26.4	97	90-110	<1

Table 3-8b. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2011–2016

Sample	Date Collected	Units	Analyte	Spike Concentration	Matrix Spike		Matrix Spike Duplicate		Acceptance Limits	RPD
					Sample Result	Percent Recovery ^a	Sample Result	Percent Recovery ^a		
EFF1	26/01/2014	µg/L	Mercury, Total	1	1.05	105	--	--	76-126	--
EFF1	11/01/2015	µg/L	Mercury, Total	5	4.93	98.6	--	--	80-120	--
EFF1	05/12/2015	µg/L	Mercury, Total	5	4.85	97	--	--	75-125	--
LO1	06/08/2014	µg/L	Aluminum, Total	100	102	94.7	--	--	75-125	--
		µg/L	Arsenic, Total	50	51.8	103.4	--	--	75-125	--
		µg/L	Cadmium, Total	25	27.6	99.8	--	--	75-125	--
		µg/L	Chromium, Total	10	9.12	90.7	--	--	75-125	--
		µg/L	Copper, Total	12.5	14.7	95.9	--	--	75-125	--
		µg/L	Lead, Total	50	51	99.8	--	--	75-125	--
		µg/L	Zinc, Total	25	206	104	--	--	75-125	--
LO1	12/10/2014	mg/L	Nitrate+Nitrite as Nitrogen	1	0.981	98	1.01	101	89-114	3
MW1	20/01/2011	µg/L	Calcium, Total	10000	21700	104	--	--	75-125	--
		µg/L	Iron, Total	1000	1350	96.4	--	--	72-131	--
		µg/L	Magnesium, Total	10000	11300	102.4	--	--	75-125	--
		µg/L	Potassium, Total	10000	10100	100.6	--	--	75-125	--
		µg/L	Sodium, Total	10000	15400	104.4	--	--	75-125	--
		mg/L	Chloride	4	8.18	94	8.18	94	80-120	<1
		mg/L	Nitrate+Nitrite as Nitrogen	2	2.06	103	2.05	103	86-117	<1
MW1	20/04/2011	mg/L	Sulfate	4	15.7	114	15.6	113	80-120	<1
		mg/L	Chloride	4	7.77	101	7.79	101	80-120	<1
		mg/L	Sulfate	4	13.9	110	13.8	107	80-120	<1
		µg/L	Aluminum, Total	20	209	150	--	--	75-125	--
		µg/L	Arsenic, Total	20	20.7	102.7	--	--	75-125	--
		µg/L	Cadmium, Total	20	20.8	103.9	--	--	87-113	--
		µg/L	Copper, Total	20	19.5	88	--	--	75-125	--
		µg/L	Lead, Total	20	19.4	93.9	--	--	76-117	--
		µg/L	Nickel, Total	20	19.5	95.2	--	--	78-117	--
		µg/L	Selenium, Total	20	22.4	112	--	--	75-125	--
		µg/L	Silver, Total	20	19.9	99.5	--	--	76-114	--
MW1	25/07/2011	µg/L	Zinc, Total	20	21.7	97.4	--	--	75-125	--
		mg/L	Ammonia as Nitrogen	10	10.1	100	--	--	80-115	--
		mg/L	Chloride	4	8.15	105	8.1	104	80-120	<1
		mg/L	Nitrate+Nitrite as Nitrogen	2	2	99	2.01	100	86-117	<1
MW1	20/12/2011	mg/L	Sulfate	4	13.4	108	13.5	111	80-120	<1
		mg/L	Ammonia as Nitrogen	10	10.3	103	--	--	80-115	--
		mg/L	Chloride	4	7.55	98	7.57	99	90-110	<1
		mg/L	Nitrate+Nitrite as Nitrogen	2	2.03	101	2.02	100	86-117	<1
MW1		mg/L	Sulfate	4	17.6	114	17.5	113	90-110	<1

Table 3-8b. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2011–2016

Sample	Date Collected	Units	Analyte	Spike Concentration	Matrix Spike		Matrix Spike Duplicate		Acceptance Limits	RPD
					Sample Result	Percent Recovery ^a	Sample Result	Percent Recovery ^a		
MW1	04/01/2013	mg/L	Ammonia as Nitrogen	10	10.3	103	--	--	80-115	--
		mg/L	Nitrate+Nitrite as Nitrogen	2	1.98	99	2.01	100	89-114	1
MW1	25/04/2013	mg/L	Sulfate	10	26.5	98	26.2	96	90-110	<1
		mg/L	Chloride	10	15	98	15	98	90-110	<1
MW1	15/08/2015	µg/L	Aluminum, Total	100	266	100	--	--	75-125	--
		µg/L	Arsenic, Total	50	50.2	100	--	--	75-125	--
		µg/L	Cadmium, Dissolved	25	24.9	99	--	--	75-125	--
		µg/L	Cadmium, Total	25	24.9	99	--	--	75-125	--
		µg/L	Chromium, Total	10	10.2	98	--	--	75-125	--
		µg/L	Copper, Dissolved	13	13.8	96	--	--	75-125	--
		µg/L	Copper, Total	13	14.7	99	--	--	75-125	--
		µg/L	Lead, Total	50	49.4	98	--	--	75-125	--
		µg/L	Selenium, Total	50	51.5	103	--	--	75-125	--
		µg/L	Zinc, Dissolved	25	30	96	--	--	75-125	--
		µg/L	Zinc, Total	25	30.6	99	--	--	75-125	--
MW1	04/12/2015	µg/L	Aluminum, Total	100	197.5	91	--	--	75-125	--
		µg/L	Arsenic, Total	50	50.9	102	--	--	75-125	--
		µg/L	Cadmium, Dissolved	25	25.6	103	--	--	75-125	--
		µg/L	Cadmium, Total	25	24.7	99	--	--	75-125	--
		µg/L	Chromium, Total	10	10.5	103	--	--	75-125	--
		µg/L	Copper, Dissolved	12.5	14.0	103	--	--	75-125	--
		µg/L	Copper, Total	12.5	14.2	100	--	--	75-125	--
		µg/L	Lead, Total	50	48.6	97	--	--	75-125	--
		mg/L	Nitrate+Nitrite as Nitrogen	1	0.9	94	0.96	96	90-110	2
		µg/L	Selenium, Total	16	14.2	87	--	--	75-125	--
		µg/L	Zinc, Dissolved	25	28.1	100	--	--	75-125	--
		µg/L	Zinc, Total	25	27.9	99	--	--	75-125	--
MW1	31/01/2016	µg/L	Aluminum, Total	100	153	85	--	--	75-125	--
		µg/L	Arsenic, Total	50	47.6	95	--	--	75-125	--
		µg/L	Cadmium, Dissolved	25	24	96	--	--	75-125	--
		µg/L	Cadmium, Total	25	23.7	95	--	--	75-125	--
		µg/L	Chromium, Total	10	9.34	92	--	--	75-125	--
		µg/L	Copper, Dissolved	12.5	12.5	94	--	--	75-125	--
		µg/L	Copper, Total	12.5	12.7	91	--	--	75-125	--
		µg/L	Lead, Total	50	47.3	94	--	--	75-125	--
		µg/L	Mercury, Total	5	4.71	94	--	--	75-125	--
		mg/L	Nitrate+Nitrite as Nitrogen	1	0.908	91	0.905	90	90-110	1
		µg/L	Selenium, Total	50	48.2	96	--	--	75-125	--
		mg/L	Sulfate	20	34.4	99	34.4	99	90-110	<1
		µg/L	Zinc, Dissolved	25	26.7	94	--	--	75-125	--
		µg/L	Zinc, Total	25	26.3	92	--	--	75-125	--

Table 3-8b. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2011–2016

Sample	Date Collected	Units	Analyte	Spike Concentration	Matrix Spike		Matrix Spike Duplicate		Acceptance Limits	RPD
					Sample Result	Percent Recovery ^a	Sample Result	Percent Recovery ^a		
MW1	01/04/2016	µg/L	Aluminum, Total	100	196	91	--	--	70-130	--
		µg/L	Arsenic, Total	50	51	102	--	--	70-130	--
		µg/L	Cadmium, Dissolved	25	24.3	97	--	--	70-130	--
		µg/L	Cadmium, Total	25	24.7	99	--	--	70-130	--
		µg/L	Chromium, Total	10	10.1	98	--	--	70-130	--
		µg/L	Copper, Dissolved	12	13.3	104	--	--	70-130	--
		µg/L	Copper, Total	12	14.1	103	--	--	70-130	--
		µg/L	Lead, Total	50	50.2	99	--	--	70-130	--
		µg/L	Mercury, Total	5	4.47	89	--	--	75-125	--
		µg/L	Selenium, Total	50	50.6	101	--	--	70-130	--
		mg/L	Sulfate	10	29.3	93	29.3	92	90-110	<1
		µg/L	Zinc, Dissolved	25	26.6	96	--	--	70-130	--
		µg/L	Zinc, Total	25	27.9	98	--	--	70-130	--
MW1	10/10/2016	µg/L	Aluminum, Total	100	211	98	--	--	75-125	--
		µg/L	Arsenic, Total	50	49.5	99	--	--	75-125	--
		µg/L	Cadmium, Dissolved	25	25.2	101	--	--	75-125	--
		µg/L	Cadmium, Total	25	24.7	99	--	--	75-125	--
		µg/L	Chromium, Total	10	10.3	99	--	--	75-125	--
		µg/L	Copper, Dissolved	12.5	12.3	93	--	--	75-125	--
		µg/L	Copper, Total	12.5	13	95	--	--	75-125	--
		µg/L	Lead, Total	50	48.6	96	--	--	75-125	--
		µg/L	Mercury, Total	5	5	100	--	--	75-125	--
		µg/L	Selenium, Total	50	49.4	99	--	--	75-125	--
		mg/L	Sulfate	10	32.9	98	32.9	98	90-110	<1
		µg/L	Zinc, Dissolved	25	26.9	98	--	--	75-125	--
		µg/L	Zinc, Total	25	26.3	95	--	--	75-125	--
MW1/MW20	08/06/2014	mg/L	Nitrate+Nitrite as Nitrogen	2	2.09	104	2.03	102	89-114	3
MW2	20/01/2011	µg/L	Aluminum, Total	20	415	25	--	--	56-143	--
		µg/L	Arsenic, Total	20	20.6	101.8	--	--	72-129	--
		µg/L	Cadmium, Total	20	20.6	102.9	--	--	87-113	--
		µg/L	Chromium, Total	20	21.5	101	--	--	76-115	--
		µg/L	Copper, Total	20	21.6	101.3	--	--	74-114	--
		µg/L	Lead, Total	20	20.4	100.8	--	--	76-117	--
		µg/L	Nickel, Total	20	21.1	102.3	--	--	78-117	--
		µg/L	Selenium, Total	20	11.1	54	--	--	58-131	--
		µg/L	Silver, Total	20	21	104.9	--	--	76-114	--
		µg/L	Zinc, Total	20	21.1	101.3	--	--	65-126	--

Table 3-8b. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2011–2016

Sample	Date Collected	Units	Analyte	Spike Concentration	Matrix Spike		Matrix Spike Duplicate		Acceptance Limits	RPD
					Sample Result	Percent Recovery ^a	Sample Result	Percent Recovery ^a		
MW2	09/01/2012	µg/L	Aluminum, Total	100	205	82	--	--	75-125	--
		µg/L	Arsenic, Total	50	54.4	107.9	--	--	75-125	--
		µg/L	Cadmium, Total	25	25.8	103.2	--	--	92-111	--
		µg/L	Chromium, Total	10	11.8	97.7	--	--	88-113	--
		µg/L	Copper, Total	12.5	13.3	101.1	--	--	89-113	--
		µg/L	Lead, Total	50	49.8	99.4	--	--	90-112	--
		µg/L	Nickel, Total	25	25.4	99.6	--	--	89-113	--
		µg/L	Selenium, Total	50	50.7	101.4	--	--	87-115	--
		µg/L	Silver, Total	12.5	12.3	98.4	--	--	75-125	--
		µg/L	Zinc, Total	25	25.9	99.1	--	--	86-119	--
MW2	05/01/2013	µg/L	Calcium, Total	10000	10800	102	--	--	75-125	--
		mg/L	Chloride	10	14.8	103	14.8	103	90-110	<1
		µg/L	Iron, Total	1000	4270	103	--	--	75-125	--
		µg/L	Magnesium, Total	10000	10500	99	--	--	75-125	--
		µg/L	Mercury, Dissolved	1	0.99	99	--	--	76-126	--
		µg/L	Potassium, Total	10000	10300	99	--	--	75-125	--
		µg/L	Sodium, Total	10000	14100	101	--	--	75-125	--
		mg/L	Sulfate	10	10.3	95	10.4	96	80-110	--
MW2	01/04/2016	µg/L	Aluminum, Total	100	599	129	--	--	70-130	--
		µg/L	Arsenic, Total	50	50.3	100	--	--	70-130	--
		µg/L	Cadmium, Dissolved	25	24.9	100	--	--	70-130	--
		µg/L	Cadmium, Total	25	24.7	99	--	--	70-130	--
		µg/L	Chromium, Total	10	10.8	100	--	--	70-130	--
		µg/L	Copper, Dissolved	12	13.4	109	--	--	70-130	--
		µg/L	Copper, Total	12	14.3	106	--	--	70-130	--
		µg/L	Lead, Total	50	50.5	100	--	--	70-130	--
		µg/L	Selenium, Total	50	48.7	97	--	--	70-130	--
		mg/L	Sulfate	10	10.7	100	10.8	100	90-110	<1
		µg/L	Zinc, Dissolved	25	25.4	100	--	--	70-130	--
		µg/L	Zinc, Total	25	25.9	98	--	--	70-130	--
MW3	20/01/2011	µg/L	Mercury, Dissolved	1	0.99	99	--	--	76-126	--
		µg/L	Mercury, Total	1	0.99	99	--	--	76-126	--
MW3	20/04/2011	µg/L	Mercury, Dissolved	1	0.97	97	--	--	76-126	--
		µg/L	Mercury, Total	1	0.98	98	--	--	76-126	--
MW3	24/07/2011	µg/L	Mercury, Total	1	1.01	101	--	--	76-126	--

Table 3-8b. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2011–2016

Sample	Date Collected	Units	Analyte	Spike Concentration	Matrix Spike		Matrix Spike Duplicate		Acceptance Limits	RPD
					Sample Result	Percent Recovery ^a	Sample Result	Percent Recovery ^a		
MW3	20/12/2011	µg/L	Mercury, Dissolved	1	0.99	99	--	--	76-126	--
		µg/L	Aluminum, Total	100	638	55	--	--	75-125	--
		µg/L	Aluminum, Total	2000	2690	106.6	--	--	75-125	--
		µg/L	Arsenic, Total	50	50.6	100.5	--	--	75-125	--
		µg/L	Cadmium, Total	25	24.6	98.2	--	--	92-111	--
		µg/L	Calcium, Total	10000	10800	98.2	--	--	75-125	--
		µg/L	Copper, Total	12.5	12.9	95.6	--	--	89-113	--
		µg/L	Iron, Total	1000	4050	100	--	--	75-125	--
		µg/L	Lead, Total	50	48.4	96.5	--	--	90-112	--
		µg/L	Magnesium, Total	10000	10700	101.6	--	--	75-125	--
		µg/L	Mercury, Total	1	1	100	--	--	76-126	--
		µg/L	Nickel, Total	25	24.4	95.5	--	--	89-113	--
		µg/L	Potassium, Total	10000	10700	105.1	--	--	75-125	--
		µg/L	Selenium, Total	50	49.5	98.2	--	--	87-115	--
		µg/L	Silver, Total	12.5	12.1	96.3	--	--	75-125	--
		µg/L	Sodium, Total	10000	14000	101.7	--	--	75-125	--
		µg/L	Zinc, Total	25	25.9	95.3	--	--	86-119	--
MW3	25/04/2013	mg/L	Nitrate+Nitrite as Nitrogen	2	2.06	101	2.07	102	90-110	<1
MW3	30/07/2013	µg/L	Aluminum, Total	100	456	81	--	--	75-125	--
		µg/L	Arsenic, Total	50	47.6	94.8	--	--	75-125	--
		µg/L	Cadmium, Total	25	24.4	97.6	--	--	75-125	--
		µg/L	Chromium, Total	10	10.4	95.9	--	--	75-125	--
		µg/L	Copper, Total	12.5	12.7	95.1	--	--	75-125	--
		µg/L	Lead, Total	50	48.1	95.9	--	--	75-125	--
		µg/L	Selenium, Total	50	46	92	--	--	75-125	--
		µg/L	Zinc, Total	25	27.3	100.4	--	--	75-125	--
MW3	08/06/2014	µg/L	Aluminum, Total	100	320	89.0	--	--	75-125	--
		µg/L	Arsenic, Total	50	49.8	99.2	--	--	75-125	--
		µg/L	Cadmium, Total	25	25.9	103.6	--	--	75-125	--
		µg/L	Chromium, Total	10	10.3	97.9	--	--	75-125	--
		µg/L	Copper, Total	12.5	12.8	96.4	--	--	75-125	--
		µg/L	Lead, Total	50	51.3	102.5	--	--	75-125	--
		µg/L	Selenium, Total	50	50.1	99.6	--	--	75-125	--
		µg/L	Zinc, Total	25	26.9	98.8	--	--	75-125	--

