Table 9. Logan Wash Minewater Analytical Data

SampleID SampleDate Parameters	Units	MINE WATER 3/9/2000	MINE WATER 10/26/2000	MINE WATER 9/26/2001	LWM-001 10/2/2002	LW-001 10/11/2007	LW-001 3/19/2008	LW-001 10/30/2008	LW-001 6/3/2009	LW-001 11/5/2009	LW-001 6/2/2010
General Chemistry											
Alkalinity, Bicarbonate (as CaCO3)	mg/L	390	249	278	287	287	288 J	272	290	272	271
Alkalinity, Carbonate (as CaCO3)	mg/L	5 U	30.1	25.1	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Alkalinity, Total (As CaCO3)	mg/L	390	280	303	291	287	288 J	272	290	272	271
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	0.25	0.1 U
Bromide	mg/L	---	80	---	0.2 U	0.11 J	0.074 B	0.2 U	0.2 U	0.2 U J	1 U
Chemical Oxygen Demand (COD)	mg/L	---	17	---	64.5	23.4	21.9	104	26.7	19.7	20.3 U
Chloride	mg/L	31 J	35.1	40.3	36	53.4	35.8	37.9	37	36.4	25.5
Specific Conductivity	umhos/cm	---	---	---	2600	2830	3640 J	3540	3500	3500	3420
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	1.8	2.3
Hardness	mg/L	---	564	---	572	590	540	580	570	590	590
Nitrate (as N)	mg/L	---	3.4	---	2.5	5.4	3.5	3.1	3.1	2.9	2.8
Nitrite (as N)	mg/L	---	0.01 U	---	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U J	0.25 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	4.6 U	4.6 U
pH	s.u.	---	---	---	8.2	8.1 J	8	8.2 J	8.2 J	8.1 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	0.01 U	0.01 U
Phosphorus as P, total	mg/L	---	0.023	---	0.1 U	0.3	0.044 B	0.1 U	0.1 U	0.1 U	0.1 U
Silica	mg/L	---	16.7	---	---	---	---	---	---	---	---
Sulfate	mg/L	210 J	1060	1170	1080	1510	1140	1170	1140	1150	1220
Sulfide	mg/L	---	---	---	---	3 U	---	3.2	3 U	3 U	1.7 J
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	1790	2170
Nitrogen, Total Kjeldahl	mg/L	---	---	---	---	3.5	2.8 B	6.2	4.5	4.5	3 U
Total Organic Carbon (TOC)	mg/L	---	---	---	7.7	9.2	---	7.4	7.9	7.6	6.7
Total Suspended Solids (TSS)	mg/L	---	5 U	---	---	4 U	4 U	4 U	3.6 J	4 U	4 U
Dissolved Organic Carbon (DOC)	mg/L	7.8 J	8.5	7.9	7.5	9.2	10.5	7.2	8.2	8.1 J	6.5

