

Table 5. Logan Wash Minewater Analytical Data

SampleID		MINE WATER	MINE WATER	MINE WATER	LWM-001	LW-001	LW-001	LW-001	LW-001
SampleDate		3/9/2000	10/26/2000	9/26/2001	10/2/2002	10/11/2007	3/19/2008	10/30/2008	6/3/2009
Parameters	Units								
General Chemistry									
Alkalinity, Bicarbonate (as CaCO ₃)	mg/L	390	249	278	287	287	288 J	272	290
Alkalinity, Carbonate (as CaCO ₃)	mg/L	5 U	30.1	25.1	5 U	5 U	5 U	5 U	5 U
Alkalinity, Total (As CaCO ₃)	mg/L	390	280	303	291	287	288 J	272	290
Ammonia	mg/L	0.5	0.8 U	0.1 U	0.1 U	0.1 U	0.1 U	5.8 J	0.31
Bromide	mg/L	---	80	---	0.2 U	0.11 J	0.074 B	0.2 U	0.2 U
Chemical Oxygen Demand (COD)	mg/L	---	17	---	64.5	23.4	21.9	104	26.7
Chloride	mg/L	31 J	35.1	40.3	36	53.4	35.8	37.9	37
Specific Conductivity	umhos/cm	---	---	---	2600	2830	3640 J	3540	3500
Cyanide (free)	mg/L	---	---	---	---	---	---	---	---
Fluoride	mg/L	3.1	2.7	3	---	---	---	---	---
Fluoride (dissolved)	mg/L	---	2.1	---	2.3	2.5	2.6	2.3	2.7
Hardness	mg/L	---	564	---	572	590	540	580	570
Nitrate (as N)	mg/L	---	3.4	---	2.5	5.4	3.5	3.1	3.1
Nitrite (as N)	mg/L	---	0.01 U	---	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Oil and Grease, Total	mg/L	---	3.7	---	---	---	---	---	---
Oil and grease (HEM), polar	mg/L	---	---	---	---	---	---	---	---
Oil and grease (HEM), total	mg/L	5 U	---	5 U	4.9 U	4.8 U	4.8 U	4.7 U	4.7 U
pH	s.u.	---	---	---	8.2	8.1 J	8	8.2 J	8.2 J
Phenolics (Total)	mg/L	50 U	50 U	10 U	0.01 U	0.007 J	0.0087 B, J	0.01 U	0.0042 J
Phosphorus as P, total	mg/L	---	0.023	---	0.1 U	0.3	0.044 B	0.1 U	0.1 U
Silica	mg/L	---	16700	---	---	---	---	---	---
Sulfate	mg/L	210 J	1060	1170	1080	1510	1140	1170	1140
Sulfide	mg/L	---	---	---	---	3 U	---	3.2	3 U
Sulfite	mg/L	2 J	2 U	2 U	---	---	---	---	---
Thiocyanate	mg/L	0.4 U	1 U	0.7 U	---	---	---	---	---
Thiosulfate	mg/L	0.4 U	1 U	0.7 U	---	---	---	---	---
Total Dissolved Solids (TDS)	mg/L	1870	1840	2020	1890	2010	1830	1820	2140
Nitrogen, Total Kjeldahl	mg/L	---	---	---	---	3.5	2.8 B	6.2	4.5
Total Organic Carbon (TOC)	mg/L	---	---	---	7.7	9.2	---	7.4	7.9
Total Suspended Solids (TSS)	mg/L	---	5 U	---	---	4 U	4 U	4 U	3.6 J
Dissolved Organic Carbon (DOC)	mg/L	7.8 J	8.5	7.9	7.5	9.2	10.5	7.2	8.2