Table 3-8b. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2011–2016

Sample	Date Collected	Units	Analyte	Spike Concentration	Matrix Spike		Matrix Spike Duplicate		Acceptance Limits	RPD
					Sample Result	Percent Recovery ^a	Sample Result	Percent Recovery ^a		
MW3	10/01/2015	µg/L	Aluminum, Total	100	379	90.0	--	--	75-125	--
		µg/L	Arsenic, Total	50	50.3	100.2	--	--	75-125	--
		µg/L	Cadmium, Total	25	25.2	100.8	--	--	75-125	--
		µg/L	Copper, Total	12.5	13.1	100.2	--	--	75-125	--
		µg/L	Lead, Total	50	49.6	99.0	--	--	75-125	--
		µg/L	Selenium, Total	50	49.8	99.6	--	--	75-125	--
		µg/L	Zinc, Total	25	26.8	98.4	--	--	75-125	--
MW4	20/04/2011	mg/L	Nitrate+Nitrite as Nitrogen	2	2.03	99	2.05	100	86-117	1
MW4	24/07/2011	µg/L	Calcium, Total	10000	25700	107	--	--	75-125	--
		µg/L	Iron, Total	1000	7360	121	--	--	75-125	--
		µg/L	Magnesium, Total	10000	13000	105.2	--	--	75-125	--
		µg/L	Potassium, Total	10000	11100	104.9	--	--	75-125	--
		µg/L	Sodium, Total	10000	15400	105.9	--	--	75-125	--
		µg/L	Aluminum, Total	20	98.7	95.5	--	--	75-125	--
		µg/L	Arsenic, Total	20	20.3	99	--	--	75-125	--
		µg/L	Cadmium, Total	20	20.1	100.4	--	--	87-113	--
		µg/L	Chromium, Total	20	20.1	96.2	--	--	76-115	--
		µg/L	Copper, Total	20	19.6	94.4	--	--	75-125	--
		µg/L	Lead, Total	20	19.7	98.4	--	--	76-117	--
		µg/L	Nickel, Total	20	19.1	92.5	--	--	78-117	--
		µg/L	Selenium, Total	20	19.7	98.5	--	--	75-125	--
		µg/L	Silver, Total	20	18.8	93.9	--	--	76-114	--
		µg/L	Zinc, Total	20	21	97	--	--	75-125	--
MW4	05/01/2013	µg/L	Aluminum, Total	100	239	96	--	--	75-125	--
		µg/L	Arsenic, Total	50	51.9	103	--	--	75-125	--
		µg/L	Cadmium, Total	25	25.7	103	--	--	75-125	--
		µg/L	Copper, Total	12.5	12.9	96	--	--	75-125	--
		µg/L	Lead, Total	50	51.4	103	--	--	75-125	--
		µg/L	Nickel, Total	25	24.8	98	--	--	75-125	--
		µg/L	Selenium, Total	50	52.5	105	--	--	75-125	--
		µg/L	Silver, Total	12.5	12.4	99	--	--	75-125	--
		µg/L	Zinc, Total	25	26.7	101	--	--	75-125	--

Table 3-8b. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2011–2016

Sample	Date Collected	Units	Analyte	Spike Concentration	Matrix Spike		Matrix Spike Duplicate		Acceptance Limits	RPD
					Sample Result	Percent Recovery ^a	Sample Result	Percent Recovery ^a		
MW4	12/10/2014	µg/L	Aluminum, Total	100	300	96	--	--	75-125	--
		µg/L	Arsenic, Total	50	50.4	99.8	--	--	75-125	--
		µg/L	Cadmium, Total	25	24.6	98.3	--	--	75-125	--
		µg/L	Chromium, Total	10	11.1	94.1	--	--	75-125	--
		µg/L	Copper, Total	12.5	13.6	95.7	--	--	75-125	--
		µg/L	Lead, Total	50	48.6	97	--	--	75-125	--
		µg/L	Selenium, Total	50	51.5	102.4	--	--	75-125	--
		µg/L	Zinc, Total	25	25.9	97.2	--	--	75-125	--

Notes:

Data Qualifiers:

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.

Percent recovery = spike concentration/(sample concentration + spike concentration) × 100

RPD = (((replicate sample - primary sample)/(replicate sample + primary sample))/2) × 100

RPD = relative percent difference

-- = data not available

^a Bold font indicates a case where the percent recovery falls outside of acceptance limits.

Table 3-9. Percent Completeness for Surface Water and Groundwater – 2016

Analysis	Total # of Data Points ^a	Number of Data Points		Completeness (%)
		Accepted	Rejected	
Permit Stations - Surface Water (WQ4, WQ6, WQ10, WQ13)				
Conventionals ^b	60	60	0	100
Metals ^c	180	180	0	100
Field ^d	75	75	0	100
Permit Stations - Groundwater (MW1, MW2, MW3, MW4)				
Conventionals ^b	60	60	0	100
Metals ^c	180	180	0	100
Field ^d	99	99	0	100
Effluent and PAG Pond				
Conventionals ^b	24	24	0	100
Metals ^c	72	72	0	100
Field ^e	176	176	0	100

Notes:

PAG = potentially acid-generating

^a Totals include field duplicate samples and exclude field blanks.

^b Conventionals include total dissolved solids, hardness, sulfate, and nitrate/nitrite as N.

^c Metals include total Al, As, Cd, Cr, Cu, Pb, Hg, Se, Zn, and dissolved Cd, Cu, and Zn.

^d Field parameters include conductivity, dissolved oxygen, pH, temperature, and turbidity;
turbidity and dissolved oxygen are not required field parameters.

^e Field parameters include sulfate, conductivity, dissolved oxygen, pH, temperature, and turbidity;
turbidity and dissolved oxygen are required parameters for the PAG facility.

Table 4-1a. Water Quality Monitoring Data, Field Parameters, 2016

Station ID Collection Contractor Sample Event			Date Time		In situ (field measurements)					
					Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
Permit Stations - Surface Water										
WQ10	Integral	January 2016	01/31/2016	15:00	5.22	64	9.6	5.8	7.11	--
WQ10	Integral	April 2016	04/01/2016	12:25	7.47	80	10.4	4.2	7	--
WQ10	Integral	October 2016	10/10/2016	15:05	6.71	102	9.57	4.8	7.31	--
WQ13	Integral	January 2016	01/31/2016	12:10	5.05	57	9.89	2.5	7.04	--
WQ13	Integral	April 2016	04/01/2016	09:50	6.28	71	11.18	3.5	6.91	--
WQ13	Integral	October 2016	10/10/2016	12:15	7.37	87	9.29	4.9	7.12	--
WQ4	Integral	January 2016	01/31/2016	11:50	4.54	60	10.04	5.5	7.2	--
WQ4	Integral	April 2016	04/01/2016	10:10	6.26	60	11.46	4.8	7.32	--
WQ4	Integral	October 2016	10/10/2016	12:45	7.17	99	8.31	4.4	7.45	--
WQ6	Integral	January 2016	01/31/2016	11:00	4.03	33	10.26	5.4	7.01	--
WQ6	Integral	April 2016	04/01/2016	11:00	5.79	34	10.82	4.5	7.01	--
WQ6	Integral	October 2016	10/10/2016	13:20	7.13	66	9.04	5	7.49	--
Permit Stations - Groundwater										
MW1	Integral	January 2016	01/31/2016	09:20	8.5	114	4.18	6.7	6.23	--
MW1	Integral	April 2016	04/01/2016	08:30	8.61	127	3.09	9.1	6.13	--
MW1	Integral	October 2016	10/10/2016	10:20	10.15	157	3.03	11.8	5.92	--
MW2	Integral	January 2016	01/31/2016	10:35	6.25	64	2.96	11.3	5.55	--
MW2	Integral	April 2016	04/01/2016	09:25	7.39	55	2.33	23.3	5.61	--
MW2	Integral	October 2016	10/10/2016	11:45	8.53	62	3.14	44.3	5.54	--
MW3	Integral	January 2016	01/31/2016	13:30	5.39	54	3.3	26.5	5.64	--
MW3	Integral	April 2016	04/01/2016	12:00	7.07	44	2.77	14.4	5.51	--
MW3	Integral	October 2016	10/10/2016	14:05	8.28	41	5.29	12.5	5.61	--
MW4	Integral	January 2016	01/31/2016	14:40	5.45	111	4.55	76.9	6.3	--
MW4	Integral	April 2016	04/01/2016	13:50	8.17	121	3.4	39.4	6.64	--
MW4	Integral	October 2016	10/11/2016	09:05	9.58	106	3.7	19.4	5.89	--
Effluent, PAG Pond, and Barrels										
EFF1	Integral	Weekly Field Data	01/15/2016	1206	4.2	193	12.36	0	6.79	50 U
EFF1	Integral	January 2016	01/31/2016	17:10	4.35	196	8.02	6.5	7.64	50 U
EFF1	Integral	Weekly Field Data	02/14/2016	1337	6.5	176	11.65	0	6.19	50 U
EFF1	Integral	Weekly Field Data	03/27/2016	1527	7.1	189	14.12	0	6.41	50 U
EFF1	Integral	April 2016	04/01/2016	14:30	8.8	182	9.38	4.5	7.73	50 U
EFF1	Integral	Weekly Field Data	04/30/2016	1718	7.8	196	10.52	0	6.26	50 U
EFF1	Integral	Weekly Field Data	05/28/2016	1024	9.2	183	12.33	0	6.26	50 U
EFF1	Integral	Weekly Field Data	06/29/2016	1234	12.8	210	10.3	0	--	50 U
EFF1	Integral	Weekly Field Data	07/26/2016	1540	10.6	183	11.3	0	--	50 U
EFF1	Integral	Weekly Field Data	08/25/2016	1108	12.4	186	13.11	0	6.51	50 U
EFF1	Integral	Weekly Field Data	09/24/2016	940	7.3	189	14.15	0	6.47	50 U
EFF1	Integral	October 2016	10/10/2016	16:45	5.7	208	8.61	5.9	7.83	50 U

Table 4-1a. Water Quality Monitoring Data, Field Parameters, 2016

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
EFF1	Integral	Weekly Field Data	10/22/2016	1148	6.9	186	12.47	0	6.54	50 <i>U</i>
EFF1	Integral	Weekly Field Data	11/20/2016	915	5.5	189	12.43	0	6.78	50 <i>U</i>
EFF1	Integral	Weekly Field Data	12/17/2016	1012	4.1	188	12.87	0	6.64	50 <i>U</i>
PAG	Integral	Weekly Field Data	01/15/2016	1223	5	555	9.13	0	6.51	150
PAG	Integral	January 2016	01/31/2016	16:35	4.2	452	7.63	8.1	7.22	200
PAG	Integral	Weekly Field Data	02/14/2016	1414	6.1	380	8.69	0	6.59	200
PAG	Integral	Weekly Field Data	03/27/2016	1544	9.7	494	10.52	0	6.4	200
PAG	Integral	April 2016	04/01/2016	15:35	10.4	563	8	4.5	7.62	200
PAG	Integral	Weekly Field Data	04/30/2016	1735	8.3	585	8.04	0	6.27	175
PAG	Integral	Weekly Field Data	05/28/2016	1044	13.3	841	8.78	0	6.5	175
PAG	Integral	Weekly Field Data	06/29/2016	1309	20.5	1130	7.64	0	--	150
PAG	Integral	Weekly Field Data	07/26/2016	1557	15.1	864	9.7	0	--	150
PAG	Integral	Weekly Field Data	08/25/2016	1133	17.2	583	7.96	0	6.4	125
PAG	Integral	Weekly Field Data	09/24/2016	956	7.7	487	10.48	0	6.5	175
PAG	Integral	October 2016	10/10/2016	16:10	5.29	1410	7.99	5.9	6.78	200 >
PAG	Integral	Weekly Field Data	10/22/2016	1211	7	476	9.89	0	6.52	150
PAG	Integral	Weekly Field Data	11/20/2016	932	4.8	372	8.85	0	6.55	150
PAG	Integral	Weekly Field Data	12/17/2016	1036	4	493	9.83	0	6.51	100

Notes:
-- = data not available
DO = dissolved oxygen
NTU = nephelometric turbidity unit
U = The analyte was not detected above the reported sample quantitation limit.
> = The analyte was positively identified at a concentration greater than the given value.