Table 9. Logan Wash Minewater Analytical Data

SampleID SampleDate Parameters	Units	MINE WATER 3/9/2000	MINE WATER 10/26/2000	MINE WATER 9/26/2001	LWM-001 10/2/2002	LW-001 10/11/2007	LW-001 3/19/2008	LW-001 10/30/2008	LW-001 6/3/2009	LW-001 11/5/2009	LW-001 6/2/2010
Metals											
Arsenic	ug/L	30	31.8	29.5	24.7	19.3	---	19	17.4	18 J	15.8
Arsenic (Dissolved)	ug/L	---	33.2	---	---	---	20.6	---	16.4	17.1	16.3
Boron	ug/L	4300	4540	4580	---	---	---	---	---	---	---
Boron (Dissolved)	ug/L	---	4330	---	4280 J	5510	6210	4030	5260	4740 J	4050
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	0.12 J	1 U
Calcium											
Calcium (Dissolved)	ug/L	---	78100	---	74900	84300	---	73100	78500	83400 J	78600
Chromium	ug/L	---	0.6 U	---	---	0.59 J	0.54 B	0.6 J	0.49 J	2 U	0.6 J
Chromium (Dissolved)	ug/L	---	0.04 U	---	10.7	0.54 J	0.46 B	0.88 J	0.61 J	2 U J	0.44 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	4 J	3.5
Iron	ug/L	---	0 U	---	29 U	32.1 J	19.7 B	20.9 J	31.2 J	47.1 J	50.7
Iron (Dissolved)	ug/L	---	10 U	---	---	41.4 J	42 B	50.8	17.1 J	11.4 J	22.5 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	1 U J	0.25 J
Lithium	ug/L	250	368 J	---	---	---	---	---	---	---	---
Lithium (Dissolved)	ug/L	---	382 J	384	386	395	352	372	379	37.8 J	370
Magnesium	ug/L	---	98900	---	---	---	---	---	---	---	---
Magnesium (Dissolved)	ug/L	---	89700	---	90800 J	87300	82700	77100	96100	97700 J	82700
Manganese	ug/L	---	1.2	---	---	---	---	---	---	---	---
Manganese (Dissolved)	ug/L	---	1.5	---	1.4	2.1	1.2	0.88	0.91	0.89 J	1.1 U
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	0.2 U J	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	94000 J	86200
Selenium	ug/L	---	3.3	---	---	---	---	---	---	---	---
Selenium (Dissolved)	ug/L	---	5	---	7.1 J	7	8.7	6.5	7.2 J	5.6 J	5.1
Silicon	ug/L										
Silicon (Dissolved)	ug/L	---	---	---	7850 J	7490	7380	6680	8630	7520 J	6430

Table 9. Logan Wash Minewater Analytical Data

SampleID SampleDate Parameters	Units	MINE WATER 3/9/2000	MINE WATER 10/26/2000	MINE WATER 9/26/2001	LWM-001 10/2/2002	LW-001 10/11/2007	LW-001 3/19/2008	LW-001 10/30/2008	LW-001 6/3/2009	LW-001 11/5/2009	LW-001 6/2/2010
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	431000 J	403000
Strontium	ug/L	---	7030 J	---	---	---	---	---	---	---	---
Strontium (Dissolved)	ug/L	---	7060 J	---	6330	5820	5280	5810	5430	6140 J	5560
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	7.1 J	29.2
Volatile Organic Compounds - BTEX											
Benzene	ug/L	1 U	2 U	1 U	1 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	1 U	1 U
Toluene	ug/L	1 U	2 U	1 U	1 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	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	0.21 U	0.16 U
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											
Specific 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	---	---	---	---	---	---	---	---	---	---