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SampleDate		3/9/2000	10/26/2000	9/26/2001	10/2/2002	10/11/2007	3/19/2008	10/30/2008	6/3/2009
Parameters	Units								
Metals									
Arsenic	ug/L	30	31.8	29.5	24.7	19.3	---	19	17.4
Arsenic (Dissolved)	ug/L	---	33.2	---	---	---	20.6	---	16.4
Boron	ug/L	4300	4540	4580	---	---	---	---	---
Boron (Dissolved)	ug/L	---	4330	---	4280 J	5510	6210	4030	5260
Cadmium	ug/L	2 U	0.22	5 U	---	---	---	---	---
Cadmium (Dissolved)	ug/L	---	0.05 U	---	0.17	1 U	1 U	0.42 J	1 U
Calcium (Dissolved)	ug/L	---	78100	---	74900	84300	---	73100	78500
Chromium	ug/L	---	0.6 U	---	---	0.59 J	0.54 B	0.6 J	0.49 J
Chromium (Dissolved)	ug/L	---	0.04 U	---	10.7	0.54 J	0.46 B	0.88 J	0.61 J
Chromium III	ug/L	---	10 U	---	---	---	---	---	---
Chromium VI	ug/L	---	0.05 U	---	10 U	---	---	---	---
Copper	ug/L	---	2.8	---	---	---	---	---	---
Copper (Dissolved)	ug/L	---	2.7	---	8.9	5.8	5.8	5.9	4.4
Iron	ug/L	---	0 U	---	29 U	32.1 J	19.7 B	20.9 J	31.2 J
Iron (Dissolved)	ug/L	---	10 U	---	---	41.4 J	42 B	50.8	17.1 J
Lead	ug/L	---	0.19 U	---	---	---	---	---	---
Lead (Dissolved)	ug/L	---	0.03 U	---	1 U	0.38 J	0.064 B, J	1 U	0.24 J
Lithium	ug/L	250	368 J	---	---	---	---	---	---
Lithium (Dissolved)	ug/L	---	382 J	384	386	395	352	372	379
Magnesium	ug/L	---	98900	---	---	---	---	---	---
Magnesium (Dissolved)	ug/L	---	89700	---	90800 J	87300	82700	77100	96100
Manganese	ug/L	---	1.2	---	---	---	---	---	---
Manganese (Dissolved)	ug/L	---	1.5	---	1.4	2.1	1.2	0.88	0.91
Mercury	ug/L	---	0.12 U	---	0.2 U	---	---	---	---
Mercury (Dissolved)	ug/L	---	0.12 U	---	---	0.2 U	0.2 U	0.2 U	0.2 U
Molybdenum (Dissolved)	ug/L	---	---	---	---	---	---	---	---
Nickel	ug/L	---	8.2	---	---	---	---	---	---
Nickel (Dissolved)	ug/L	---	10.9	---	6.9	---	---	---	---
Potassium	ug/L	---	20700	---	---	---	---	---	---
Potassium (Dissolved)	ug/L	---	15200	---	15600	91400	74600	83700	82200
Selenium	ug/L	---	3.3	---	---	---	---	---	---
Selenium (Dissolved)	ug/L	---	5	---	7.1 J	7	8.7	6.5	7.2 J
Silicon	ug/L	---	---	---	---	---	---	---	---
Silicon (Dissolved)	ug/L	---	---	---	7850 J	7490	7380	6680	8630

Table 5. Logan Wash Minewater Analytical Data

SampleID		MINE WATER	MINE WATER	MINE WATER	LWM-001	LW-001	LW-001	LW-001	LW-001
SampleDate		3/9/2000	10/26/2000	9/26/2001	10/2/2002	10/11/2007	3/19/2008	10/30/2008	6/3/2009
Parameters	Units								
Metals									
Silver	ug/L	5 U	0.05 U	10 U	---	---	---	---	---
Silver (Dissolved)	ug/L	---	0.03 U	---	0.07 J	---	---	---	---
Sodium (Dissolved)	ug/L	---	374000	---	424000	490000	446000	408000	390000
Strontium	ug/L	---	7030 J	---	---	---	---	---	---
Strontium (Dissolved)	ug/L	---	7060 J	---	6330	5820	5280	5810	5430
Uranium (Dissolved)	ug/L	---	---	---	4.1 J	---	---	---	---
Zinc	ug/L	---	5.6	---	---	---	---	---	---
Zinc (Dissolved)	ug/L	---	4.9	---	24.1	18.5	10.7	15.5 U	13.6
Volatile Organic Compounds - BTEX									
Benzene	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	ug/L	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	ug/L	1 U	2 U	1 U	3 U	3 U	1 U	3 U	3 U
Petroleum Products									
Diesel fuel	mg/L	---	---	---	---	---	---	---	---
TPH - Extractable (DRO)	mg/L	---	---	---	---	---	---	---	---
TPH (non-polar)	mg/L	---	0.1 U	---	0.1 U	42	0.11	0.12 U	0.21
TPH (C21 - C28)	mg/L	---	---	---	---	---	---	---	---
Radiology									
Gross Alpha Analytes	pci/l	0	14 + or - 16	2 + or - 12	---	---	---	---	---
Gross Beta Analytes	pci/l	26	18 + or - 9	6.8 + or - 2	---	---	---	---	---
Field Parameters									
Conductivity, field	umhos/cm	---	---	---	---	---	---	---	---
Dissolved oxygen (DO), field	mg/L	---	---	---	---	---	---	---	---
Oxidation reduction potential (ORP), field	millivolts	---	---	---	---	---	---	---	---
pH, field	s.u.	---	---	---	---	---	---	---	---
Temperature, ambient	Deg C	---	---	---	---	---	---	---	---
Temperature, field	Deg C	---	---	---	---	---	---	---	---
Turbidity, field	NTU	---	---	---	---	---	---	---	---