Table 4-1b. Water Quality Monitoring Data, Physical Parameters, Anions and Nutrients, 2016

Sample ALS Kelso Collection Station ID ID Lab SDG Contractor Sample Event Date Time							Analytical Physical Tests			Dissolved Anions and Nutrients						
							TDS (mg/L)	Hardness as CaCO ₃ (mg/L)	TSS (mg/L)	Alkalinity as CaCO ₃ (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
Permit Stations - Surface Water																
WQ10	WQ10	K1601004	Integral	January 2016	01/31/2016	15:00	20	18	--	--	--	3.25	--	0.044 <i>J</i>	--	--
WQ10	WQ10	K1603321	Integral	April 2016	04/01/2016	12:25	53	38	--	--	--	5.05	--	0.054	--	--
WQ10	WQ10	K1612340	Integral	October 2016	10/10/2016	15:05	42	38	--	--	--	6.37	--	0.113	--	--
WQ13	WQ13	K1601004	Integral	January 2016	01/31/2016	12:10	13.5	14	--	--	--	5.51	--	0.109	--	--
WQ13	WQ13	K1603321	Integral	April 2016	04/01/2016	09:50	48	20	--	--	--	8.38	--	0.085	--	--
WQ13	WQ13	K1612340	Integral	October 2016	10/10/2016	12:15	31	40.4	--	--	--	13.3	--	0.128	--	--
WQ4	WQ4	K1601004	Integral	January 2016	01/31/2016	11:50	20.5	18.4	--	--	--	3.61	--	0.073	--	--
WQ4	WQ4	K1603321	Integral	April 2016	04/01/2016	10:10	40	22	--	--	--	4	--	0.055	--	--
WQ4	WQ4	K1612340	Integral	October 2016	10/10/2016	12:45	41	43.6	--	--	--	7.57	--	0.128	--	--
WQ6	WQ6	K1601004	Integral	January 2016	01/31/2016	11:00	14.5	15.6	--	--	--	1.98	--	0.046 <i>J</i>	--	--
WQ6	WQ6	K1603321	Integral	April 2016	04/01/2016	11:00	15	12 <i>J</i>	--	--	--	1.37	--	0.021	--	--
WQ6	WQ6	K1612340	Integral	October 2016	10/10/2016	13:20	27.5	26	--	--	--	2.57	--	0.124	--	--
Permit Stations - Groundwater																
MW1	MW1	K1601004	Integral	January 2016	01/31/2016	09:20	54	42	--	--	--	14.7	--	0.02 <i>U</i>	--	--
MW1	MW1	K1603321	Integral	April 2016	04/01/2016	08:30	89	60.4	--	--	--	20	--	0.02 <i>U</i>	--	--
MW1	MW1	K1612340	Integral	October 2016	10/10/2016	10:20	89	59.2	--	--	--	23	--	0.02 <i>U</i>	--	--
MW2	MW2	K1601004	Integral	January 2016	01/31/2016	10:35	28.5	12	--	--	--	0.87	--	0.02 <i>U</i>	--	--
MW2	MW2	K1603321	Integral	April 2016	04/01/2016	09:25	29	18 <i>J</i>	--	--	--	0.73	--	0.02 <i>U</i>	--	--
MW2	MW2	K1612340	Integral	October 2016	10/10/2016	11:45	38	14.4	--	--	--	0.2 <i>J</i>	--	0.024 <i>J</i>	--	--
MW3	MW3	K1601004	Integral	January 2016	01/31/2016	13:30	24.5	8	--	--	--	0.68	--	0.02 <i>U</i>	--	--
MW3	MW3	K1603321	Integral	April 2016	04/01/2016	12:00	28.5	11.6 <i>J</i>	--	--	--	0.02 <i>U</i>	--	0.02 <i>U</i>	--	--
MW3	MW3	K1612340	Integral	October 2016	10/10/2016	14:05	41.5	10.4	--	--	--	0.23	--	0.02 <i>U</i>	--	--
MW4	MW4	K1601004	Integral	January 2016	01/31/2016	14:40	38	30.4	--	--	--	6.9	--	0.02 <i>U</i>	--	--
MW4	MW4	K1603321	Integral	April 2016	04/01/2016	13:50	72	46.4	--	--	--	10.6	--	0.02 <i>U</i>	--	--
MW4	MW4	K1612340	Integral	October 2016	10/11/2016	09:05	51	39.6	--	--	--	9	--	0.515	--	--
Effluent, PAG Pond, and Barrels																
EFF1	EFF1	K1601004	Integral	January 2016	01/31/2016	17:10	80	80	--	--	--	19	--	0.034 <i>J</i>	--	--
EFF1	EFF1	K1603321	Integral	April 2016	04/01/2016	14:30	98	86	--	--	--	13.2	--	0.02 <i>U</i>	--	--
EFF1	EFF1	K1612340	Integral	October 2016	10/10/2016	16:45	109	97.6	--	--	--	16	--	0.038 <i>J</i>	--	--
PAG	PAG	K1601004	Integral	January 2016	01/31/2016	16:35	271	204	--	--	--	173	--	0.021 <i>J</i>	--	--
PAG	PAG	K1603321	Integral	April 2016	04/01/2016	15:35	399	325	--	--	--	227	--	0.02 <i>U</i>	--	--
PAG	PAG	K1612340	Integral	October 2016	10/10/2016	16:10	1140	790	--	--	--	849	--	0.09	--	--

Notes:
-- = data not available
ALS = ALS Laboratory Group
PAG = potentially acid-generating
SDG = sample digestion group

Data Qualifiers:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
U = The analyte was not detected above the reported sample quantitation limit.
UU = The analyte was not detected above the reported sample quantitation limit; however, the reported quantitation limit is approximate.

Table 4-1c. Water Quality Monitoring Data, Trace Elements, 2016

ALS Kelso Collection Station ID Lab SDG Contractor Sample Event Date Time						Trace Elements							
						Aluminum (µg/L), Total	Aluminum (µg/L), Dissolved	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total	Calcium (µg/L), Dissolved
Permit Stations - Surface Water													
WQ10	K1601004	Integral	January 2016	01/31/2016	15:00	21.3	--	0.2 <i>U</i>	--	0.02 <i>J</i>	0.019 <i>U</i>	--	--
WQ10	K1603321	Integral	April 2016	04/01/2016	12:25	24.1	--	0.2 <i>U</i>	--	0.05	0.048	--	--
WQ10	K1612340	Integral	October 2016	10/10/2016	15:05	23.8	--	0.2 <i>U</i>	--	0.13	0.089	--	--
WQ13	K1601004	Integral	January 2016	01/31/2016	12:10	23	--	0.2 <i>U</i>	--	0.007 <i>U</i>	0.007 <i>U</i>	--	--
WQ13	K1603321	Integral	April 2016	04/01/2016	09:50	23.8	--	0.2 <i>U</i>	--	0.008 <i>U</i>	0.007 <i>U</i>	--	--
WQ13	K1612340	Integral	October 2016	10/10/2016	12:15	23.8	--	0.2 <i>U</i>	--	0.007 <i>J</i>	0.009 <i>U</i>	--	--
WQ4	K1601004	Integral	January 2016	01/31/2016	11:50	20.4	--	0.2 <i>U</i>	--	0.007 <i>U</i>	0.007 <i>U</i>	--	--
WQ4	K1603321	Integral	April 2016	04/01/2016	10:10	28.8	--	0.2 <i>U</i>	--	0.007 <i>U</i>	0.007 <i>U</i>	--	--
WQ4	K1612340	Integral	October 2016	10/10/2016	12:45	28.6	--	0.2 <i>U</i>	--	0.007 <i>U</i>	0.007 <i>U</i>	--	--
WQ6	K1601004	Integral	January 2016	01/31/2016	11:00	20.6	--	0.2 <i>U</i>	--	0.011 <i>J</i>	0.012 <i>U</i>	--	--
WQ6	K1603321	Integral	April 2016	04/01/2016	11:00	32.9	--	0.2 <i>U</i>	--	0.007 <i>U</i>	0.007 <i>U</i>	--	--
WQ6	K1612340	Integral	October 2016	10/10/2016	13:20	22.2	--	0.2 <i>U</i>	--	0.007 <i>U</i>	0.007 <i>U</i>	--	--
Permit Stations - Groundwater													
MW1	K1601004	Integral	January 2016	01/31/2016	09:20	68.2	--	0.2 <i>U</i>	--	0.02	0.02	--	--
MW1	K1603321	Integral	April 2016	04/01/2016	08:30	105	--	0.2	--	0.033	0.018 <i>U</i>	--	--
MW1	K1612340	Integral	October 2016	10/10/2016	10:20	113	--	0.2 <i>U</i>	--	0.019 <i>J</i>	0.014 <i>U</i>	--	--
MW2	K1601004	Integral	January 2016	01/31/2016	10:35	272	--	0.2 <i>J</i>	--	0.016 <i>J</i>	0.007 <i>U</i>	--	--
MW2	K1603321	Integral	April 2016	04/01/2016	09:25	470	--	0.3	--	0.019 <i>U</i>	0.007 <i>U</i>	--	--
MW2	K1612340	Integral	October 2016	10/10/2016	11:45	735	--	0.46 <i>J</i>	--	0.027	0.007 <i>U</i>	--	--
MW3	K1601004	Integral	January 2016	01/31/2016	13:30	137	--	0.2 <i>U</i>	--	0.007 <i>U</i>	0.007 <i>U</i>	--	--
MW3	K1603321	Integral	April 2016	04/01/2016	12:00	434	--	0.3	--	0.01 <i>U</i>	0.007 <i>U</i>	--	--
MW3	K1612340	Integral	October 2016	10/10/2016	14:05	619	--	0.23 <i>J</i>	--	0.007 <i>U</i>	0.007 <i>U</i>	--	--
MW4	K1601004	Integral	January 2016	01/31/2016	14:40	106	--	0.6	--	0.009 <i>J</i>	0.007 <i>U</i>	--	--
MW4	K1603321	Integral	April 2016	04/01/2016	13:50	126	--	0.4	--	0.019 <i>U</i>	0.01 <i>U</i>	--	--
MW4	K1612340	Integral	October 2016	10/11/2016	09:05	90.8	--	0.41 <i>J</i>	--	0.009 <i>J</i>	0.008 <i>U</i>	--	--
Effluent, PAG Pond, and Barrels													
EFF1	K1601004	Integral	January 2016	01/31/2016	17:10	12	--	0.4 <i>J</i>	--	0.852	0.838	--	--
EFF1	K1603321	Integral	April 2016	04/01/2016	14:30	9	--	0.4	--	0.474	0.481	--	--
EFF1	K1612340	Integral	October 2016	10/10/2016	16:45	17.4	--	0.35 <i>J</i>	--	0.873	0.89	--	--
PAG	K1601004	Integral	January 2016	01/31/2016	16:35	44.2	--	0.2 <i>J</i>	--	7.51	7.9	--	--
PAG	K1603321	Integral	April 2016	04/01/2016	15:35	45.5	--	0.2 <i>U</i>	--	11.4	11.1	--	--
PAG	K1612340	Integral	October 2016	10/10/2016	16:10	50.9	--	0.22 <i>J</i>	--	105	100	--	--

Notes:
-- = data not available
ALS = ALS Laboratory Group
PAG = potentially acid-generating

Data Qualifiers:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
U = The analyte was not detected above the reported sample quantitation limit.

Table 4-1c. Water Quality Monitoring Data, Trace Elements, 2016

ALS Kelso Collection Station ID Lab SDG Contractor Sample Event Date Time						Trace Elements							
						Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved
Permit Stations - Surface Water													
WQ10	K1601004	Integral	January 2016	01/31/2016	15:00	0.18 <i>U</i>	--	0.47	0.49 <i>J</i>	--	--	0.004 <i>U</i>	--
WQ10	K1603321	Integral	April 2016	04/01/2016	12:25	0.18 <i>U</i>	--	0.76	0.65	--	--	0.013 <i>U</i>	--
WQ10	K1612340	Integral	October 2016	10/10/2016	15:05	0.28	--	1.11	0.87	--	--	0.027	--
WQ13	K1601004	Integral	January 2016	01/31/2016	12:10	0.16 <i>U</i>	--	0.63	0.6 <i>J</i>	--	--	0.005 <i>U</i>	--
WQ13	K1603321	Integral	April 2016	04/01/2016	09:50	0.16 <i>U</i>	--	0.7	0.66	--	--	0.011 <i>U</i>	--
WQ13	K1612340	Integral	October 2016	10/10/2016	12:15	0.28	--	0.67	0.64	--	--	0.005 <i>J</i>	--
WQ4	K1601004	Integral	January 2016	01/31/2016	11:50	0.14 <i>U</i>	--	0.41	0.43 <i>J</i>	--	--	0.004 <i>U</i>	--
WQ4	K1603321	Integral	April 2016	04/01/2016	10:10	0.21	--	0.57	0.57	--	--	0.014 <i>U</i>	--
WQ4	K1612340	Integral	October 2016	10/10/2016	12:45	0.34	--	0.47	0.46	--	--	0.004 <i>U</i>	--
WQ6	K1601004	Integral	January 2016	01/31/2016	11:00	0.13 <i>U</i>	--	0.43	0.41 <i>J</i>	--	--	0.004 <i>U</i>	--
WQ6	K1603321	Integral	April 2016	04/01/2016	11:00	0.16 <i>U</i>	--	0.66	0.68	--	--	0.008 <i>U</i>	--
WQ6	K1612340	Integral	October 2016	10/10/2016	13:20	0.27	--	0.45	0.44	--	--	0.004 <i>U</i>	--
Permit Stations - Groundwater													
MW1	K1601004	Integral	January 2016	01/31/2016	09:20	0.17 <i>U</i>	--	1.35	0.77 <i>J</i>	--	--	0.279	--
MW1	K1603321	Integral	April 2016	04/01/2016	08:30	0.25	--	1.7	0.87	--	--	0.496	--
MW1	K1612340	Integral	October 2016	10/10/2016	10:20	0.32	--	1.18	0.72	--	--	0.322	--
MW2	K1601004	Integral	January 2016	01/31/2016	10:35	0.55	--	0.96	0.29 <i>J</i>	--	--	0.179	--
MW2	K1603321	Integral	April 2016	04/01/2016	09:25	0.77	--	1.57	0.32	--	--	0.434	--
MW2	K1612340	Integral	October 2016	10/10/2016	11:45	1.58	--	3.08	1.33	--	--	0.454	--
MW3	K1601004	Integral	January 2016	01/31/2016	13:30	0.32	--	0.27	0.18 <i>J</i>	--	--	0.034	--
MW3	K1603321	Integral	April 2016	04/01/2016	12:00	0.7	--	0.66	0.48	--	--	0.106	--
MW3	K1612340	Integral	October 2016	10/10/2016	14:05	1.09	--	1.03	0.8	--	--	0.091	--
MW4	K1601004	Integral	January 2016	01/31/2016	14:40	1.59	--	0.6	0.41 <i>J</i>	--	--	0.07	--
MW4	K1603321	Integral	April 2016	04/01/2016	13:50	1.56	--	1.06	0.46	--	--	0.089	--
MW4	K1612340	Integral	October 2016	10/11/2016	09:05	1.22	--	0.48	0.48	--	--	0.033	--
Effluent, PAG Pond, and Barrels													
EFF1	K1601004	Integral	January 2016	01/31/2016	17:10	0.26	--	6.89	6.02	--	--	0.095	--
EFF1	K1603321	Integral	April 2016	04/01/2016	14:30	0.32	--	5.81	5.83	--	--	0.038	--
EFF1	K1612340	Integral	October 2016	10/10/2016	16:45	0.32	--	7.69	6.5	--	--	0.037	--
PAG	K1601004	Integral	January 2016	01/31/2016	16:35	0.12 <i>U</i>	--	35.1	26.1	--	--	0.711	--
PAG	K1603321	Integral	April 2016	04/01/2016	15:35	0.14 <i>U</i>	--	38	16.5	--	--	0.733	--
PAG	K1612340	Integral	October 2016	10/10/2016	16:10	0.12 <i>U</i>	--	392	353	--	--	0.448	--

Notes:
-- = data not available
ALS = ALS Laboratory Group
PAG = potentially acid-generating

Data Qualifiers:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
U = The analyte was not detected above the reported sample quantitation limit.