Table 9. Logan Wash Minewater Analytical Data

SampleID SampleDate Parameters	Units	LW-001 11/22/2010	LW-001 5/11/2011	LW-001 10/19/2011	LW-001 6/14/2012	LW-001 10/24/2012	LW-001 5/28/2013	LW-001 10/24/2013	LW-001 5/21/2014	LW-001 10/22/2014	LW-001 5/12/2015
General Chemistry											
Alkalinity, Bicarbonate (as CaCO3)	mg/L	261	281	250	260	290	260	250	250	260 B	360
Alkalinity, Carbonate (as CaCO3)	mg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	12	5 U	5 U
Alkalinity, Total (As CaCO3)	mg/L	261	281	250	260	290	260	250	260	260 B	360
Ammonia	mg/L	0.1 U	0.1 U	0.24 U	0.1 U	0.15	0.12 U	0.16 U	0.1 U	0.1 U	0.1 U
Bromide	mg/L	0.15 J	0.5 U	1 U	0.5 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.5 U
Chemical Oxygen Demand (COD)	mg/L	23.8	27.8	17	21	9.1 J	23 U	23	19	25	19
Chloride	mg/L	42.4	33.8	32	35	38	32	48	29	42	31
Specific Conductivity	umhos/cm	3560	3390	3900	3600	3600	3300	3100	2600	2900	2500
Cyanide (free)	mg/L	---	0.0029 J	0.003 J	---	---	---	---	---	---	---
Fluoride	mg/L	---	---	---	---	---	---	---	---	---	---
Fluoride (dissolved)	mg/L	2.1	3	2.1	2.6	2.6	2.2	3	2.5	2.4	2.6
Hardness	mg/L	600	680	690	680	660	640	680	620	640	520
Nitrate (as N)	mg/L	2.9	4.4	3.3	2.9	2.5	2.5	3.6	2.5	2.8	2.7
Nitrite (as N)	mg/L	0.27	1.2 U	0.25 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.05 U
Oil and Grease, Total	mg/L	---	---	---	---	---	---	---	---	1.9 J	---
Oil and grease (HEM), polar	mg/L	---	---	4.9 U	4.7 U	1.4 J	4.8 U	1.4 J	4.7 U	---	4.4 U
Oil and grease (HEM), total	mg/L	4.6 U	2.4 J	---	---	---	---	---	---	---	---
pH	s.u.	8 J	8.1 J	7.85 J	8.08 J	8.08 J	7.66 J	8.22 J	8.39 J	7.97 HF	8.25 J
Phenolics (Total)	mg/L	0.01 U	0.0088 J	0.01 U	0.042	0.02	0.01 U	0.0073 J	0.01 U	0.01 U	0.011
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	0.1 U
Silica	mg/L	---	---	---	---	---	---	---	---	---	---
Sulfate	mg/L	1320	1200	1200	1400	1300	1200	1500	1200	1300	1100
Sulfide	mg/L	3 U	3 U	3 U	3 U	3 U	0.24 J	0.32 J	3 U	3 U	0.76 J
Sulfite	mg/L	---	---	---	---	---	---	---	---	---	---
Thiocyanate	mg/L	---	---	---	---	---	---	---	---	---	---
Thiosulfate	mg/L	---	---	---	---	---	---	---	---	---	---
Total Dissolved Solids (TDS)	mg/L	2230	2100	2100	1900	2100	1700	1900	2000	2100	1900
Nitrogen, Total Kjeldahl	mg/L	5 U	3.3 J	5 U	5 U	0.41	5 U	5 U	2.8 J	1.7 J	2.7 J
Total Organic Carbon (TOC)	mg/L	7.1	8.9	6.9	6.4	5.9	4.8	8.3	5.9	5.7	9.4
Total Suspended Solids (TSS)	mg/L	4 U	4 U	4 U	4 U	4 U	2 U	2 U	2 U	2.8	---
Dissolved Organic Carbon (DOC)	mg/L	7.4	8.8	7.7	---	6.3	4.8	8.3	6	6.9	13