Notes:

U = result not detected at the reporting limit

J = result value greater than the MDL and less than the RL;

result considered estimated

B = analyte found in sample and associated blank

HF = analysis holding time exceeded; result

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E = result estimated due to the presence of

interference

R = rejected data

--- = Analysis not performed

Table 5. Logan Wash Minewater Analytical Data

SampleID		LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001
SampleDate		11/5/2009	6/2/2010	11/22/2010	5/11/2011	10/19/2011	6/14/2012	10/24/2012	5/28/2013	10/24/2013
Parameters	Units									
General Chemistry										
Alkalinity, Bicarbonate (as CaCO ₃)	mg/L	272	271	261	281	250	260	290	260	250
Alkalinity, Carbonate (as CaCO ₃)	mg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Alkalinity, Total (As CaCO ₃)	mg/L	272	271	261	281	250	260	290	260	250
Ammonia	mg/L	0.25	0.1 U	0.1 U	0.1 U	0.24 U	0.1 U	0.15	0.12 U	0.16 U
Bromide	mg/L	0.2 U J	1 U	0.15 J	0.5 U	1 U	0.5 U	1.3 U	1.3 U	1.3 U
Chemical Oxygen Demand (COD)	mg/L	19.7	20.3 U	23.8	27.8	17	21	9.1 J	23 U	23
Chloride	mg/L	36.4	25.5	42.4	33.8	32	35	38	32	48
Specific Conductivity	umhos/cm	3500	3420	3560	3390	3900	3600	3600	3300	3100
Cyanide (free)	mg/L	---	---	---	0.0029 J	0.003 J	---	---	---	---
Fluoride	mg/L	---	---	---	---	---	---	---	---	---
Fluoride (dissolved)	mg/L	1.8	2.3	2.1	3	2.1	2.6	2.6	2.2	3
Hardness	mg/L	590	590	600	680	690	680	660	640	680
Nitrate (as N)	mg/L	2.9	2.8	2.9	4.4	3.3	2.9	2.5	2.5	3.6
Nitrite (as N)	mg/L	0.05 U J	0.25 U	0.27	1.2 U	0.25 U	0.13 U	0.13 U	0.13 U	0.13 U
Oil and Grease, Total	mg/L	---	---	---	---	---	---	---	---	---
Oil and grease (HEM), polar	mg/L	---	---	---	---	4.9 U	4.7 U	1.4 J	4.8 U	1.4 J
Oil and grease (HEM), total	mg/L	4.6 U	4.6 U	4.6 U	2.4 J	---	---	---	---	---
pH	s.u.	8.1 J	8.2 J	8 J	8.1 J	7.85 J	8.08 J	8.08 J	7.66 J	8.22 J
Phenolics (Total)	mg/L	0.01 U	0.01 U	0.01 U	0.0088 J	0.01 U	0.042	0.02	0.01 U	0.0073 J
Phosphorus as P, total	mg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Silica	mg/L	---	---	---	---	---	---	---	---	---
Sulfate	mg/L	1150	1220	1320	1200	1200	1400	1300	1200	1500
Sulfide	mg/L	3 U	1.7 J	3 U	3 U	3 U	3 U	3 U	0.24 J	0.32 J
Sulfite	mg/L	---	---	---	---	---	---	---	---	---
Thiocyanate	mg/L	---	---	---	---	---	---	---	---	---
Thiosulfate	mg/L	---	---	---	---	---	---	---	---	---
Total Dissolved Solids (TDS)	mg/L	1790	2170	2230	2100	2100	1900	2100	1700	1900
Nitrogen, Total Kjeldahl	mg/L	4.5	3 U	5 U	3.3 J	5 U	5 U	0.41	5 U	5 U
Total Organic Carbon (TOC)	mg/L	7.6	6.7	7.1	8.9	6.9	6.4	5.9	4.8	8.3
Total Suspended Solids (TSS)	mg/L	4 U	4 U	4 U	4 U	4 U	4 U	4 U	2 U	2 U
Dissolved Organic Carbon (DOC)	mg/L	8.1 J	6.5	7.4	8.8	7.7	---	6.3	4.8	8.3