Table 4-1c. Water Quality Monitoring Data, Trace Elements, 2016

						Trace Elements							
Station ID	ALS Kelso Lab SDG	Collection Contractor	Sample Event	Date	Time	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved
Permit Stations - Surface Water													
WQ10	K1601004	Integral	January 2016	01/31/2016	15:00	--	--	0.02 <i>UJ</i>	--	--	--	--	--
WQ10	K1603321	Integral	April 2016	04/01/2016	12:25	--	--	0.02 <i>U</i>	--	--	--	--	--
WQ10	K1612340	Integral	October 2016	10/10/2016	15:05	--	--	0.02 <i>UJ</i>	--	--	--	--	--
WQ13	K1601004	Integral	January 2016	01/31/2016	12:10	--	--	0.02 <i>UJ</i>	--	--	--	--	--
WQ13	K1603321	Integral	April 2016	04/01/2016	09:50	--	--	0.02 <i>U</i>	--	--	--	--	--
WQ13	K1612340	Integral	October 2016	10/10/2016	12:15	--	--	0.02 <i>UJ</i>	--	--	--	--	--
WQ4	K1601004	Integral	January 2016	01/31/2016	11:50	--	--	0.02 <i>UJ</i>	--	--	--	--	--
WQ4	K1603321	Integral	April 2016	04/01/2016	10:10	--	--	0.02 <i>U</i>	--	--	--	--	--
WQ4	K1612340	Integral	October 2016	10/10/2016	12:45	--	--	0.02 <i>UJ</i>	--	--	--	--	--
WQ6	K1601004	Integral	January 2016	01/31/2016	11:00	--	--	0.02 <i>UJ</i>	--	--	--	--	--
WQ6	K1603321	Integral	April 2016	04/01/2016	11:00	--	--	0.02 <i>U</i>	--	--	--	--	--
WQ6	K1612340	Integral	October 2016	10/10/2016	13:20	--	--	0.02 <i>UJ</i>	--	--	--	--	--
Permit Stations - Groundwater													
MW1	K1601004	Integral	January 2016	01/31/2016	09:20	--	--	0.02 <i>UJ</i>	--	--	--	--	--
MW1	K1603321	Integral	April 2016	04/01/2016	08:30	--	--	0.02 <i>U</i>	--	--	--	--	--
MW1	K1612340	Integral	October 2016	10/10/2016	10:20	--	--	0.02 <i>UJ</i>	--	--	--	--	--
MW2	K1601004	Integral	January 2016	01/31/2016	10:35	--	--	0.02 <i>UJ</i>	--	--	--	--	--
MW2	K1603321	Integral	April 2016	04/01/2016	09:25	--	--	0.02 <i>U</i>	--	--	--	--	--
MW2	K1612340	Integral	October 2016	10/10/2016	11:45	--	--	0.02 <i>UJ</i>	--	--	--	--	--
MW3	K1601004	Integral	January 2016	01/31/2016	13:30	--	--	0.02 <i>UJ</i>	--	--	--	--	--
MW3	K1603321	Integral	April 2016	04/01/2016	12:00	--	--	0.02 <i>U</i>	--	--	--	--	--
MW3	K1612340	Integral	October 2016	10/10/2016	14:05	--	--	0.02 <i>UJ</i>	--	--	--	--	--
MW4	K1601004	Integral	January 2016	01/31/2016	14:40	--	--	0.02 <i>UJ</i>	--	--	--	--	--
MW4	K1603321	Integral	April 2016	04/01/2016	13:50	--	--	0.02 <i>U</i>	--	--	--	--	--
MW4	K1612340	Integral	October 2016	10/11/2016	09:05	--	--	0.02 <i>UJ</i>	--	--	--	--	--
Effluent, PAG Pond, and Barrels													
EFF1	K1601004	Integral	January 2016	01/31/2016	17:10	--	--	0.02 <i>UJ</i>	--	--	--	--	--
EFF1	K1603321	Integral	April 2016	04/01/2016	14:30	--	--	0.02 <i>U</i>	--	--	--	--	--
EFF1	K1612340	Integral	October 2016	10/10/2016	16:45	--	--	0.02 <i>UJ</i>	--	--	--	--	--
PAG	K1601004	Integral	January 2016	01/31/2016	16:35	--	--	0.02 <i>UJ</i>	--	--	--	--	--
PAG	K1603321	Integral	April 2016	04/01/2016	15:35	--	--	0.02 <i>U</i>	--	--	--	--	--
PAG	K1612340	Integral	October 2016	10/10/2016	16:10	--	--	0.02 <i>UJ</i>	--	--	--	--	--

Notes:
-- = data not available
ALS = ALS Laboratory Group
PAG = potentially acid-generating

Data Qualifiers:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
U = The analyte was not detected above the reported sample quantitation limit.

Table 4-1c. Water Quality Monitoring Data, Trace Elements, 2016

						Trace Elements							
Station ID	ALS Kelso Lab SDG	Collection Contractor	Sample Event	Date	Time	Selenium (µg/L), Total	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
Permit Stations - Surface Water													
WQ10	K1601004	Integral	January 2016	01/31/2016	15:00	0.4 <i>U</i>	--	--	--	--	--	3.8 <i>U</i>	3.9 <i>U</i>
WQ10	K1603321	Integral	April 2016	04/01/2016	12:25	0.4 <i>U</i>	--	--	--	--	--	9.7 <i>J</i>	8.9 <i>J</i>
WQ10	K1612340	Integral	October 2016	10/10/2016	15:05	0.4 <i>U</i>	--	--	--	--	--	24.2	21.4
WQ13	K1601004	Integral	January 2016	01/31/2016	12:10	0.4 <i>U</i>	--	--	--	--	--	1.1 <i>U</i>	1.1 <i>U</i>
WQ13	K1603321	Integral	April 2016	04/01/2016	09:50	0.4 <i>U</i>	--	--	--	--	--	1.2 <i>U</i>	1.2 <i>U</i>
WQ13	K1612340	Integral	October 2016	10/10/2016	12:15	0.4 <i>J</i>	--	--	--	--	--	1.03 <i>U</i>	1.03 <i>U</i>
WQ4	K1601004	Integral	January 2016	01/31/2016	11:50	0.4 <i>U</i>	--	--	--	--	--	0.3 <i>U</i>	0.5 <i>U</i>
WQ4	K1603321	Integral	April 2016	04/01/2016	10:10	0.4 <i>U</i>	--	--	--	--	--	0.9 <i>U</i>	0.6 <i>U</i>
WQ4	K1612340	Integral	October 2016	10/10/2016	12:45	0.4 <i>U</i>	--	--	--	--	--	0.2 <i>U</i>	0.2 <i>U</i>
WQ6	K1601004	Integral	January 2016	01/31/2016	11:00	0.4 <i>U</i>	--	--	--	--	--	1.7 <i>U</i>	1.7 <i>U</i>
WQ6	K1603321	Integral	April 2016	04/01/2016	11:00	0.4 <i>U</i>	--	--	--	--	--	0.4 <i>U</i>	0.6 <i>U</i>
WQ6	K1612340	Integral	October 2016	10/10/2016	13:20	0.4 <i>U</i>	--	--	--	--	--	1.06 <i>U</i>	1.05 <i>U</i>
Permit Stations - Groundwater													
MW1	K1601004	Integral	January 2016	01/31/2016	09:20	0.4 <i>U</i>	--	--	--	--	--	3.3 <i>U</i>	3.3 <i>U</i>
MW1	K1603321	Integral	April 2016	04/01/2016	08:30	0.4 <i>U</i>	--	--	--	--	--	3.5 <i>U</i>	2.5 <i>U</i>
MW1	K1612340	Integral	October 2016	10/10/2016	10:20	0.4 <i>U</i>	--	--	--	--	--	2.53 <i>U</i>	2.41 <i>U</i>
MW2	K1601004	Integral	January 2016	01/31/2016	10:35	0.4 <i>U</i>	--	--	--	--	--	0.6 <i>U</i>	0.4 <i>U</i>
MW2	K1603321	Integral	April 2016	04/01/2016	09:25	0.4 <i>U</i>	--	--	--	--	--	1.5 <i>U</i>	0.5 <i>U</i>
MW2	K1612340	Integral	October 2016	10/10/2016	11:45	0.6 <i>J</i>	--	--	--	--	--	1.28 <i>U</i>	0.65 <i>U</i>
MW3	K1601004	Integral	January 2016	01/31/2016	13:30	0.4 <i>U</i>	--	--	--	--	--	2.1 <i>U</i>	2 <i>U</i>
MW3	K1603321	Integral	April 2016	04/01/2016	12:00	0.4 <i>U</i>	--	--	--	--	--	2.9 <i>U</i>	2.6 <i>U</i>
MW3	K1612340	Integral	October 2016	10/10/2016	14:05	0.4 <i>U</i>	--	--	--	--	--	2.4 <i>U</i>	2.34 <i>U</i>
MW4	K1601004	Integral	January 2016	01/31/2016	14:40	0.4 <i>U</i>	--	--	--	--	--	1.2 <i>U</i>	1.1 <i>U</i>
MW4	K1603321	Integral	April 2016	04/01/2016	13:50	0.4 <i>U</i>	--	--	--	--	--	1.8 <i>U</i>	1.2 <i>U</i>
MW4	K1612340	Integral	October 2016	10/11/2016	09:05	0.4 <i>U</i>	--	--	--	--	--	1.49 <i>U</i>	1.28 <i>U</i>
Effluent, PAG Pond, and Barrels													
EFF1	K1601004	Integral	January 2016	01/31/2016	17:10	0.4 <i>U</i>	--	--	--	--	--	139	135
EFF1	K1603321	Integral	April 2016	04/01/2016	14:30	0.4 <i>U</i>	--	--	--	--	--	65.2	65.6
EFF1	K1612340	Integral	October 2016	10/10/2016	16:45	0.4 <i>U</i>	--	--	--	--	--	129	131
PAG	K1601004	Integral	January 2016	01/31/2016	16:35	0.5 <i>J</i>	--	--	--	--	--	1440	1520
PAG	K1603321	Integral	April 2016	04/01/2016	15:35	0.7	--	--	--	--	--	1870	1810
PAG	K1612340	Integral	October 2016	10/10/2016	16:10	1.3	--	--	--	--	--	20800	20000

Notes:
-- = data not available
ALS = ALS Laboratory Group
PAG = potentially acid-generating

Data Qualifiers:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
U = The analyte was not detected above the reported sample quantitation limit.

Table 4-2a. Method Detection Limits, Physical Parameters, Anions and Nutrients, 2016

ALS Kelso Lab SDG Collection Contractor Sample Event			Analytical Physical Tests			Dissolved Anions and Nutrients						
			TDS (mg/L)	Hardness as CaCO ₃ (mg/L)	TSS (mg/L)	Alkalinity as CaCO ₃ (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
Permit Stations - Surface Water												
K1601004	Integral	January 2016	--	0.8	--	--	--	0.02	--	0.02	--	--
K1603321	Integral	April 2016	--	0.8	--	--	--	0.02	--	0.02	--	--
K1612340	Integral	October 2016	--	0.8	--	--	--	0.02	--	0.02	--	--
Permit Stations - Groundwater												
K1601004	Integral	January 2016	--	0.8	--	--	--	0.02 - 0.2	--	0.02	--	--
K1603321	Integral	April 2016	--	0.8	--	--	--	0.02 - 0.05	--	0.02	--	--
K1612340	Integral	October 2016	--	0.8	--	--	--	0.02 - 0.1	--	0.02	--	--
Effluent, PAG Pond, and Barrels												
K1601004	Integral	January 2016	--	0.8	--	--	--	0.05 - 1	--	0.02	--	--
K1603321	Integral	April 2016	--	0.8 - 2	--	--	--	0.05 - 1	--	0.02	--	--
K1612340	Integral	October 2016	--	0.8	--	--	--	0.05 - 1	--	0.02	--	--

Notes:
-- = data not available
ALS = ALS Laboratory Group
PAG = potentially acid-generating
TDS = total dissolved solids

Table 4-2b. Method Detection Limits, Trace Elements, 2016

ALS Kelso Lab SDG Collection Contractor Sample Event			Trace Elements									
			Aluminum (µg/L), Total	Aluminum (µg/L), Dissolved	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total	Calcium (µg/L), Dissolved	Chromium (µg/L), Total	Chromium (µg/L), Dissolved
Permit Stations - Surface Water												
K1601004	Integral	January 2016	0.2	--	0.2	--	0.007	0.007	--	--	0.03	--
K1603321	Integral	April 2016	0.2	--	0.2	--	0.007	0.007	--	--	0.03	--
K1612340	Integral	October 2016	0.2	--	0.2	--	0.007	0.007	--	--	0.03	--
Permit Stations - Groundwater												
K1601004	Integral	January 2016	0.2	--	0.2	--	0.007	0.007	--	--	0.03	--
K1603321	Integral	April 2016	0.2	--	0.2	--	0.007	0.007	--	--	0.03	--
K1612340	Integral	October 2016	0.2	--	0.2	--	0.007	0.007	--	--	0.03	--
Effluent, PAG Pond, and Barrels												
K1601004	Integral	January 2016	0.2	--	0.2	--	0.007	0.007	--	--	0.03	--
K1603321	Integral	April 2016	0.2	--	0.2	--	0.007	0.007	--	--	0.03	--
K1612340	Integral	October 2016	0.2	--	0.2	--	0.007	0.007	--	--	0.03	--

Notes:
-- = data not available
ALS = ALS Laboratory Group
PAG = potentially acid-generating

Table 4-2b. Method Detection Limits, Trace Element

ALS Kelso Lab SDG Collection Contractor Sample Event			Trace Elements									
			Copper (µg/L), Total	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved
Permit Stations - Surface Water												
K1601004	Integral	January 2016	0.02	0.02	--	--	0.004	--	--	--	0.02	--
K1603321	Integral	April 2016	0.02	0.02	--	--	0.004	--	--	--	0.02	--
K1612340	Integral	October 2016	0.02	0.02	--	--	0.004	--	--	--	0.02	--
Permit Stations - Groundwater												
K1601004	Integral	January 2016	0.02	0.02	--	--	0.004	--	--	--	0.02	--
K1603321	Integral	April 2016	0.02	0.02	--	--	0.004	--	--	--	0.02	--
K1612340	Integral	October 2016	0.02	0.02	--	--	0.004	--	--	--	0.02	--
Effluent, PAG Pond, and Barrels												
K1601004	Integral	January 2016	0.02	0.02	--	--	0.004	--	--	--	0.02	--
K1603321	Integral	April 2016	0.02	0.02	--	--	0.004	--	--	--	0.02	--
K1612340	Integral	October 2016	0.02	0.02	--	--	0.004	--	--	--	0.02	--

Notes:
-- = data not available
ALS = ALS Laboratory Group
PAG = potentially acid-generating

Table 4-2b. Method Detection Limits, Trace Element

			Trace Elements											
			Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved	Selenium (µg/L), Total	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
ALS Kelso Lab SDG	Collection Contractor	Sample Event												
Permit Stations - Surface Water														
K1601004	Integral	January 2016	--	--	--	--	0.4	--	--	--	--	--	0.2	0.2
K1603321	Integral	April 2016	--	--	--	--	0.4	--	--	--	--	--	0.2	0.2
K1612340	Integral	October 2016	--	--	--	--	0.4	--	--	--	--	--	0.2	0.2
Permit Stations - Groundwater														
K1601004	Integral	January 2016	--	--	--	--	0.4	--	--	--	--	--	0.2	0.2
K1603321	Integral	April 2016	--	--	--	--	0.4	--	--	--	--	--	0.2	0.2
K1612340	Integral	October 2016	--	--	--	--	0.4	--	--	--	--	--	0.2	0.2
Effluent, PAG Pond, and Barrels														
K1601004	Integral	January 2016	--	--	--	--	0.4	--	--	--	--	--	0.2	0.2
K1603321	Integral	April 2016	--	--	--	--	0.4	--	--	--	--	--	0.2	0.2
K1612340	Integral	October 2016	--	--	--	--	0.4	--	--	--	--	--	0.2 - 40	0.2 - 40

Notes:
-- = data not available
ALS = ALS Laboratory Group
PAG = potentially acid-generating

Table 4-3. ADEC Water Quality Criteria Screening Summary - Permit Stations - Surface Water and Groundwater