Table 9. Logan Wash Minewater Analytical Data

SampleID SampleDate Parameters	Units	LW-001 11/22/2010	LW-001 5/11/2011	LW-001 10/19/2011	LW-001 6/14/2012	LW-001 10/24/2012	LW-001 5/28/2013	LW-001 10/24/2013	LW-001 5/21/2014	LW-001 10/22/2014	LW-001 5/12/2015
Metals											
Arsenic	ug/L	18.9	15.9	17	19	16	18	14	16	15	14
Arsenic (Dissolved)	ug/L	20.1	16.5	15	18	17	17	18	15	15	14
Boron	ug/L	---	4800	5100	---	---	---	---	---	---	5200
Boron (Dissolved)	ug/L	4690	4640	4500	4600	4400	4700	6000	3900	4200 B	---
Cadmium	ug/L	---	---	---	---	---	---	---	---	---	---
Cadmium (Dissolved)	ug/L	1 U	1 U	1 U	1 U	1 U	0.13 J	5 U	1 U	1 U	1 U
Calcium											
Calcium (Dissolved)	ug/L	100000	85700	92000	94000	90000	91000	100000	82000	81000 B	70000
Chromium	ug/L	0.54 J	0.37 J	1.4 J	2 U	0.42 J	0.43 J	2 U	1 J	0.32 J	2 U
Chromium (Dissolved)	ug/L	0.49 J	0.42 J	0.38 J	2 U	0.56 J	0.46 J	10 U	0.89 J	2 U	2 U
Chromium III	ug/L	---	---	---	---	---	---	---	---	---	---
Chromium VI	ug/L	---	---	---	---	---	---	---	---	---	---
Copper	ug/L	---	---	---	---	---	---	---	---	---	---
Copper (Dissolved)	ug/L	4.3	3.3	2.4	4.4	4.2	4.3	9.5 J	3.5	3.3 B	4.1
Iron	ug/L	235 J	50 U	160	200	50	95	38 J	120	24 J	61
Iron (Dissolved)	ug/L	53.2	50 U	30 J	59	18 J	20 J	250 U	50 U	19 J	18 J
Lead	ug/L	---	---	---	---	---	---	---	---	---	---
Lead (Dissolved)	ug/L	0.32 J	1 U	1 U	1 U	0.034 J	1 U	5 U	1 U	0.17 JB	0.082 J
Lithium	ug/L	---	---	---	---	---	---	---	---	---	---
Lithium (Dissolved)	ug/L	398	336	360	400	400	380	430	350	430	390
Magnesium	ug/L	---	---	---	---	---	---	---	---	---	---
Magnesium (Dissolved)	ug/L	116000	95200	100000	110000	96000	110000	110000	98000	89000 B	78000
Manganese	ug/L	---	---	---	---	---	---	---	---	---	---
Manganese (Dissolved)	ug/L	1.9	1.3	3 J	5 U	1.7 J	1.7 J	2.3 J	1.8 J	1.9 JB	2.8 J
Mercury	ug/L	---	0.2 U	0.2 U	---	---	---	---	---	---	---
Mercury (Dissolved)	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.047 J	0.2 U	0.2 U	0.2 U	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	115000	69600	76000	86000	83000	87000	78000	69000	68000	49000
Selenium	ug/L	---	11	6.5	---	---	---	---	---	---	---
Selenium (Dissolved)	ug/L	7.6	11.6	5.6	7	3.7 J	4.6 J	11 J	5.8	3.6 J	8.4
Silicon	ug/L										
Silicon (Dissolved)	ug/L	9440	7030	7200	8200	7800	8400	7400	8000	6500	6600

Table 9. Logan Wash Minewater Analytical Data

SampleID SampleDate Parameters	Units	LW-001 11/22/2010	LW-001 5/11/2011	LW-001 10/19/2011	LW-001 6/14/2012	LW-001 10/24/2012	LW-001 5/28/2013	LW-001 10/24/2013	LW-001 5/21/2014	LW-001 10/22/2014	LW-001 5/12/2015
Metals											
Silver	ug/L	---	---	---	---	---	---	---	---	---	---
Silver (Dissolved)	ug/L	---	---	---	---	---	---	---	---	---	---
Sodium (Dissolved)	ug/L	468000	405000	410000	420000	420000	430000	510000	360000	380000	370000
Strontium	ug/L	---	---	---	---	---	---	---	---	---	---
Strontium (Dissolved)	ug/L	8100	5320	5400	6800	6300	6500	7100	5400	5600	4100
Uranium (Dissolved)	ug/L	---	---	---	---	---	---	---	---	---	---
Zinc	ug/L	---	---	---	---	---	---	---	---	---	---
Zinc (Dissolved)	ug/L	67.5	9.4	6.3 U	7.5	7.4 U	18	25 U	12	9.3 B	30
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	5 U
Ethylbenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Toluene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Xylenes, Total	ug/L	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	10 U
Petroleum Products											
Diesel fuel	mg/L	---	---	---	---	0.35 J	---	0.35 J	0.25 J	0.35 J	0.92
TPH - Extractable (DRO)	mg/L	---	---	---	---	---	---	---	---	---	---
TPH (non-polar)	mg/L	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											**---**
Specific Conductivity, field	umhos/cm	---	---	---	---	2670	3090	2760	2870	3053	3000
Dissolved oxygen (DO), field	mg/L	---	---	---	---	5.90	6.82	3.34	10.39	3.36	6.1
Oxidation reduction potential (ORP), field	millivolts	---	---	---	---	184.1	183.3	61.9	204	86.8	62.4
pH, field	s.u.	---	---	---	---	7.58	8.14	7.93	7.92	8.12	8.26
Temperature, ambient	Deg C	---	---	---	---	8.2	32	18	15.5	---	18
Temperature, field	Deg C	---	---	---	---	9.5	11.1	10.9	9.22	11.5	10.4
Turbidity, field	NTU	---	---	---	---	0.28	0.76	3.07	3.69	---	2.35