Table 5. Logan Wash Minewater Analytical Data

SampleID		LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001
SampleDate		11/5/2009	6/2/2010	11/22/2010	5/11/2011	10/19/2011	6/14/2012	10/24/2012	5/28/2013	10/24/2013
Parameters	Units									
Metals										
Arsenic	ug/L	18 J	15.8	18.9	15.9	17	19	16	18	14
Arsenic (Dissolved)	ug/L	17.1	16.3	20.1	16.5	15	18	17	17	18
Boron	ug/L	---	---	---	4800	5100	---	---	---	---
Boron (Dissolved)	ug/L	4740 J	4050	4690	4640	4500	4600	4400	4700	6000
Cadmium	ug/L	---	---	---	---	---	---	---	---	---
Cadmium (Dissolved)	ug/L	0.12 J	1 U	1 U	1 U	1 U	1 U	1 U	0.13 J	5 U
Calcium (Dissolved)	ug/L	83400 J	78600	100000	85700	92000	94000	90000	91000	100000
Chromium	ug/L	2 U	0.6 J	0.54 J	0.37 J	1.4 J	2 U	0.42 J	0.43 J	2 U
Chromium (Dissolved)	ug/L	2 U J	0.44 J	0.49 J	0.42 J	0.38 J	2 U	0.56 J	0.46 J	10 U
Chromium III	ug/L	---	---	---	---	---	---	---	---	---
Chromium VI	ug/L	---	---	---	---	---	---	---	---	---
Copper	ug/L	---	---	---	---	---	---	---	---	---
Copper (Dissolved)	ug/L	4 J	3.5	4.3	3.3	2.4	4.4	4.2	4.3	9.5 J
Iron	ug/L	47.1 J	50.7	235 J	50 U	160	200	50	95	38 J
Iron (Dissolved)	ug/L	11.4 J	22.5 J	53.2	50 U	30 J	59	18 J	20 J	250 U
Lead	ug/L	---	---	---	---	---	---	---	---	---
Lead (Dissolved)	ug/L	1 U J	0.25 J	0.32 J	1 U	1 U	1 U	0.034 J	1 U	5 U
Lithium	ug/L	---	---	---	---	---	---	---	---	---
Lithium (Dissolved)	ug/L	37.8 J	370	398	336	360	400	400	380	430
Magnesium	ug/L	---	---	---	---	---	---	---	---	---
Magnesium (Dissolved)	ug/L	97700 J	82700	116000	95200	100000	110000	96000	110000	110000
Manganese	ug/L	---	---	---	---	---	---	---	---	---
Manganese (Dissolved)	ug/L	0.89 J	1.1 U	1.9	1.3	3 J	5 U	1.7 J	1.7 J	2.3 J
Mercury	ug/L	---	---	---	0.2 U	0.2 U	---	---	---	---
Mercury (Dissolved)	ug/L	0.2 U J	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.047 J	0.2 U	0.2 U
Molybdenum (Dissolved)	ug/L	---	---	---	330	300	---	---	---	---
Nickel	ug/L	---	---	---	---	---	---	---	---	---
Nickel (Dissolved)	ug/L	---	---	---	---	---	---	---	---	---
Potassium	ug/L	---	---	---	---	---	---	---	---	---
Potassium (Dissolved)	ug/L	94000 J	86200	115000	69600	76000	86000	83000	87000	78000
Selenium	ug/L	---	---	---	11	6.5	---	---	---	---
Selenium (Dissolved)	ug/L	5.6 J	5.1	7.6	11.6	5.6	7	3.7 J	4.6 J	11 J
Silicon	ug/L	---	---	---	---	---	---	---	---	---
Silicon (Dissolved)	ug/L	7520 J	6430	9440	7030	7200	8200	7800	8400	7400