			Site Data						Screening Criteria							
			Number of Samples	Number of Detected Samples (n _{det})	Minimum Detected Value	Maximum Detected Value	Minimum Detection Limit	Maximum Detection Limit	Criteria	Exceedance Flag	Minimum Screening Value ^a	Maximum Screening Value ^a	Exceedance Count ^b	Exceedance Frequency ^b	Stations Where Exceedances Have Been Recorded	Date of Most Recent Exceedance
Permit Stations - Surface Water																
Aluminum	Total	µg/L	302	302	15.6	2120	--	--	Chronic AK Water Quality Criteria Manual for Toxics (12/12/2008)	Yes	87	750	57	19%	WQ10; WQ12; WQ13; WQ4; WQ6; WQ7; WQ8	12/5/2015 (WQ10)
Aluminum	Total	µg/L	302	302	15.6	2120	--	--	Acute AK Water Quality Criteria Manual for Toxics (12/12/2008) ^c	Yes	750	750	2	1%	WQ4	2/14/2008 (WQ4)
Cadmium	Dissolved	µg/L	302	13	0.004	0.089	0.003	0.033	Acute AK Water Quality Criteria Manual for Toxics (12/12/2008)	--	0.02	1	0	0%	--	--
Cadmium	Dissolved	µg/L	302	13	0.004	0.089	0.003	0.033	Chronic AK Water Quality Criteria Manual for Toxics (12/12/2008)	--	0.01	0.19	0	0%	--	--
Chromium	Dissolved	µg/L	175	5	0.35	0.58	0.2	1.03	Niblack Permit 2013DB-0001, Table B	--	50	50	0	0%	--	--
Copper	Dissolved	µg/L	302	246	0.33	3.67	0.1	1.77	Chronic AK Water Quality Criteria Manual for Toxics (12/12/2008)	Yes	0.18	7	35	12%	WQ10; WQ12; WQ13; WQ4; WQ6; WQ7; WQ8	10/12/2014 (WQ13, WQ4, WQ6)
Copper	Dissolved	µg/L	302	246	0.33	3.67	0.1	1.77	Acute AK Water Quality Criteria Manual for Toxics (12/12/2008)	Yes	0.18	10	21	7%	WQ10; WQ12; WQ13; WQ4; WQ6; WQ7; WQ8	10/12/2014 (WQ6)
Selenium	Total	µg/L	302	33	0.2	0.5	0.2	1	Chronic AK Water Quality Criteria Manual for Toxics (12/12/2008)	--	5	5	0	0%	--	--
Zinc	Dissolved	µg/L	302	31	1	31.5	0.2	24.7	Acute AK Water Quality Criteria Manual for Toxics (12/12/2008)	--	2	87	0	0%	--	--
Zinc	Dissolved	µg/L	302	31	1	31.5	0.2	24.7	Chronic AK Water Quality Criteria Manual for Toxics (12/12/2008)	--	2	87	0	0%	--	--
Permit Stations - Groundwater																
Cadmium	Dissolved	µg/L	109	13	0.004	0.062	0.003	0.06	Niblack Permit 2013DB-0001, Table B	--	0.044	0.07	0	0%	--	--
Chromium	Total	µg/L	217	139	0.22	71.5	0.16	3.35	Niblack Permit 2013DB-0001, Table B	Yes	6.31	50	1	0%	MW4	2/27/2007 (MW4)
Copper	Dissolved	µg/L	57	52	0.48	2.09	0.64	1.38	Niblack Permit 2013DB-0001, Table B	--	2.61	2.61	0	0%	--	--
Zinc	Dissolved	µg/L	109	13	3.5	19.6	0.4	12.4	Niblack Permit 2013DB-0001, Table B	Yes	7.59	11.76	3	3%	MW2; MW3	1/15/2010 (MW3)

Notes:
Summary based on January 2006 - October 2016 natural samples from relevant stations.
-- = value either not applicable or not available
AK = Alaska

^a Criteria for Cd, Cu, Pb, Ni, and Zn are calculated based on the hardness of the sample.
^b Values below detection limits were not included in screening.
^c Where the pH is greater than or equal to 7.0 and the hardness is greater than or equal to 50 ppm as CaCO₃, the chronic aluminum standard will then be equal to the acute aluminum standard, 750 µg/L as total recoverable aluminum.

Table 4-4a. Water Quality Criteria Screening Results - Permit Stations - Surface Water

				Aluminum, Total		Arsenic, Dissolved		Cadmium, Dissolved		Chromium, Dissolved			Copper, Dissolved		Lead, Dissolved		Mercury, Dissolved	Selenium, Total	Zinc, Dissolved	
Station ID	Sample Event	Date	Sample Purpose	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	AWQ CrVI	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	AKWQ-HH	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT
WQ10	29/08/2006	August 2006 II	Reference	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Fail	Fail	ND	ND	ND	ND	ND	ND
WQ10	17/10/2006	October 2006	Reference	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Fail	ND	ND	ND	ND	ND	ND
WQ10	07/12/2006	December 2006	Reference	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ10	26/02/2007	February 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ10	10/04/2007	April 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	Pass	Pass
WQ10	14/05/2007	May 2007	Reference	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	Pass	Pass
WQ10	04/06/2007	June 2007	Reference	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Fail	Pass	Pass	ND	ND	Pass	Pass
WQ10	01/07/2007	July 2007 I	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	Pass	Pass
WQ10	24/07/2007	July 2007 II	Reference	Pass	Pass	Pass	Pass	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	Pass	ND	ND
WQ10	14/08/2007	August 2007 I	Reference	Pass	Pass	Pass	Pass	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ10	27/08/2007	August 2007 II	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ10	11/09/2007	September 2007 I	Field Replicate	Pass	Pass	Pass	Pass	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	Pass	ND	ND
WQ10	11/09/2007	September 2007 I	Reference	Pass	Pass	Pass	Pass	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	Pass	ND	ND
WQ10	01/10/2007	September 2007 II	Compliance	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Fail	ND	ND	ND	ND	ND	ND
WQ10	17/10/2007	October 2007	Compliance	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ10	13/11/2007	November 2007	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	Pass	ND	ND
WQ10	15/12/2007	December 2007 I	Compliance	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ10	09/01/2008	January 2008	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	Pass	ND	ND
WQ10	14/02/2008	February 2008	Compliance	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ10	15/03/2008	March 2008	Compliance	Pass	Fail	Pass	Pass	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ10	15/03/2008	March 2008	Field Replicate	Pass	Fail	Pass	Pass	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ10	14/04/2008	April 2008	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ10	08/05/2008	May 2008	Compliance	Pass	Pass	ND	ND	Pass	Pass	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ10	28/06/2008	June 2008	Compliance	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ10	24/07/2008	July 2008	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ10	15/10/2008	October 2008	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND
WQ10	09/03/2009	March 2009	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND
WQ10	13/05/2009	May 2009	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Fail	Fail	ND	ND	ND	ND	ND	ND
WQ10	13/05/2009	May 2009	Field Replicate	Pass	Pass	ND	ND	ND	ND	--	--	--	Fail	Fail	ND	ND	ND	ND	ND	ND
WQ10	23/07/2009	July 2009	Compliance	Pass	Fail	Pass	Pass	ND	ND	--	--	--	Fail	Fail	Pass	Pass	ND	ND	ND	ND
WQ10	05/09/2009	September 2009 I	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ10	12/09/2009	September 2009 II	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ10	17/10/2009	October 2009	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ10	17/10/2009	October 2009	Field Replicate	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ10	15/01/2010	January 2010	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND
WQ10	15/01/2010	January 2010	Field Replicate	Pass	Pass	ND	ND	ND	ND	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND
WQ10	22/04/2010	April 2010	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ10	22/04/2010	April 2010	Field Replicate	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ10	10/08/2010	August 2010	Compliance	Pass	Pass	Pass	Pass	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ10	10/08/2010	August 2010	Field Replicate	Pass	Pass	Pass	Pass	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ10	19/10/2010	October 2010	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ10	21/01/2011	January 2011	Compliance	Pass	Fail	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ10	20/04/2011	April 2011	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ10	20/04/2011	April 2011	Field Replicate	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ10	25/07/2011	July 2011 II	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ10	21/12/2011	December 2011	Compliance	Pass	Pass	Pass	Pass	ND	ND	--	--	--	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ10	08/01/2012	January 2012	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ10	08/04/2012	April 2012	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ10	21/07/2012	July 2012	Compliance	Pass	Fail	Pass	Pass	ND	ND	--	--	--	Pass	Fail	ND	ND	ND	ND	ND	ND
WQ10	27/10/2012	October 2012	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ10	27/10/2012	October 2012	Field Replicate	Pass	Pass	ND	ND	Pass	Pass	--	--	--	Pass	Pass	Pass	Pass	ND	ND	ND	ND

Table 4-4a. Water Quality Criteria Screening Results - Permit Stations - Surface Water

Station ID Sample Event Date Sample Purpose				Aluminum, Total		Arsenic, Dissolved		Cadmium, Dissolved		Chromium, Dissolved			Copper, Dissolved		Lead, Dissolved		Mercury, Dissolved	Selenium, Total	Zinc, Dissolved	
				Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	AWQ CrVI	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	AKWQ-HH	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT
WQ10	06/01/2013	January 2013	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ10	26/04/2013	April 2013	Compliance	Pass	Fail	ND	ND	ND	ND	Pass	Pass	Pass	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ10	30/07/2013	July 2013	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ10	30/07/2013	July 2013	Field Replicate	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ10	27/10/2013	October 2013	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ10	25/01/2014	January 2014	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ10	07/06/2014	June 2014	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ10	06/08/2014	August 2014	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ10	12/10/2014	October 2014	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ10	12/10/2014	October 2014	Field Replicate	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ10	11/01/2015	January 2015	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ10	10/05/2015	May 2015	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ10	16/08/2015	August 2015	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ10	05/12/2015	December 2015	Compliance	Pass	Fail	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ10	31/01/2016	January 2016	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ10	01/04/2016	April 2016	Compliance	Pass	Pass	--	--	Pass	Pass	--	--	--	Pass	Pass	--	--	--	ND	Pass	Pass
WQ10	01/04/2016	April 2016	Field Replicate	Pass	Pass	--	--	Pass	Pass	--	--	--	Pass	Pass	--	--	--	ND	Pass	Pass
WQ10	10/10/2016	October 2016	Compliance	Pass	Pass	--	--	Pass	Pass	--	--	--	Pass	Pass	--	--	--	ND	Pass	Pass
WQ12	29/08/2006	August 2006 II	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ12	17/10/2006	October 2006	Reference	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Fail	Fail	ND	ND	ND	ND	ND	ND
WQ12	07/12/2006	December 2006	Reference	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ12	26/02/2007	February 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ12	10/04/2007	April 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ12	14/05/2007	May 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ12	04/06/2007	June 2007	Field Replicate	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ12	04/06/2007	June 2007	Reference	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	Fail	ND	Pass	Pass
WQ12	01/07/2007	July 2007 I	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	Pass	Pass
WQ12	24/07/2007	July 2007 II	Reference	Pass	Pass	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Pass	ND	ND
WQ12	14/08/2007	August 2007 I	Reference	Pass	Pass	Pass	Pass	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ12	27/08/2007	August 2007 II	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ12	11/09/2007	September 2007 I	Reference	Pass	Pass	Pass	Pass	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	Pass	ND	ND
WQ12	01/10/2007	September 2007 II	Field Replicate	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ12	01/10/2007	September 2007 II	Reference	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	Pass	ND	ND
WQ12	17/10/2007	October 2007	Reference	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ12	13/11/2007	November 2007	Reference	Pass	Pass	Pass	Pass	ND	ND	ND	ND	ND	Pass	Pass	Pass	Pass	ND	Pass	ND	ND
WQ12	15/12/2007	December 2007 I	Reference	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ12	09/01/2008	January 2008	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	Pass	ND	ND
WQ12	14/02/2008	Februrary 2008	Reference	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	Pass	Pass	ND	Pass	ND	ND
WQ12	15/03/2008	March 2008	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ12	14/04/2008	April 2008	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ12	08/05/2008	May 2008	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ12	28/06/2008	June 2008	Reference	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ12	24/07/2008	July 2008	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ13	26/02/2007	February 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ13	10/04/2007	April 2007	Field Replicate	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	Pass	Pass
WQ13	10/04/2007	April 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	Pass	Pass
WQ13	14/05/2007	May 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	Pass	Pass
WQ13	04/06/2007	June 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Fail	Fail	ND	ND	ND	ND	Pass	Pass
WQ13	01/07/2007	July 2007 I	Field Replicate	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	Pass	Pass
WQ13	01/07/2007	July 2007 I	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	Pass	Pass
WQ13	24/07/2007	July 2007 II	Reference	Pass	Pass	Pass	Pass	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	Pass	ND	ND

Table 4-4a. Water Quality Criteria Screening Results - Permit Stations - Surface Water

				Aluminum, Total		Arsenic, Dissolved		Cadmium, Dissolved		Chromium, Dissolved			Copper, Dissolved		Lead, Dissolved		Mercury, Dissolved	Selenium, Total	Zinc, Dissolved	
Station ID	Sample Event	Date	Sample Purpose	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	AWQ CrVI	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	AKWQ-HH	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT
WQ13	14/08/2007	August 2007 I	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ13	27/08/2007	August 2007 II	Field Replicate	Pass	Pass	ND	ND	Pass	Pass	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ13	27/08/2007	August 2007 II	Reference	Pass	Pass	ND	ND	Pass	Pass	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ13	11/09/2007	September 2007 I	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	Pass	ND	ND
WQ13	01/10/2007	September 2007 II	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ13	17/10/2007	October 2007	Compliance	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ13	13/11/2007	November 2007	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ13	16/12/2007	December 2007 I	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	Pass	Pass
WQ13	09/01/2008	January 2008	Compliance	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	Pass	ND	ND
WQ13	09/01/2008	January 2008	Field Replicate	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	Pass	ND	ND
WQ13	14/02/2008	February 2008	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ13	14/02/2008	February 2008	Field Replicate	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	Pass	ND	ND
WQ13	15/03/2008	March 2008	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ13	15/04/2008	April 2008	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ13	08/05/2008	May 2008	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ13	27/06/2008	June 2008	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ13	27/06/2008	June 2008	Field Replicate	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ13	25/07/2008	July 2008	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ13	25/07/2008	July 2008	Field Replicate	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ13	15/10/2008	October 2008	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND
WQ13	08/03/2009	March 2009	Compliance	Pass	Pass	ND	ND	Pass	Pass	--	--	--	ND	ND	Pass	Pass	ND	ND	Pass	Pass
WQ13	08/03/2009	March 2009	Field Replicate	Pass	Pass	ND	ND	ND	ND	--	--	--	ND	ND	Pass	Pass	ND	ND	Pass	Pass
WQ13	13/05/2009	May 2009	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Fail	Fail	ND	ND	ND	ND	ND	ND
WQ13	23/07/2009	July 2009	Compliance	Pass	Fail	Pass	Pass	ND	ND	--	--	--	Fail	Fail	ND	ND	ND	ND	ND	ND
WQ13	17/10/2009	October 2009	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ13	17/01/2010	January 2010	Compliance	Pass	Pass	ND	ND	Pass	Pass	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND
WQ13	22/04/2010	April 2010	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ13	14/07/2010	July 2010	Compliance	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WQ13	10/08/2010	August 2010	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ13	18/10/2010	October 2010	Compliance	Pass	Pass	Pass	Pass	Pass	Pass	ND	ND	ND	Pass	Pass	ND	ND	ND	Pass	ND	ND
WQ13	18/10/2010	October 2010	Field Replicate	Pass	Pass	ND	ND	Pass	Pass	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ13	19/01/2011	January 2011	Compliance	Pass	Fail	ND	ND	ND	ND	--	--	--	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ13	20/04/2011	April 2011	Compliance	Pass	Pass	ND	ND	Pass	Pass	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND
WQ13	25/07/2011	July 2011 II	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Fail	ND	ND	ND	ND	ND	ND
WQ13	21/12/2011	December 2011	Compliance	Pass	Pass	Pass	Pass	ND	ND	--	--	--	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ13	21/12/2011	December 2011	Field Replicate	Pass	Pass	Pass	Pass	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ13	09/01/2012	January 2012	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ13	09/01/2012	January 2012	Field Replicate	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ13	08/04/2012	April 2012	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ13	21/07/2012	July 2012	Compliance	Pass	Pass	Pass	Pass	Pass	Pass	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ13	27/10/2012	October 2012	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ13	05/01/2013	January 2013	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ13	05/01/2013	January 2013	Field Replicate	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ13	26/04/2013	April 2013	Compliance	Pass	Pass	ND	ND	ND	ND	Pass	Pass	Pass	Pass	Fail	ND	ND	ND	ND	ND	ND
WQ13	26/04/2013	April 2013	Field Replicate	Pass	Pass	ND	ND	ND	ND	Pass	Pass	Pass	Pass	Fail	ND	ND	ND	ND	ND	ND
WQ13	31/07/2013	July 2013	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ13	27/10/2013	October 2013	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ13	25/01/2014	January 2014	Compliance	Pass	Pass	--	--	Pass	Pass	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ13	25/01/2014	January 2014	Field Replicate	Pass	Pass	--	--	Pass	Pass	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ13	07/06/2014	June 2014	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	Pass	ND	ND
WQ13	06/08/2014	August 2014	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	Pass	ND	ND