Table 9. Logan Wash Minewater Analytical Data

SampleID		LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001
SampleDate		10/14/2015	5/23/2016	10/4/2016	5/1/2017	10/3/2017	5/29/2018	10/22/2018	05/22/2019	10/09/2019	5/26/2020	10/7/2020
Parameters	Units											
General Chemistry												
Alkalinity, Bicarbonate (as CaCO3)	mg/L	270 B	271	233	234	240	258	245	271	248	249	253
Alkalinity, Carbonate (as CaCO3)	mg/L	5 U	2.7 U	5.93 J	2.71 U	2.71 U	6.17 J	3.69 J	3.06 J	11.8 J	8.45 U	8.45U
Alkalinity, Total (As CaCO3)	mg/L	270	271	239 J	234	240	264	249	274	259	252	253
Ammonia	mg/L	0.1 U	0.038 U	0.038 U	0.042 U	0.0317 U	0.1 U	0.0317 U	0.0317 U	0.0317 U	0.117 U	0.117U
Bromide	mg/L	2.5 U	0.079 U	R	1.58 U	0.079 U	1 U	1.58 U	3.95 U	1.58 U	7.06 U	0.353U
Chemical Oxygen Demand (COD)	mg/L	10 U	32.3	21.3	13.2	10.8	15	19	26.7	---	---	
Chloride	mg/L	35	37.4	38.9	32.3	41.2	34.3	38	38	49.1	43.1	47
Specific Conductivity	umhos/cm	3000	2910	2890	2840	3030	2870	1920	2990	3040	3010	9150
Cyanide (free)	mg/L	---	---	---	---	---			---	---	---	
Fluoride	mg/L	---	2.55	2.28	2.25	2.56	2.14	2.49	---	---	---	
Fluoride (dissolved)	mg/L	2.3	---	---	---	---	---	---	2.55	2.74	2.51	2.56
Hardness	mg/L	640	612	623	674	666	628	637	725	738 B	655	641
Nitrate (as N)	mg/L	2.3	1.99	1.8	0.972	1.91	0.655	1.78	4.2	1.74	2.48 T8	2.44
Nitrite (as N)	mg/L	0.25 U	0.045 J	0.0277 U	0.0277 U	0.0277 U	0.1 U	0.0277 U	0.0277 U	0.0277 U	0.042 U, T8	0.042 U
Oil and Grease, Total	mg/L	---	---	---	---	---	---	---	1.29 U	1.45 U	1.36 U	
Oil and grease (HEM), polar	mg/L	4.3 U	---	---	---	---	---	---	---	---	---	
Oil and grease (HEM), total	mg/L	---	1.16 U	1.16 U	1.16 U	1.16 U	5.88 U	2.05 J	---	---	---	
pH	s.u.	8.13 HF	7.76 J	8.36 J	8.17 J	8.71 J	8.26 T8	8.23 J	8.24 J	8.19 T8	8.28 T8	8.2T8
Phenolics (Total)	mg/L	0.01 U	0.008 U	0.0249 U	0.0083 U	0.0083 U	0.0292 J	0.0083 U	0.0144 U	0.0137 B	0.0083 U	0.0083UJ6
Phosphorus as P, total	mg/L	0.1 U	0.043 J	0.035 U	0.035 U	0.035 U	0.1 U	0.27	0.035 U	0.035 U	0.035 U	0.035U
Silica	mg/L	---	15.9	16.3	15	15.8	15.8	14.3	11	15.9	15.9	14.8
Sulfate	mg/L	1100	1280	1320	1330	1440	1410	1290	1310	1440	1330	1350
Sulfide	mg/L	1.6 J	0.0065 U	0.0065 U	0.0065 U	0.007 J	0.05 U	0.0065 U	0.007 J	0.0065 U	0.025 U	0.025U
Sulfite	mg/L	---	---	---	---	---	---	---	---	---	---	
Thiocyanate	mg/L	---	---	---	---	---	---	---	---	---	---	
Thiosulfate	mg/L	---	---	---	---	---	---	---	---	---	---	
Total Dissolved Solids (TDS)	mg/L	2300	2120	2210	2050	2220	2010	1930	2280	2330	2100	2270
Nitrogen, Total Kjeldahl	mg/L	5 U	0.94	0.444	0.326	0.48	0.425	1.29	1.14	---	---	
Total Organic Carbon (TOC)	mg/L	6.6	51.3	5.98	5.67	6.51	5.74	6.73	12	7.79	9.77	7.42
Total Suspended Solids (TSS)	mg/L	---	---	---	---	---	0	0	---	0.4 J	1.6 J	3.2
Dissolved Organic Carbon (DOC)	mg/L	7.8	32.8	6.13	6.13	6.35	5.82	6.4	11.6	---	---	