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SampleDate		11/5/2009	6/2/2010	11/22/2010	5/11/2011	10/19/2011	6/14/2012	10/24/2012	5/28/2013	10/24/2013
Parameters	Units									
Metals										
Silver	ug/L	---	---	---	---	---	---	---	---	---
Silver (Dissolved)	ug/L	---	---	---	---	---	---	---	---	---
Sodium (Dissolved)	ug/L	431000 J	403000	468000	405000	410000	420000	420000	430000	510000
Strontium	ug/L	---	---	---	---	---	---	---	---	---
Strontium (Dissolved)	ug/L	6140 J	5560	8100	5320	5400	6800	6300	6500	7100
Uranium (Dissolved)	ug/L	---	---	---	---	---	---	---	---	---
Zinc	ug/L	---	---	---	---	---	---	---	---	---
Zinc (Dissolved)	ug/L	7.1 J	29.2	67.5	9.4	6.3 U	7.5	7.4 U	18	25 U
Volatile Organic Compounds - BTEX										
Benzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	ug/L	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Petroleum Products										
Diesel fuel	mg/L	---	---	---	---	---	---	0.35 J	---	0.35 J
TPH - Extractable (DRO)	mg/L	---	---	---	---	---	---	---	---	---
TPH (non-polar)	mg/L	0.21 U	0.16 U	0.23	0.5 U	0.37 J	0.36 J	---	0.48 U	---
TPH (C21 - C28)	mg/L	---	---	---	---	---	---	---	---	---
Radiology										
Gross Alpha Analytes	pci/l	---	---	---	---	---	---	---	---	---
Gross Beta Analytes	pci/l	---	---	---	---	---	---	---	---	---
Field Parameters										
Conductivity, field	umhos/cm	---	---	---	---	---	---	2670	3090	2760
Dissolved oxygen (DO), field	mg/L	---	---	---	---	---	---	5.90	6.82	3.34
Oxidation reduction potential (ORP), field	millivolts	---	---	---	---	---	---	184.1	183.3	61.9
pH, field	s.u.	---	---	---	---	---	---	7.58	8.14	7.93
Temperature, ambient	Deg C	---	---	---	---	---	---	8.2	32	18
Temperature, field	Deg C	---	---	---	---	---	---	9.5	11.1	10.9
Turbidity, field	NTU	---	---	---	---	---	---	0.28	0.76	3.07