Table 4-4a. Water Quality Criteria Screening Results - Permit Stations - Surface Water

Station IDSample EventDateSample Purpose				Aluminum, Total		Arsenic, Dissolved		Cadmium, Dissolved		Chromium, Dissolved			Copper, Dissolved		Lead, Dissolved		Mercury, Dissolved	Selenium, Total	Zinc, Dissolved	
				Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	AWQ CrVI	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	AKWQ-HH	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT
WQ13	06/08/2014	August 2014	Field Replicate	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ13	12/10/2014	October 2014	Compliance	Pass	Fail	--	--	ND	ND	--	--	--	Pass	Fail	--	--	--	ND	ND	ND
WQ13	11/01/2015	January 2015	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ13	10/05/2015	May 2015	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ13	10/05/2015	May 2015	Field Replicate	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ13	16/08/2015	August 2015	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	Pass	ND	ND
WQ13	16/08/2015	August 2015	Field Replicate	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ13	05/12/2015	December 2015	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ13	31/01/2016	January 2016	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ13	01/04/2016	April 2016	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ13	10/10/2016	October 2016	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	Pass	ND	ND
WQ13	10/10/2016	October 2016	Field Replicate	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	Pass	ND	ND
WQ4	16/10/1996	October 1996 II	Historical	ND	ND	Pass	Pass	Fail	Fail	ND	ND	ND	ND	ND	ND	ND	ND	ND	Fail	Fail
WQ4	03/09/1997	September 1997	Historical	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	20/04/2005	April 2005 II	Historical	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	15/02/2006	February 2006 II	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	16/05/2006	May 2006 II	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	29/08/2006	August 2006 II	Reference	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ4	17/10/2006	October 2006	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	07/12/2006	December 2006	Reference	Fail	Fail	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	26/02/2007	February 2007	Field Replicate	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	26/02/2007	February 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	10/04/2007	April 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ4	14/05/2007	May 2007	Field Replicate	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ4	14/05/2007	May 2007	Reference	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ4	04/06/2007	June 2007	Reference	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Fail	Fail	ND	ND	ND	ND	ND	ND
WQ4	01/07/2007	July 2007 I	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	Pass	Pass
WQ4	24/07/2007	July 2007 II	Field Replicate	Pass	Pass	Pass	Pass	Pass	Pass	ND	ND	ND	Pass	Pass	ND	ND	ND	Pass	ND	ND
WQ4	24/07/2007	July 2007 II	Reference	Pass	Pass	Pass	Pass	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	Pass	Pass
WQ4	14/08/2007	August 2007 I	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	Pass	Pass
WQ4	27/08/2007	August 2007 II	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ4	11/09/2007	September 2007 I	Reference	Pass	Pass	Pass	Pass	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	Pass	ND	ND
WQ4	02/10/2007	September 2007 II	Compliance	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ4	17/10/2007	October 2007	Compliance	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ4	13/11/2007	November 2007	Compliance	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	Pass	ND	ND
WQ4	15/12/2007	December 2007 I	Compliance	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ4	09/01/2008	January 2008	Compliance	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	Pass	ND	ND
WQ4	14/02/2008	Februrary 2008	Compliance	Fail	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	Pass	Pass	ND	Pass	ND	ND
WQ4	15/03/2008	March 2008	Compliance	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ4	14/04/2008	April 2008	Compliance	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ4	08/05/2008	May 2008	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ4	28/06/2008	June 2008	Compliance	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	24/07/2008	July 2008	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ4	15/10/2008	October 2008	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	09/03/2009	March 2009	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	13/05/2009	May 2009	Compliance	Pass	Pass	ND	ND	Pass	Pass	--	--	--	Fail	Fail	ND	ND	ND	ND	ND	ND
WQ4	23/07/2009	July 2009	Compliance	Pass	Fail	Pass	Pass	ND	ND	--	--	--	Fail	Fail	ND	ND	ND	ND	ND	ND
WQ4	05/09/2009	September 2009 I	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ4	05/09/2009	September 2009 I	Field Replicate	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ4	12/09/2009	September 2009 II	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ4	12/09/2009	September 2009 II	Field Replicate	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND

Table 4-4a. Water Quality Criteria Screening Results - Permit Stations - Surface Water

Station ID Sample Event Date Sample Purpose				Aluminum, Total		Arsenic, Dissolved		Cadmium, Dissolved		Chromium, Dissolved			Copper, Dissolved		Lead, Dissolved		Mercury, Dissolved	Selenium, Total	Zinc, Dissolved	
				Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	AWQ CrVI	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	AKWQ-HH	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT
WQ4	17/10/2009	October 2009	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ4	15/01/2010	January 2010	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	22/04/2010	April 2010	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ4	14/07/2010	July 2010	Compliance	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WQ4	10/08/2010	August 2010	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ4	18/10/2010	October 2010	Compliance	Pass	Fail	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ4	19/01/2011	January 2011	Compliance	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ4	19/01/2011	January 2011	Field Replicate	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ4	20/04/2011	April 2011	Compliance	Pass	Pass	Pass	Pass	Pass	Pass	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	25/07/2011	July 2011 II	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ4	21/12/2011	December 2011	Compliance	Pass	Pass	Pass	Pass	ND	ND	--	--	--	Pass	Pass	Pass	Pass	ND	Pass	ND	ND
WQ4	09/01/2012	January 2012	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ4	08/04/2012	April 2012	Compliance	Pass	Pass	ND	ND	ND	ND	Pass	Pass	Pass	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ4	08/04/2012	April 2012	Field Replicate	Pass	Pass	ND	ND	ND	ND	Pass	Pass	Pass	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ4	21/07/2012	July 2012	Compliance	Pass	Pass	Pass	Pass	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ4	27/10/2012	October 2012	Compliance	Pass	Pass	Pass	Pass	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	Pass	ND	ND
WQ4	06/01/2013	January 2013	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ4	26/04/2013	April 2013	Compliance	Pass	Pass	ND	ND	ND	ND	Pass	Pass	Pass	Fail	Fail	ND	ND	ND	ND	ND	ND
WQ4	31/07/2013	July 2013	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ4	27/10/2013	October 2013	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ4	27/10/2013	October 2013	Field Replicate	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ4	25/01/2014	January 2014	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ4	07/06/2014	June 2014	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	Pass	ND	ND
WQ4	07/06/2014	June 2014	Field Replicate	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ4	06/08/2014	August 2014	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	Pass	ND	ND
WQ4	12/10/2014	October 2014	Compliance	Pass	Fail	--	--	ND	ND	--	--	--	Pass	Fail	--	--	--	ND	ND	ND
WQ4	11/01/2015	January 2015	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ4	11/01/2015	January 2015	Field Replicate	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ4	10/05/2015	May 2015	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ4	16/08/2015	August 2015	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ4	05/12/2015	December 2015	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ4	05/12/2015	December 2015	Field Replicate	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ4	31/01/2016	January 2016	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ4	01/04/2016	April 2016	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ4	10/10/2016	October 2016	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ6	16/10/1996	October 1996 II	Historical	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Pass	Fail	ND	ND	ND	ND
WQ6	03/09/1997	September 1997	Field Replicate	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	03/09/1997	September 1997	Historical	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	20/04/2005	April 2005 II	Historical	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Fail	Fail	ND	ND	ND	ND	ND	ND
WQ6	15/02/2006	February 2006 II	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	16/05/2006	May 2006 II	Field Replicate	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	16/05/2006	May 2006 II	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	29/08/2006	August 2006 II	Reference	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Fail	Fail	ND	ND	ND	ND	ND	ND
WQ6	17/10/2006	October 2006	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	07/12/2006	December 2006	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	26/02/2007	February 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	10/04/2007	April 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ6	14/05/2007	May 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	Pass	Pass
WQ6	04/06/2007	June 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Fail	Fail	ND	ND	ND	ND	Pass	Pass
WQ6	01/07/2007	July 2007 I	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	Pass	Pass
WQ6	24/07/2007	July 2007 II	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND

Table 4-4a. Water Quality Criteria Screening Results - Permit Stations - Surface Water

Station ID Sample Event Date Sample Purpose				Aluminum, Total		Arsenic, Dissolved		Cadmium, Dissolved		Chromium, Dissolved			Copper, Dissolved		Lead, Dissolved		Mercury, Dissolved	Selenium, Total	Zinc, Dissolved	
				Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	AWQ CrVI	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	AKWQ-HH	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT
WQ6	14/08/2007	August 2007 I	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ6	27/08/2007	August 2007 II	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ6	11/09/2007	September 2007 I	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ6	02/10/2007	September 2007 II	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ6	17/10/2007	October 2007	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ6	17/10/2007	October 2007	Field Replicate	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ6	13/11/2007	November 2007	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ6	15/12/2007	December 2007 I	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	Pass	Pass
WQ6	15/12/2007	December 2007 I	Field Replicate	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ6	09/01/2008	January 2008	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	Pass	ND	ND
WQ6	14/02/2008	February 2008	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ6	15/03/2008	March 2008	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Pass	Pass
WQ6	14/04/2008	April 2008	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ6	08/05/2008	May 2008	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ6	28/06/2008	June 2008	Compliance	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	24/07/2008	July 2008	Compliance	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ6	15/10/2008	October 2008	Compliance	Pass	Fail	ND	ND	ND	ND	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	15/10/2008	October 2008	Field Replicate	Pass	Pass	ND	ND	ND	ND	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	09/03/2009	March 2009	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	13/05/2009	May 2009	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Fail	Fail	ND	ND	ND	ND	ND	ND
WQ6	23/07/2009	July 2009	Compliance	Pass	Fail	ND	ND	ND	ND	--	--	--	Fail	Fail	Pass	Pass	ND	ND	ND	ND
WQ6	05/09/2009	September 2009 I	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ6	12/09/2009	September 2009 II	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ6	17/10/2009	October 2009	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Fail	Pass	Pass	ND	ND	ND	ND
WQ6	15/01/2010	January 2010	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	22/04/2010	April 2010	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ6	10/08/2010	August 2010	Compliance	Pass	Pass	Pass	Pass	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ6	19/10/2010	October 2010	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ6	21/01/2011	January 2011	Compliance	Pass	Fail	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ6	20/04/2011	April 2011	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	25/07/2011	July 2011 II	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Fail	ND	ND	ND	ND	ND	ND
WQ6	21/12/2011	December 2011	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ6	08/01/2012	January 2012	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ6	08/04/2012	April 2012	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ6	21/07/2012	July 2012	Compliance	Pass	Pass	Pass	Pass	ND	ND	--	--	--	Pass	Fail	ND	ND	ND	ND	ND	ND
WQ6	27/10/2012	October 2012	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ6	06/01/2013	January 2013	Compliance	Pass	Pass	ND	ND	ND	ND	--	--	--	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ6	26/04/2013	April 2013	Compliance	Pass	Pass	ND	ND	ND	ND	Pass	Pass	Pass	Pass	Fail	ND	ND	ND	ND	ND	ND
WQ6	30/07/2013	July 2013	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ6	27/10/2013	October 2013	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ6	25/01/2014	January 2014	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ6	07/06/2014	June 2014	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ6	06/08/2014	August 2014	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ6	12/10/2014	October 2014	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Fail	Fail	--	--	--	ND	ND	ND
WQ6	11/01/2015	January 2015	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ6	10/05/2015	May 2015	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ6	16/08/2015	August 2015	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ6	05/12/2015	December 2015	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ6	31/01/2016	January 2016	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ6	31/01/2016	January 2016	Field Replicate	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ6	01/04/2016	April 2016	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND

Table 4-4a. Water Quality Criteria Screening Results - Permit Stations - Surface Water

Station ID Sample Event Date Sample Purpose				Aluminum, Total		Arsenic, Dissolved		Cadmium, Dissolved		Chromium, Dissolved			Copper, Dissolved		Lead, Dissolved		Mercury, Dissolved	Selenium, Total	Zinc, Dissolved	
				Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	AWQ CrVI	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	AKWQ-HH	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT
WQ6	10/10/2016	October 2016	Compliance	Pass	Pass	--	--	ND	ND	--	--	--	Pass	Pass	--	--	--	ND	ND	ND
WQ7	15/02/2006	February 2006 II	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ7	16/05/2006	May 2006 II	Reference	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ7	29/08/2006	August 2006 II	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Fail	Fail	ND	ND	ND	ND	ND	ND
WQ7	17/10/2006	October 2006	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ7	07/12/2006	December 2006	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ7	26/02/2007	February 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ7	10/04/2007	April 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ7	14/05/2007	May 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ7	04/06/2007	June 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Fail	Fail	ND	ND	ND	ND	Pass	Pass
WQ7	01/07/2007	July 2007 I	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ7	24/07/2007	July 2007 II	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ7	14/08/2007	August 2007 I	Field Replicate	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ7	14/08/2007	August 2007 I	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ7	27/08/2007	August 2007 II	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ7	11/09/2007	September 2007 I	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	Pass	ND	ND
WQ7	02/10/2007	September 2007 II	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Fail	ND	ND	ND	ND	ND	ND
WQ7	17/10/2007	October 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ7	13/11/2007	November 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ7	15/12/2007	December 2007 I	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	Pass	Pass
WQ7	09/01/2008	January 2008	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	Pass
WQ7	14/02/2008	Februrary 2008	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	Pass	Pass	ND	Pass	Pass	Pass
WQ7	15/03/2008	March 2008	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ7	14/04/2008	April 2008	Field Replicate	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ7	14/04/2008	April 2008	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ7	08/05/2008	May 2008	Field Replicate	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ7	08/05/2008	May 2008	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ7	28/06/2008	June 2008	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ7	24/07/2008	July 2008	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	Pass	Pass	ND	ND	ND	ND
WQ8	15/02/2006	February 2006 II	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ8	17/05/2006	May 2006 II	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ8	29/08/2006	August 2006 II	Field Replicate	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ8	29/08/2006	August 2006 II	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ8	17/10/2006	October 2006	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ8	07/12/2006	December 2006	Reference	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ8	26/02/2007	February 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ8	10/04/2007	April 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ8	14/05/2007	May 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	Pass	Pass
WQ8	04/06/2007	June 2007	Reference	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Fail	Fail	ND	ND	ND	ND	ND	ND
WQ8	01/07/2007	July 2007 I	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Fail	Fail	Pass	Pass	ND	ND	Pass	Pass
WQ8	24/07/2007	July 2007 II	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ8	14/08/2007	August 2007 I	Reference	Pass	Pass	Pass	Pass	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ8	27/08/2007	August 2007 II	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ8	11/09/2007	September 2007 I	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	Pass	ND	ND
WQ8	02/10/2007	September 2007 II	Reference	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Fail	Fail	ND	ND	ND	ND	ND	ND
WQ8	17/10/2007	October 2007	Reference	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	Pass	Fail	Pass	Pass	ND	ND	ND	ND
WQ8	13/11/2007	November 2007	Field Replicate	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ8	13/11/2007	November 2007	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ8	15/12/2007	December 2007 I	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ8	09/01/2008	January 2008	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	Pass	Pass	Pass
WQ8	14/02/2008	Februrary 2008	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND

Table 4-4a. Water Quality Criteria Screening Results - Permit Stations - Surface Water

Station ID Sample Event Date Sample Purpose				Aluminum, Total		Arsenic, Dissolved		Cadmium, Dissolved		Chromium, Dissolved			Copper, Dissolved		Lead, Dissolved		Mercury, Dissolved	Selenium, Total	Zinc, Dissolved	
				Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	AWQ CrVI	Acute AKWQCMT	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT	AKWQ-HH	Chronic AKWQCMT	Acute AKWQCMT	Chronic AKWQCMT
WQ8	15/03/2008	March 2008	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	Pass	Pass
WQ8	14/04/2008	April 2008	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ8	08/05/2008	May 2008	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ8	28/06/2008	June 2008	Reference	Pass	Fail	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ8	24/07/2008	July 2008	Reference	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
Count of Exceedances - All Data				2	63	0	0	1	1	0	0	0	23	38	0	1	1	0	1	1
Count of Exceedances - Compliance Samples Only				1	33	0	0	0	0	0	0	0	10	20	0	0	0	0	0	0

Notes:
Shaded cells indicate samples collected during 2016.
Fail = Indicates that a detected sample concentration exceeds ADEC chronic aquatic life criterion.
Pass = Indicates that a detected sample concentration is equal to or below ADEC chronic aquatic life criterion.