Table 9. Logan Wash Minewater Analytical Data

SampleID		LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001
SampleDate		10/14/2015	5/23/2016	10/4/2016	5/1/2017	10/3/2017	5/29/2018	10/22/2018	05/22/2019	10/09/2019	5/26/2020	10/7/2020
Parameters	Units											
Metals												
Arsenic	ug/L	16	17.0	16.2	16.4	14.8	17	16.2	12.2	---	15.1	
Arsenic (Dissolved)	ug/L	16	14.7	14.7	16.7	14.2	16.6	14.7	14.1	12.6	---	16 J
Boron	ug/L	5600	---	---	---	---	---	---	---	---	4510	
Boron (Dissolved)	ug/L	---	5760	4450	5940	3410	3440 O1 V	3920	5070	5160	---	4500
Cadmium	ug/L	---	---	---	---	---	---	---	---	---	---	
Cadmium (Dissolved)	ug/L	0.47 J	0.220 U	0.220 U	0.220 U	2.2 U	1.00 U	0.220 U	0.220 U			
Calcium											83000 O1 V	85200
Calcium (Dissolved)	ug/L	86000 B	95100	108000	103000	106000	98400 V	116000	123000	108000	97300	104000
Chromium	ug/L	0.8 J	0.320 U	0.499 U	0.320 U	0.32 U	1.00 U	0.970 J	0.320 U	---	---	
Chromium (Dissolved)	ug/L	0.87 J	0.320 U	0.438 U	0.398 J	3.2 U	1.00 U	0.320 U	0.462 J	---	---	
Chromium III	ug/L	---	---	---	---	---	---	---	---	---	---	
Chromium VI	ug/L	---	---	---	---	---	---	---	---	---	---	
Copper	ug/L	---	---	---	---	---	---	---	---	---	---	
Copper (Dissolved)	ug/L	4.2	3.25	4.11	9.29	6.56 J	6.24	3.19	6.55	---	---	
Iron	ug/L	20 J	33.6 J	21.8 J	15.0 U	32.1 J	100 U	30.1 J	23.2 J	---	---	
Iron (Dissolved)	ug/L	12 J	15.0 U	15.0 U	15.0 U	150 U	100 U	17.8 J	29.3 U	15.0 U	44.7 U	894 U
Lead	ug/L	---	---	---	---	---	---	---	---	---	---	
Lead (Dissolved)	ug/L	0.12 J	0.260 U	0.260 U	0.452 J	2.6 U	1.00 U	0.260 U	0.260 U	---	---	
Lithium	ug/L	---	---	---	---	---	---	---	---	---	---	
Lithium (Dissolved)	ug/L	430	415	426	415	388	361	384	336	---	---	
Magnesium	ug/L	---	---	---	---	---	---	---	---	---	109000 O1,V	104000
Magnesium (Dissolved)	ug/L	88000 B	92200	92500	102000	99000	97700 O1 V	97700	129000	102000	104000	110000
Manganese	ug/L	---	---	---	---	---	---	---	---	---	---	
Manganese (Dissolved)	ug/L	2 JB	4.38 J	3.01 J	4.99 J	5.1 U	1.65 J	1.93 J	2.85 J	---	---	
Mercury	ug/L	---	---	---	---	---	---	---	---	---	---	
Mercury (Dissolved)	ug/L	0.033 JB	0.0490 U	0.0490 U	0.0490 U	0.049 U	0.0591 B J	0.0490 U	0.326	---	---	
Molybdenum (Dissolved)	ug/L	---	---	---	---	---	---	---	---	---	---	
Nickel	ug/L	---	---	---	---	---	---	---	---	---	---	
Nickel (Dissolved)	ug/L	---	---	---	---	---	---	---	---	---	---	
Potassium	ug/L	---	---	---	---	---	---	---	---	---	---	
Potassium (Dissolved)	ug/L	73000	61800	64300	77300	88000	74800 V	70400	56000	69800	80900	78000
Selenium	ug/L	---	---	---	---	---	---	---	---	---	---	
Selenium (Dissolved)	ug/L	5.2	5.60	5.22	4.89	3.2 U	3.82	5.01	22.2	4.03	3.13	8.74 U
Silicon	ug/L		7420	7640	6990	7390	7390	6700	5140	7430	7410 V	6930
Silicon (Dissolved)	ug/L	8300	---	---	---	---	---	---	---	---		