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R = rejected data

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SampleID		LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001
SampleDate		5/21/2014	10/22/2014	5/12/2015	10/14/2015	5/23/2016	10/4/2016	5/1/2017	10/3/2017
Parameters	Units								
General Chemistry									
Alkalinity, Bicarbonate (as CaCO ₃)	mg/L	250	260 B	360	270 B	271	233	234	240
Alkalinity, Carbonate (as CaCO ₃)	mg/L	12	5 U	5 U	5 U	2.7 U	5.93 J	2.71 U	2.71 U
Alkalinity, Total (As CaCO ₃)	mg/L	260	260 B	360	270	271	239 J	234	240
Ammonia	mg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.038 U	0.038 U	0.042 U	0.0317 U
Bromide	mg/L	1.3 U	1.3 U	0.5 U	2.5 U	0.079 U	R	1.58 U	0.079 U
Chemical Oxygen Demand (COD)	mg/L	19	25	19	10 U	32.3	21.3	13.2	10.8
Chloride	mg/L	29	42	31	35	37.4	38.9	32.3	41.2
Specific Conductivity	umhos/cm	2600	2900	2500	3000	2910	2890	2840	3030
Cyanide (free)	mg/L	---	---	---	---	---	---	---	---
Fluoride	mg/L	---	---	---	---	2.55	2.28	2.25	2.56
Fluoride (dissolved)	mg/L	2.5	2.4	2.6	2.3	---	---	---	---
Hardness	mg/L	620	640	520	640	612	623	674	666
Nitrate (as N)	mg/L	2.5	2.8	2.7	2.3	1.99	1.8	0.972	1.91
Nitrite (as N)	mg/L	0.13 U	0.13 U	0.05 U	0.25 U	0.045 J	0.0277 U	0.0277 U	0.0277 U
Oil and Grease, Total	mg/L	---	1.9 J	---	---	---	---	---	---
Oil and grease (HEM), polar	mg/L	4.7 U	---	4.4 U	4.3 U	---	---	---	---
Oil and grease (HEM), total	mg/L	---	---	---	---	1.16 U	1.16 U	1.16 U	1.16 U
pH	s.u.	8.39 J	7.97 HF	8.25 J	8.13 HF	7.76 J	8.36 J	8.17 J	8.71 J
Phenolics (Total)	mg/L	0.01 U	0.01 U	0.011	0.01 U	0.008 U	0.0249 U	0.0083 U	0.0083 U
Phosphorus as P, total	mg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.043 J	0.035 U	0.035 U	0.035 U
Silica	mg/L	---	---	---	---	15.9	16.3	15	15.8
Sulfate	mg/L	1200	1300	1100	1100	1280	1320	1330	1440
Sulfide	mg/L	3 U	3 U	0.76 J	1.6 J	0.0065 U	0.0065 U	0.0065 U	0.007 J
Sulfite	mg/L	---	---	---	---	---	---	---	---
Thiocyanate	mg/L	---	---	---	---	---	---	---	---
Thiosulfate	mg/L	---	---	---	---	---	---	---	---
Total Dissolved Solids (TDS)	mg/L	2000	2100	1900	2300	2120	2210	2050	2220
Nitrogen, Total Kjeldahl	mg/L	2.8 J	1.7 J	2.7 J	5 U	0.94	0.444	0.326	0.48
Total Organic Carbon (TOC)	mg/L	5.9	5.7	9.4	6.6	51.3	5.98	5.67	6.51
Total Suspended Solids (TSS)	mg/L	2 U	2.8	---	---	---	---	---	---
Dissolved Organic Carbon (DOC)	mg/L	6	6.9	13	7.8	32.8	6.13	6.13	6.35

Table 5. Logan Wash Minewater Analytical Data

SampleID		LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001
SampleDate		5/21/2014	10/22/2014	5/12/2015	10/14/2015	5/23/2016	10/4/2016	5/1/2017	10/3/2017
Parameters	Units								
Metals									
Arsenic	ug/L	16	15	14	16	17.0	16.2	16.4	14.8
Arsenic (Dissolved)	ug/L	15	15	14	16	14.7	14.7	16.7	14.2
Boron	ug/L	---	---	5200	5600	---	---	---	---
Boron (Dissolved)	ug/L	3900	4200 B	---	---	5760	4450	5940	3410
Cadmium	ug/L	---	---	---	---	---	---	---	---
Cadmium (Dissolved)	ug/L	1 U	1 U	1 U	0.47 J	0.220 U	0.220 U	0.220 U	2.2 U
Calcium (Dissolved)	ug/L	82000	81000 B	70000	86000 B	95100	108000	103000	106000
Chromium	ug/L	1 J	0.32 J	2 U	0.8 J	0.320 U	0.499 U	0.320 U	0.32 U
Chromium (Dissolved)	ug/L	0.89 J	2 U	2 U	0.87 J	0.320 U	0.438 U	0.398 J	3.2 U
Chromium III	ug/L	---	---	---	---	---	---	---	---
Chromium VI	ug/L	---	---	---	---	---	---	---	---
Copper	ug/L	---	---	---	---	---	---	---	---
Copper (Dissolved)	ug/L	3.5	3.3 B	4.1	4.2	3.25	4.11	9.29	6.56 J
Iron	ug/L	120	24 J	61	20 J	33.6 J	21.8 J	15.0 U	32.1 J
Iron (Dissolved)	ug/L	50 U	19 J	18 J	12 J	15.0 U	15.0 U	15.0 U	150 U
Lead	ug/L	---	---	---	---	---	---	---	---
Lead (Dissolved)	ug/L	1 U	0.17 JB	0.082 J	0.12 J	0.260 U	0.260 U	0.452 J	2.6 U
Lithium	ug/L	---	---	---	---	---	---	---	---
Lithium (Dissolved)	ug/L	350	430	390	430	415	426	415	388
Magnesium	ug/L	---	---	---	---	---	---	---	---
Magnesium (Dissolved)	ug/L	98000	89000 B	78000	88000 B	92200	92500	102000	99000
Manganese	ug/L	---	---	---	---	---	---	---	---
Manganese (Dissolved)	ug/L	1.8 J	1.9 JB	2.8 J	2 JB	4.38 J	3.01 J	4.99 J	5.1 U
Mercury	ug/L	---	---	---	---	---	---	---	---
Mercury (Dissolved)	ug/L	0.2 U	0.2 U	0.2 U	0.033 JB	0.0490 U	0.0490 U	0.0490 U	0.049 U
Molybdenum (Dissolved)	ug/L	---	---	---	---	---	---	---	---
Nickel	ug/L	---	---	---	---	---	---	---	---
Nickel (Dissolved)	ug/L	---	---	---	---	---	---	---	---
Potassium	ug/L	---	---	---	---	---	---	---	---
Potassium (Dissolved)	ug/L	69000	68000	49000	73000	61800	64300	77300	88000
Selenium	ug/L	---	---	---	---	---	---	---	---
Selenium (Dissolved)	ug/L	5.8	3.6 J	8.4	5.2	5.60	5.22	4.89	3.2 U
Silicon	ug/L	---	---	---	---	7420	7640	6990	7390
Silicon (Dissolved)	ug/L	8000	6500	6600	8300	---	---	---	---