-- = sample not collected
NA = ADEC chronic aquatic life criterion does not exist for silver
ND = Concentration below laboratory detection limit. Nondetect values were not screened against ADEC chronic aquatic life criteria.
R = The sample results are rejected. Rejected values were not screened against ADEC chronic aquatic life criteria.

Table 4-4b. Water Quality Criteria Screening Results - Permit Stations - Groundwater

Station ID	Sample Event	Date	Sample Purpose	Cadmium, Dissolved	Chromium, Total		Copper, Dissolved	Zinc, Dissolved
				NP2013DB	NP2013DB	AWQ CrVI	NP2013DB	NP2013DB
MW1	28/02/2007	February 2007	Reference	--	--	Pass	Pass	--
MW1	10/04/2007	April 2007	Reference	--	--	ND	Pass	--
MW1	14/05/2007	May 2007	Reference	--	--	ND	Pass	--
MW1	04/06/2007	June 2007	Field Replicate	--	--	ND	Pass	--
MW1	04/06/2007	June 2007	Reference	--	--	ND	Pass	--
MW1	02/07/2007	July 2007 I	Reference	--	--	ND	Pass	--
MW1	24/07/2007	July 2007 II	Reference	--	--	ND	Pass	--
MW1	14/08/2007	August 2007 I	Field Replicate	--	--	ND	Pass	--
MW1	14/08/2007	August 2007 I	Reference	--	--	ND	Pass	--
MW1	28/08/2007	August 2007 II	Reference	--	--	ND	Pass	--
MW1	11/09/2007	September 2007 I	Reference	--	--	ND	Pass	--
MW1	30/09/2007	September 2007 II	Compliance	--	--	ND	Pass	--
MW1	16/10/2007	October 2007	Compliance	--	--	ND	Pass	--
MW1	16/10/2007	October 2007	Field Replicate	--	--	ND	Pass	--
MW1	12/11/2007	November 2007	Compliance	--	--	ND	Pass	--
MW1	14/12/2007	December 2007 I	Compliance	--	--	Pass	Pass	--
MW1	14/12/2007	December 2007 I	Field Replicate	--	--	ND	Pass	--
MW1	09/01/2008	January 2008	Compliance	--	--	ND	Pass	--
MW1	14/02/2008	Februrary 2008	Compliance	--	--	ND	Pass	--
MW1	14/03/2008	March 2008	Compliance	--	--	ND	Pass	--
MW1	15/04/2008	April 2008	Compliance	--	--	ND	Pass	--
MW1	07/05/2008	May 2008	Compliance	--	--	ND	Pass	--
MW1	26/06/2008	June 2008	Compliance	--	--	ND	ND	--

Table 4-4b. Water Quality Criteria Screening Results - Permit Stations - Groundwater

Station ID	Sample Event	Date	Sample Purpose	Cadmium, Dissolved	Chromium, Total		Copper, Dissolved	Zinc, Dissolved
				NP2013DB	NP2013DB	AWQ CrVI	NP2013DB	NP2013DB
MW1	24/07/2008	July 2008	Compliance	--	--	ND	Pass	--
MW1	24/07/2008	July 2008	Field Replicate	--	--	ND	Pass	--
MW1	19/08/2008	August 2008	Compliance	--	--	--	Pass	--
MW1	09/09/2008	September 2008	Compliance	--	--	--	Pass	--
MW1	09/09/2008	September 2008	Field Replicate	--	--	--	Pass	--
MW1	15/10/2008	October 2008	Compliance	--	--	--	ND	--
MW1	15/10/2008	October 2008	Field Replicate	--	--	--	Pass	--
MW1	09/03/2009	March 2009	Compliance	--	--	--	ND	--
MW1	09/03/2009	March 2009	Field Replicate	--	--	--	ND	--
MW1	13/05/2009	May 2009	Compliance	--	--	--	Pass	--
MW1	24/07/2009	July 2009	Compliance	--	--	--	Pass	--
MW1	17/10/2009	October 2009	Compliance	--	--	--	Pass	--
MW1	17/10/2009	October 2009	Field Replicate	--	--	--	Pass	--
MW1	17/01/2010	January 2010	Compliance	--	--	--	ND	--
MW1	22/04/2010	April 2010	Compliance	--	--	--	Pass	--
MW1	10/08/2010	August 2010	Compliance	--	--	--	Pass	--
MW1	10/08/2010	August 2010	Field Replicate	--	--	--	Pass	--
MW1	19/10/2010	October 2010	Compliance	--	--	--	Pass	--
MW1	20/01/2011	January 2011	Compliance	--	--	--	Pass	--
MW1	20/01/2011	January 2011	Field Replicate	--	--	--	Pass	--
MW1	20/04/2011	April 2011	Compliance	--	--	--	ND	--
MW1	25/07/2011	July 2011 II	Compliance	--	--	--	Pass	--
MW1	20/12/2011	December 2011	Compliance	--	--	--	Pass	--

Table 4-4b. Water Quality Criteria Screening Results - Permit Stations - Groundwater

Station ID	Sample Event	Date	Sample Purpose	Cadmium, Dissolved	Chromium, Total		Copper, Dissolved	Zinc, Dissolved
				NP2013DB	NP2013DB	AWQ CrVI	NP2013DB	NP2013DB
MW1	09/01/2012	January 2012	Compliance	--	--	--	Pass	--
MW1	09/01/2012	January 2012	Field Replicate	--	--	--	Pass	--
MW1	07/04/2012	April 2012	Compliance	--	--	--	Pass	--
MW1	07/04/2012	April 2012	Field Replicate	--	--	--	Pass	--
MW1	21/07/2012	July 2012	Compliance	--	--	--	Pass	--
MW1	28/10/2012	October 2012	Compliance	--	--	--	Pass	--
MW1	28/10/2012	October 2012	Field Replicate	--	--	--	Pass	--
MW1	04/01/2013	January 2013	Compliance	--	--	--	Pass	--
MW1	04/01/2013	January 2013	Field Replicate	--	--	--	Pass	--
MW1	25/04/2013	April 2013	Compliance	--	--	Pass	Pass	--
MW1	25/04/2013	April 2013	Field Replicate	--	--	Pass	Pass	--
MW1	30/07/2013	July 2013	Compliance	--	--	ND	Pass	--
MW1	30/07/2013	July 2013	Field Replicate	--	--	Pass	Pass	--
MW1	26/10/2013	October 2013	Compliance	--	--	Pass	Pass	--
MW1	26/10/2013	October 2013	Field Replicate	--	--	Pass	Pass	--
MW1	26/01/2014	January 2014	Compliance	--	--	Pass	Pass	--
MW1	26/01/2014	January 2014	Field Replicate	--	--	Pass	Pass	--
MW1	08/06/2014	June 2014	Compliance	--	--	ND	Pass	--
MW1	08/06/2014	June 2014	Field Replicate	--	--	ND	Pass	--
MW1	05/08/2014	August 2014	Compliance	--	--	ND	Pass	--
MW1	05/08/2014	August 2014	Field Replicate	--	--	ND	Pass	--
MW1	12/10/2014	October 2014	Compliance	--	--	Pass	Pass	--
MW1	12/10/2014	October 2014	Field Replicate	--	--	Pass	Pass	--

Table 4-4b. Water Quality Criteria Screening Results - Permit Stations - Groundwater

Station ID	Sample Event	Date	Sample Purpose	Cadmium, Dissolved	Chromium, Total		Copper, Dissolved	Zinc, Dissolved
				NP2013DB	NP2013DB	AWQ CrVI	NP2013DB	NP2013DB
MW1	10/01/2015	January 2015	Compliance	--	--	Pass	Pass	--
MW1	10/01/2015	January 2015	Field Replicate	--	--	Pass	Pass	--
MW1	10/05/2015	May 2015	Compliance	--	--	Pass	Pass	--
MW1	10/05/2015	May 2015	Field Replicate	--	--	Pass	Pass	--
MW1	15/08/2015	August 2015	Compliance	--	--	Pass	Pass	--
MW1	15/08/2015	August 2015	Field Replicate	--	--	Pass	Pass	--
MW1	04/12/2015	December 2015	Compliance	--	--	Pass	Pass	--
MW1	04/12/2015	December 2015	Field Replicate	--	--	ND	Pass	--
MW1	31/01/2016	January 2016	Compliance	--	--	ND	Pass	--
MW1	31/01/2016	January 2016	Field Replicate	--	--	ND	Pass	--
MW1	01/04/2016	April 2016	Compliance	--	--	Pass	Pass	--
MW1	01/04/2016	April 2016	Field Replicate	--	--	Pass	Pass	--
MW1	10/10/2016	October 2016	Compliance	--	--	Pass	Pass	--
MW1	10/10/2016	October 2016	Field Replicate	--	--	Pass	Pass	--
MW2	10/04/2007	April 2007	Reference	ND	--	Pass	--	Pass
MW2	14/05/2007	May 2007	Reference	ND	--	Pass	--	Pass
MW2	04/06/2007	June 2007	Reference	ND	--	Pass	--	Pass
MW2	02/07/2007	July 2007 I	Reference	Pass	--	ND	--	Pass
MW2	24/07/2007	July 2007 II	Reference	ND	--	Pass	--	ND
MW2	14/08/2007	August 2007 I	Reference	ND	--	ND	--	ND
MW2	28/08/2007	August 2007 II	Reference	Pass	--	Pass	--	ND
MW2	11/09/2007	September 2007 I	Reference	ND	--	Pass	--	ND
MW2	30/09/2007	September 2007 II	Compliance	ND	--	Pass	--	ND

Table 4-4b. Water Quality Criteria Screening Results - Permit Stations - Groundwater

Station ID	Sample Event	Date	Sample Purpose	Cadmium, Dissolved	Chromium, Total		Copper, Dissolved	Zinc, Dissolved
				NP2013DB	NP2013DB	AWQ CrVI	NP2013DB	NP2013DB
MW2	16/10/2007	October 2007	Compliance	Pass	--	Pass	--	Fail
MW2	12/11/2007	November 2007	Compliance	ND	--	Pass	--	ND
MW2	14/12/2007	December 2007 I	Compliance	ND	--	Pass	--	Fail
MW2	08/01/2008	January 2008	Compliance	ND	--	Pass	--	ND
MW2	13/02/2008	February 2008	Compliance	ND	--	Pass	--	ND
MW2	14/03/2008	March 2008	Compliance	ND	--	Pass	--	ND
MW2	14/04/2008	April 2008	Compliance	ND	--	Pass	--	ND
MW2	07/05/2008	May 2008	Compliance	ND	--	Pass	--	ND
MW2	26/06/2008	June 2008	Compliance	ND	--	Pass	--	ND
MW2	24/07/2008	July 2008	Compliance	ND	--	Pass	--	ND
MW2	19/08/2008	August 2008	Compliance	ND	--	--	--	ND
MW2	09/09/2008	September 2008	Compliance	ND	--	--	--	ND
MW2	15/10/2008	October 2008	Compliance	ND	--	--	--	ND
MW2	08/03/2009	March 2009	Compliance	ND	--	--	--	ND
MW2	13/05/2009	May 2009	Compliance	Pass	--	--	--	ND
MW2	24/07/2009	July 2009	Compliance	ND	--	--	--	ND
MW2	08/09/2009	September 2009 I	Compliance	--	--	--	--	--
MW2	12/09/2009	September 2009 II	Compliance	ND	--	--	--	ND
MW2	17/10/2009	October 2009	Compliance	ND	--	--	--	ND
MW2	15/01/2010	January 2010	Compliance	Pass	--	--	--	ND
MW2	22/04/2010	April 2010	Compliance	ND	--	--	--	ND
MW2	10/08/2010	August 2010	Compliance	ND	--	--	--	ND
MW2	19/10/2010	October 2010	Compliance	ND	--	--	--	ND

Table 4-4b. Water Quality Criteria Screening Results - Permit Stations - Groundwater

Station ID	Sample Event	Date	Sample Purpose	Cadmium, Dissolved	Chromium, Total		Copper, Dissolved	Zinc, Dissolved
				NP2013DB	NP2013DB	AWQ CrVI	NP2013DB	NP2013DB
MW2	20/01/2011	January 2011	Compliance	ND	--	--	--	ND
MW2	20/04/2011	April 2011	Compliance	ND	--	--	--	ND
MW2	24/07/2011	July 2011 II	Compliance	ND	--	--	--	ND
MW2	20/12/2011	December 2011	Compliance	ND	--	--	--	ND
MW2	09/01/2012	January 2012	Compliance	ND	--	--	--	ND
MW2	07/04/2012	April 2012	Compliance	ND	--	--	--	ND
MW2	21/07/2012	July 2012	Compliance	ND	--	--	--	ND
MW2	28/10/2012	October 2012	Compliance	ND	--	--	--	ND
MW2	05/01/2013	January 2013	Compliance	ND	--	--	--	ND
MW2	25/04/2013	April 2013	Compliance	ND	--	Pass	--	ND
MW2	30/07/2013	July 2013	Compliance	ND	--	Pass	--	ND
MW2	26/10/2013	October 2013	Compliance	ND	--	Pass	--	ND
MW2	26/01/2014	January 2014	Compliance	ND	--	Pass	--	ND
MW2	08/06/2014	June 2014	Compliance	ND	--	Pass	--	ND
MW2	05/08/2014	August 2014	Compliance	ND	--	Pass	--	ND
MW2	11/10/2014	October 2014	Compliance	ND	--	Pass	--	ND
MW2	10/01/2015	January 2015	Compliance	ND	--	Pass	--	ND
MW2	11/05/2015	May 2015	Compliance	ND	--	Pass	--	ND
MW2	15/08/2015	August 2015	Compliance	ND	--	Pass	--	ND
MW2	04/12/2015	December 2015	Compliance	ND	--	Pass	--	ND
MW2	31/01/2016	January 2016	Compliance	ND	--	Pass	--	ND
MW2	01/04/2016	April 2016	Compliance	ND	--	Pass	--	ND
MW2	10/10/2016	October 2016	Compliance	ND	--	Pass	--	ND

Table 4-4b. Water Quality Criteria Screening Results - Permit Stations - Groundwater

Station ID	Sample Event	Date	Sample Purpose	Cadmium, Dissolved	Chromium, Total		Copper, Dissolved	Zinc, Dissolved
				NP2013DB	NP2013DB	AWQ CrVI	NP2013DB	NP2013DB
MW3	28/02/2007	February 2007	Reference	Pass	Pass	Pass	--	Pass
MW3	10/04/2007	April 2007	Reference	ND	Pass	Pass	--	Pass
MW3	14/05/2007	May 2007	Field Replicate	ND	Pass	Pass	--	Pass
MW3	14/05/2007	May 2007	Reference	ND	Pass	Pass	--	Pass
MW3	04/06/2007	June 2007	Reference	ND	Pass	Pass	--	Pass
MW3	02/07/2007	July 2007 I	Reference	ND	Pass	Pass	--	Pass
MW3	24/07/2007	July 2007 II	Reference	ND	Pass	Pass	--	ND
MW3	14/08/2007	August 2007 I	Reference	ND	ND	ND	--	ND
MW3	28/08/2007	August 2007 II	Reference	Pass	ND	ND	--	ND
MW3	10/09/2007	September 2007 I	Reference	Pass	Pass	Pass	--	ND
MW3	30/09/2007	September 2007 II	Compliance	ND	Pass	Pass	--	ND
MW3	17/10/2007	October 2007	Compliance	ND	Pass	Pass	--	Pass
MW3	12/11/2007	November 2007	Compliance	ND	Pass	Pass	--	ND
MW3	15/12/2007	December 2007 I	Compliance	ND	ND	ND	--	ND
MW3	08/01/2008	January 2008	Compliance	ND	ND	ND	--	ND
MW3	08/01/2008	January 2008	Field Replicate	ND	ND	ND	--	ND
MW3	13/02/2008	February 2008	Compliance	ND	ND	ND	--	ND
MW3	14/03/2008	March 2008	Compliance	ND	ND	ND	--	ND
MW3	14/04/2008	April 2008	Compliance	ND	Pass	Pass	--	ND
MW3	07/05/2008	May 2008	Compliance	ND	ND	ND	--	ND
MW3	27/06/2008	June 2008	Compliance	ND	Pass	Pass	--	ND
MW3	24/07/2008	July 2008	Compliance	ND	Pass	Pass	--	ND
MW3	19/08/2008	August 2008	Compliance	ND	--	--	--	ND