Table 9. Logan Wash Minewater Analytical Data

SampleID		LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001	LW-001
SampleDate		10/14/2015	5/23/2016	10/4/2016	5/1/2017	10/3/2017	5/29/2018	10/22/2018	05/22/2019	10/09/2019	5/26/2020	10/7/2020
Parameters	Units											
Metals												
Silver	ug/L	---	---	---	---	---	---	---	---	---	---	
Silver (Dissolved)	ug/L	---	---	---	---	---	---	---	---	---	---	
Sodium (Dissolved)	ug/L	360000	386000	368000	388000	393000	379000 O1 V	410000	447000	395000	397000	455000
Strontium	ug/L	---	---	---	---	---	---	---	---		---	
Strontium (Dissolved)	ug/L	5900	5260	7510	6650	5930	6350	5510	5510	---	---	
Uranium (Dissolved)	ug/L	---	---	---	---	---	---	---	---	---	---	
Zinc	ug/L	---	---	---	---	---	---	---	---	---	---	
Zinc (Dissolved)	ug/L	5.1 B	10.3 U	22.6	34.8	84.3 U	6.17 J	10.1	27.5	---	---	
Volatile Organic Compounds - BTEX												
Benzene	ug/L	5 U	0.331 U	0.331 U	0.331 U	0.331 U	1.00 U	0.331 U	0.331 U	0.331 U	0.0941 U	0.0941 U
Ethylbenzene	ug/L	5 U	0.384 U	0.384 U	0.384 U	0.384 U	1.00 U	0.384 U	0.384 U	0.384 U	0.137 U	0.137 U
Toluene	ug/L	5 U	0.780 U	0.780 U	0.412 U	0.412 U	1.00 U	0.412 U	0.412 U	0.412 U	0.278 U	0.278 U
Xylenes, Total	ug/L	10 U	1.06 U	1.06 U	1.06 U	1.06 U	3.00 U	1.06 U	1.06 U	1.06 U	0.174 U	0.174 U
Petroleum Products												
Diesel fuel	mg/L	0.51	0.83	0.198	0.174	0.33	0.213 B	0.247	0.155	0.4	0.317	0.285
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		---	---	---								
Specific Conductivity, field	umhos/cm	3450	3500	2127	2745	2233	2796	2770	2891	3216	3002	3254
Dissolved oxygen (DO), field	mg/L	7.13	4.17	7.83	5.97	63.4	NM	7.44	7.51	4.29	6.63	7.47
Oxidation reduction potential (ORP), field	millivolts	---	-43.8	-24.3	153.9	83.7	313.2	178.1	-58.8	42	-33.3	308.2
pH, field	s.u.	8.2	7.47	8.63	7.71	8.54	7.04	7.17	8.74	7.04	8.37	8.1
Temperature, ambient	Deg C	29.4	---	---	15.6	7.2	---	---	60	60	60	60
Temperature, field	Deg C	13	11.21	10.6	9.9	11.2	10.7	11.15	10.5	11.6	10.9	12
Turbidity, field	NTU	0.02	2.07	1.39	1.85	1.33	2.17	0.72	4.02	5.07	0.74	0.42