Table 5. Logan Wash Minewater Analytical Data

SampleID		LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001
SampleDate		5/21/2014	10/22/2014	5/12/2015	10/14/2015	5/23/2016	10/4/2016	5/1/2017	10/3/2017
Parameters	Units								
Metals									
Silver	ug/L	---	---	---	---	---	---	---	---
Silver (Dissolved)	ug/L	---	---	---	---	---	---	---	---
Sodium (Dissolved)	ug/L	360000	380000	370000	360000	386000	368000	388000	393000
Strontium	ug/L	---	---	---	---	---	---	---	---
Strontium (Dissolved)	ug/L	5400	5600	4100	5900	5260	7510	6650	5930
Uranium (Dissolved)	ug/L	---	---	---	---	---	---	---	---
Zinc	ug/L	---	---	---	---	---	---	---	---
Zinc (Dissolved)	ug/L	12	9.3 B	30	5.1 B	10.3 U	22.6	34.8	84.3 U
Volatile Organic Compounds - BTEX									
Benzene	ug/L	1 U	1 U	5 U	5 U	0.331 U	0.331 U	0.331 U	0.331 U
Ethylbenzene	ug/L	1 U	1 U	5 U	5 U	0.384 U	0.384 U	0.384 U	0.384 U
Toluene	ug/L	1 U	1 U	5 U	5 U	0.780 U	0.780 U	0.412 U	0.412 U
Xylenes, Total	ug/L	3 U	3 U	10 U	10 U	1.06 U	1.06 U	1.06 U	1.06 U
Petroleum Products									
Diesel fuel	mg/L	0.25 J	0.35 J	0.92	0.51	0.83	0.198	0.174	0.33
TPH - Extractable (DRO)	mg/L	---	---	---	---	---	---	---	---
TPH (non-polar)	mg/L	---	---	---	---	---	---	---	---
TPH (C21 - C28)	mg/L	---	---	---	---	---	---	---	---
Radiology									
Gross Alpha Analytes	pci/l	---	---	---	---	---	---	---	---
Gross Beta Analytes	pci/l	---	---	---	---	---	---	---	---
Field Parameters									
Conductivity, field	umhos/cm	2870	3053	3000	3450	3500	2127	2745	2233
Dissolved oxygen (DO), field	mg/L	10.39	3.36	6.1	7.13	4.17	7.83	5.97	63.4
Oxidation reduction potential (ORP), field	millivolts	204	86.8	62.4	---	-43.8	-24.3	153.9	83.7
pH, field	s.u.	7.92	8.12	8.26	8.2	7.47	8.63	7.71	8.54
Temperature, ambient	Deg C	15.5	---	18	29.4	---	---	15.6	7.2
Temperature, field	Deg C	9.22	11.5	10.4	13	11.21	10.6	9.9	11.2
Turbidity, field	NTU	3.69	---	2.35	0.02	2.07	1.39	1.85	1.33

Notes:

U = result not detected at the reporting limit

J = result value greater than the MDL and less than the RL;

result considered estimated

B = analyte found in sample and associated blank

HF = analysis holding time exceeded; result

considered estimated

E = result estimated due to the presence of

interference

R = rejected data

--- = Analysis not performed