Table 4-4b. Water Quality Criteria Screening Results - Permit Stations - Groundwater

Station ID	Sample Event	Date	Sample Purpose	Cadmium, Dissolved	Chromium, Total		Copper, Dissolved	Zinc, Dissolved
				NP2013DB	NP2013DB	AWQ CrVI	NP2013DB	NP2013DB
MW3	09/09/2008	September 2008	Compliance	ND	--	--	--	ND
MW3	15/10/2008	October 2008	Compliance	ND	--	--	--	ND
MW3	08/03/2009	March 2009	Compliance	Pass	--	--	--	ND
MW3	13/05/2009	May 2009	Compliance	Pass	--	--	--	ND
MW3	24/07/2009	July 2009	Compliance	ND	--	--	--	ND
MW3	12/09/2009	September 2009 II	Compliance	ND	--	--	--	ND
MW3	17/10/2009	October 2009	Compliance	ND	--	--	--	ND
MW3	15/01/2010	January 2010	Compliance	Pass	--	--	--	Fail
MW3	22/04/2010	April 2010	Compliance	ND	--	--	--	ND
MW3	10/08/2010	August 2010	Compliance	ND	--	--	--	ND
MW3	19/10/2010	October 2010	Compliance	Pass	--	--	--	ND
MW3	20/01/2011	January 2011	Compliance	ND	--	--	--	ND
MW3	20/04/2011	April 2011	Compliance	Pass	--	--	--	ND
MW3	24/07/2011	July 2011 II	Compliance	ND	--	--	--	ND
MW3	20/12/2011	December 2011	Compliance	ND	--	--	--	ND
MW3	09/01/2012	January 2012	Compliance	ND	--	--	--	ND
MW3	07/04/2012	April 2012	Compliance	ND	--	--	--	ND
MW3	21/07/2012	July 2012	Compliance	ND	--	--	--	ND
MW3	28/10/2012	October 2012	Compliance	ND	--	--	--	ND
MW3	05/01/2013	January 2013	Compliance	ND	--	--	--	ND
MW3	25/04/2013	April 2013	Compliance	ND	Pass	Pass	--	ND
MW3	30/07/2013	July 2013	Compliance	ND	Pass	Pass	--	ND
MW3	26/10/2013	October 2013	Compliance	ND	Pass	Pass	--	ND

Table 4-4b. Water Quality Criteria Screening Results - Permit Stations - Groundwater

Station ID	Sample Event	Date	Sample Purpose	Cadmium, Dissolved	Chromium, Total		Copper, Dissolved	Zinc, Dissolved
				NP2013DB	NP2013DB	AWQ CrVI	NP2013DB	NP2013DB
MW3	26/01/2014	January 2014	Compliance	ND	Pass	Pass	--	ND
MW3	08/06/2014	June 2014	Compliance	ND	Pass	Pass	--	ND
MW3	05/08/2014	August 2014	Compliance	ND	Pass	Pass	--	ND
MW3	11/10/2014	October 2014	Compliance	ND	Pass	Pass	--	ND
MW3	10/01/2015	January 2015	Compliance	ND	Pass	Pass	--	ND
MW3	11/05/2015	May 2015	Compliance	ND	Pass	Pass	--	ND
MW3	15/08/2015	August 2015	Compliance	ND	Pass	Pass	--	ND
MW3	04/12/2015	December 2015	Compliance	ND	Pass	Pass	--	ND
MW3	31/01/2016	January 2016	Compliance	ND	Pass	Pass	--	ND
MW3	01/04/2016	April 2016	Compliance	ND	Pass	Pass	--	ND
MW3	10/10/2016	October 2016	Compliance	ND	Pass	Pass	--	ND
MW4	27/02/2007	February 2007	Field Replicate	--	--	Fail	--	--
MW4	27/02/2007	February 2007	Reference	--	--	Fail	--	--
MW4	10/04/2007	April 2007	Reference	--	--	Pass	--	--
MW4	14/05/2007	May 2007	Reference	--	--	Pass	--	--
MW4	04/06/2007	June 2007	Reference	--	--	Pass	--	--
MW4	23/07/2007	July 2007 II	Reference	--	--	Pass	--	--
MW4	27/08/2007	August 2007 II	Reference	--	--	Pass	--	--
MW4	10/09/2007	September 2007 I	Reference	--	--	Pass	--	--
MW4	30/09/2007	September 2007 II	Compliance	--	--	Pass	--	--
MW4	16/10/2007	October 2007	Compliance	--	--	Pass	--	--
MW4	12/11/2007	November 2007	Compliance	--	--	Pass	--	--
MW4	12/11/2007	November 2007	Field Replicate	--	--	Pass	--	--

Table 4-4b. Water Quality Criteria Screening Results - Permit Stations - Groundwater

Station ID	Sample Event	Date	Sample Purpose	Cadmium, Dissolved	Chromium, Total		Copper, Dissolved	Zinc, Dissolved
				NP2013DB	NP2013DB	AWQ CrVI	NP2013DB	NP2013DB
MW4	15/12/2007	December 2007 I	Compliance	--	--	ND	--	--
MW4	08/01/2008	January 2008	Compliance	--	--	Pass	--	--
MW4	13/02/2008	February 2008	Compliance	--	--	ND	--	--
MW4	15/03/2008	March 2008	Compliance	--	--	Pass	--	--
MW4	14/04/2008	April 2008	Compliance	--	--	Pass	--	--
MW4	08/05/2008	May 2008	Compliance	--	--	Pass	--	--
MW4	08/05/2008	May 2008	Field Replicate	--	--	Pass	--	--
MW4	27/06/2008	June 2008	Compliance	--	--	Pass	--	--
MW4	24/07/2008	July 2008	Compliance	--	--	Pass	--	--
MW4	19/08/2008	August 2008	Compliance	--	--	--	--	--
MW4	09/09/2008	September 2008	Compliance	--	--	--	--	--
MW4	15/10/2008	October 2008	Compliance	--	--	--	--	--
MW4	08/03/2009	March 2009	Compliance	--	--	--	--	--
MW4	13/05/2009	May 2009	Compliance	--	--	--	--	--
MW4	23/07/2009	July 2009	Compliance	--	--	--	--	--
MW4	24/07/2009	July 2009	Compliance	--	--	--	--	--
MW4	25/07/2009	July 2009	Compliance	--	--	--	--	--
MW4	13/09/2009	September 2009 II	Compliance	--	--	--	--	--
MW4	17/10/2009	October 2009	Compliance	--	--	--	--	--
MW4	15/01/2010	January 2010	Compliance	--	--	--	--	--
MW4	22/04/2010	April 2010	Compliance	--	--	--	--	--
MW4	10/08/2010	August 2010	Compliance	--	--	--	--	--
MW4	19/10/2010	October 2010	Compliance	--	--	--	--	--

Table 4-4b. Water Quality Criteria Screening Results - Permit Stations - Groundwater

Station ID	Sample Event	Date	Sample Purpose	Cadmium, Dissolved	Chromium, Total		Copper, Dissolved	Zinc, Dissolved
				NP2013DB	NP2013DB	AWQ CrVI	NP2013DB	NP2013DB
MW4	20/01/2011	January 2011	Compliance	--	--	--	--	--
MW4	20/04/2011	April 2011	Compliance	--	--	--	--	--
MW4	24/07/2011	July 2011 II	Compliance	--	--	--	--	--
MW4	20/12/2011	December 2011	Compliance	--	--	--	--	--
MW4	09/01/2012	January 2012	Compliance	--	--	--	--	--
MW4	07/04/2012	April 2012	Compliance	--	--	--	--	--
MW4	21/07/2012	July 2012	Compliance	--	--	--	--	--
MW4	05/01/2013	January 2013	Compliance	--	--	--	--	--
MW4	25/04/2013	April 2013	Compliance	--	--	Pass	--	--
MW4	26/10/2013	October 2013	Compliance	--	--	Pass	--	--
MW4	26/01/2014	January 2014	Compliance	--	--	Pass	--	--
MW4	08/06/2014	June 2014	Compliance	--	--	Pass	--	--
MW4	12/10/2014	October 2014	Compliance	--	--	Pass	--	--
MW4	11/05/2015	May 2015	Compliance	--	--	Pass	--	--
MW4	15/08/2015	August 2015	Compliance	--	--	Pass	--	--
MW4	04/12/2015	December 2015	Compliance	--	--	Pass	--	--
MW4	31/01/2016	January 2016	Compliance	--	--	Pass	--	--
MW4	01/04/2016	April 2016	Compliance	--	--	Pass	--	--
MW4	11/10/2016	October 2016	Compliance	--	--	Pass	--	--
MW7	28/02/2007	February 2007	Reference	--	--	Pass	--	--
MW7	10/04/2007	April 2007	Field Replicate	--	--	Pass	--	--
MW7	10/04/2007	April 2007	Reference	--	--	Pass	--	--
MW7	15/05/2007	May 2007	Reference	--	--	Pass	--	--

Table 4-4b. Water Quality Criteria Screening Results - Permit Stations - Groundwater

Station ID	Sample Event	Date	Sample Purpose	Cadmium, Dissolved	Chromium, Total		Copper, Dissolved	Zinc, Dissolved
				NP2013DB	NP2013DB	AWQ CrVI	NP2013DB	NP2013DB
MW7	05/06/2007	June 2007	Reference	--	--	Pass	--	--
MW7	01/07/2007	July 2007 I	Reference	--	--	Pass	--	--
MW7	23/07/2007	July 2007 II	Reference	--	--	ND	--	--
MW7	13/08/2007	August 2007 I	Reference	--	--	ND	--	--
MW7	28/08/2007	August 2007 II	Reference	--	--	ND	--	--
MW7	10/09/2007	September 2007 I	Field Replicate	--	--	ND	--	--
MW7	10/09/2007	September 2007 I	Reference	--	--	ND	--	--
MW7	30/09/2007	September 2007 II	Reference	--	--	ND	--	--
MW7	16/10/2007	October 2007	Reference	--	--	Pass	--	--
MW7	13/11/2007	November 2007	Reference	--	--	ND	--	--
MW7	15/12/2007	December 2007 I	Reference	--	--	ND	--	--
MW7	09/01/2008	January 2008	Reference	--	--	ND	--	--
MW7	14/02/2008	February 2008	Reference	--	--	ND	--	--
MW7	13/03/2008	March 2008	Reference	--	--	ND	--	--
MW7	13/04/2008	April 2008	Field Replicate	--	--	ND	--	--
MW7	13/04/2008	April 2008	Reference	--	--	ND	--	--
MW7	06/05/2008	May 2008	Reference	--	--	ND	--	--
MW7	26/06/2008	June 2008	Field Replicate	--	--	Pass	--	--
MW7	26/06/2008	June 2008	Reference	--	--	Pass	--	--
MW7	25/07/2008	July 2008	Reference	--	--	ND	--	--
MW8	02/07/2007	July 2007 I	Information only	--	--	ND	--	--
MW8	23/07/2007	July 2007 II	Field Replicate	--	--	ND	--	--
MW8	23/07/2007	July 2007 II	Information only	--	--	ND	--	--

Table 4-4b. Water Quality Criteria Screening Results - Permit Stations - Groundwater

Station ID	Sample Event	Date	Sample Purpose	Cadmium, Dissolved	Chromium, Total		Copper, Dissolved	Zinc, Dissolved
				NP2013DB	NP2013DB	AWQ CrVI	NP2013DB	NP2013DB
MW8	13/08/2007	August 2007 I	Information only	--	--	ND	--	--
MW8	28/08/2007	August 2007 II	Field Replicate	--	--	ND	--	--
MW8	28/08/2007	August 2007 II	Information only	--	--	ND	--	--
MW8	10/09/2007	September 2007 I	Information only	--	--	ND	--	--
MW8	30/09/2007	September 2007 II	Field Replicate	--	--	Pass	--	--
MW8	30/09/2007	September 2007 II	Information only	--	--	ND	--	--
MW8	16/10/2007	October 2007	Information only	--	--	ND	--	--
MW8	12/11/2007	November 2007	Information only	--	--	ND	--	--
MW8	14/12/2007	December 2007 I	Information only	--	--	ND	--	--
MW8	08/01/2008	January 2008	Information only	--	--	ND	--	--
MW8	13/02/2008	February 2008	Field Replicate	--	--	ND	--	--
MW8	13/02/2008	February 2008	Information only	--	--	ND	--	--
MW8	13/03/2008	March 2008	Information only	--	--	ND	--	--
MW8	14/04/2008	April 2008	Information only	--	--	ND	--	--
MW8	06/05/2008	May 2008	Information only	--	--	ND	--	--
MW8	26/06/2008	June 2008	Information only	--	--	ND	--	--
MW9	02/07/2007	July 2007 I	Field Replicate	--	--	Pass	--	--
MW9	02/07/2007	July 2007 I	Information only	--	--	Pass	--	--
MW9	23/07/2007	July 2007 II	Information only	--	--	Pass	--	--
MW9	13/08/2007	August 2007 I	Information only	--	--	ND	--	--
MW9	28/08/2007	August 2007 II	Information only	--	--	ND	--	--
MW9	10/09/2007	September 2007 I	Information only	--	--	ND	--	--
MW9	30/09/2007	September 2007 II	Information only	--	--	ND	--	--

Table 4-4b. Water Quality Criteria Screening Results - Permit Stations - Groundwater

Station ID	Sample Event	Date	Sample Purpose	Cadmium, Dissolved	Chromium, Total		Copper, Dissolved	Zinc, Dissolved
				NP2013DB	NP2013DB	AWQ CrVI	NP2013DB	NP2013DB
MW9	16/10/2007	October 2007	Information only	--	--	Pass	--	--
MW9	12/11/2007	November 2007	Information only	--	--	ND	--	--
MW9	14/12/2007	December 2007 I	Information only	--	--	Pass	--	--
MW9	08/01/2008	January 2008	Information only	--	--	Pass	--	--
MW9	13/02/2008	February 2008	Information only	--	--	ND	--	--
MW9	13/03/2008	March 2008	Field Replicate	--	--	ND	--	--
MW9	13/03/2008	March 2008	Information only	--	--	Pass	--	--
MW9	14/04/2008	April 2008	Information only	--	--	ND	--	--
MW9	06/05/2008	May 2008	Information only	--	--	ND	--	--
MW9	26/06/2008	June 2008	Information only	--	--	ND	--	--
Count of Exceedances - All Data				0	0	2	0	3
Count of Exceedances - Compliance Samples Only				0	0	0	0	3

Notes:

Shaded cells indicate samples collected through Q4 2016.

Fail = Indicates that a detected sample concentration exceeds ADEC chronic aquatic life criterion.

Pass = Indicates that a detected sample concentration is equal to or below ADEC chronic aquatic life criterion.

-- = sample not collected

NA = ADEC chronic aquatic life criterion does not exist for silver

ND = Concentration below laboratory detection limit. Nondetect values were not screened against ADEC chronic aquatic life criteria.

R = The sample results are rejected. Rejected values were not screened against ADEC chronic aquatic life criteria.