

Forced Leachate sampling - WR1		2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Field Measurement	Units	6/7/2016	6/7/2016	6/12/2016	6/14/2016	6/23/2016	7/3/2016	7/10/2016	7/12/2016	7/17/2016	7/19/2016	7/24/2016
Lake use for leaching water	Name	Precipitation	Meliadine Lake	Meliadine lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Water temperature	°C	4.8	6.2	14.2	11.2	17.3	15.2	26.9	24.8	14.8	17.5	13.7
Conductivity	µS/cm	190	150	200	190	165.3	195.8	210	171.2	150	193.3	140.2
Field pH	pH unit	7.1	7.4	8	8	8.33	8.33	8.32	8.54	7.9	8.6	8.55
Initial volum in the bucket	L											
Volume left after sampling in the bucket	L					6.67						
Laboratory-Measured	Units	6/7/2016	6/7/2016	6/12/2016	6/14/2016	6/23/2016	7/3/2016	7/10/2016	7/12/2016	7/17/2016	7/19/2016	7/24/2016
Dissolved hardness (CaCO3)	mg/L	115	86.5	79.6	59.1	59.9	70.4	79.8	62.6	58	69	46.7
Total Hardness (CaCO3)	mg/L	121	95.5	76.8	65.8	62.7	77.3	83.9	64.1	59.3	65	51
Total Ammonia-N	mg/L	0.07	0.08	0.12	0.06	0.07	0.13	0.03	0.03	0.03	0.07	0.03
Colour	TCU	ND	4	7	7	3	3	4	ND	8	3	4
Conductivity	umho/cm	320	250	210	180	170	210	230	180	170	200	140
Total Dissolved Solids	mg/L	218	160	134	124	116	234	166	122	122	204	112
Fluoride (F-)	mg/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
pH	pH	7.24	7.49	7.44	7.6	7.43	7.49	6.92	7.44	7.57	7.45	7.37
Total Phosphorus	mg/L	0.018	0.08	0.044	0.034	0.048	0.026	0.015	0.02	0.029	0.029	0.047
Total Suspended Solids	mg/L	5	26	20	23	32	29	2	1	3	3	8
Dissolved Sulphate (SO4)	mg/L	38	36	28	18	18	36	38	25	24	23	18
Alkalinity (Total as CaCO3)	mg/L	14	25	29	24	23	24	28	24	24	25	22
Dissolved Chloride (Cl)	mg/L	47	33	24	23	23	22	22	21	18	27	17
Nitrite (N)	mg/L	0.017	0.013	0.014	ND	0.014	0.013	0.011	ND	0.014	0.024	ND
Nitrate (N)	mg/L	0.6	0.46	0.38	0.32	0.39	0.47	0.43	0.29	0.24	0.46	0.23
Nitrate + Nitrite	mg/L	0.62	0.48	0.39	0.32	0.4	0.48	0.44	0.29	0.25	0.48	0.23
Mercury (Hg)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Aluminum (Al)	ug/L	7.9	14.7	23.5	18.4	22.5	32.3	31.1	27	19.7	25	27.3
Dissolved Antimony (Sb)	ug/L	0.98	0.73	0.66	<0.50	0.543	0.82	1.04	0.778	0.598	0.88	<0.50
Dissolved Arsenic (As)	ug/L	11.2	8.66	8.41	6.81	7.36	12	14.1	12.6	9.95	13	7.02
Dissolved Barium (Ba)	ug/L	10.2	7.8	7.8	5.6	5.28	6.9	8.5	8.73	8.04	9.5	7.9
Dissolved Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.010	<0.10	<0.10	<0.010	<0.010	<0.10	<0.10
Dissolved Bismuth (Bi)	ug/L	<1.0	<1.03	<1.0	<1.0	<0.0050	<1.0	<1.0	<0.0050	<0.0050	<1.0	<1.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<10	<50	<50	<10	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	0.077	0.031	0.021	0.016	0.037	0.028	0.016	0.019	0.017	0.021	0.021
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<0.10	<1.0	<1.0	<0.10	<0.10	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	1.63	1.5	1.32	1.13	0.222	0.95	0.79	0.621	0.366	<0.50	<0.50
Dissolved Copper (Cu)	ug/L	3.07	4.24	6.6	4.62	5.2	4.59	4.35	4.98	4.55	4.7	4.53
Dissolved Iron (Fe)	ug/L	18.1	15.1	26.5	25.8	25.2	21.7	18.2	19.4	17.4	18.8	26.2
Dissolved Lead (Pb)	ug/L	<0.20	<0.20	0.29	0.24	0.314	0.25	0.23	0.293	0.194	<0.20	0.31
Dissolved Lithium (Li)	ug/L	7.8	6.7	6.9	<5.0	4.15	5.6	6.4	4.51	3.49	<5.0	<5.0
Dissolved Manganese (Mn)	ug/L	14.9	18.5	20.4	18.2	16.5	13.5	15.1	10.9	6.12	7.4	5.8
Dissolved Molybdenum (Mo)	ug/L	2.6	1.6	1.6	1.1	1.63	1.6	1.8	1.44	1.14	1.8	<1.0
Dissolved Nickel (Ni)	ug/L	5.2	4.7	4.6	3.6	4.36	4.4	3.9	3.35	2.65	4.2	3
Dissolved Selenium (Se)	ug/L	0.42	0.31	0.29	0.17	0.222	0.31	0.31	0.248	0.192	0.32	0.19
Dissolved Silicon (Si)	ug/L	364	277	340	298	258	413	420	397	369	487	327
Dissolved Silver (Ag)	ug/L	<0.020	<0.020	<0.020	<0.020	<0.0050	<0.020	<0.020	<0.0050	<0.0050	<0.020	<0.020
Dissolved Strontium (Sr)	ug/L	246	199	168	123	117	163	177	132	115	149	84.4
Dissolved Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	<0.050	0.004	<0.050	<0.050	0.004	0.004	<0.050	<0.050
Dissolved Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0	<0.20	<5.0	<5.0	<0.20	<0.20	<5.0	<5.0
Dissolved Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	<5.0	<0.50	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0
Dissolved Uranium (U)	ug/L	1.06	1.18	1.18	0.95	1.05	1.24	1.11	0.861	0.813	1.22	0.66
Dissolved Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0	<0.20	<5.0	<5.0	<0.20	<0.20	<5.0	<5.0
Dissolved Zinc (Zn)	ug/L	10.3	9.3	6	5.3	2.42	<5.0	<5.0	8.49 (1)	7.98 (1)	26.1	10.7
Dissolved Zirconium (Zr)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.10	<0.50	<0.50	<0.10	<0.10	<0.50	<0.50
Dissolved Calcium (Ca)	ug/L	34500	28000	26700	19000	19700	23400	25800	20400	19000	21400	14900
Dissolved Magnesium (Mg)	ug/L	7050	5250	3140	2830	2590	2930	3700	2850	2580	3740	2270
Dissolved Potassium (K)	ug/L	2940	2140	1890	1590	1530	2020	2140	1890	1720	1940	1380
Dissolved Sodium (Na)	ug/L	8710	7350	5510	5410	5400	5750	6620	6060	5600	7050	5740
Dissolved Sulphur (S)	ug/L	12900	10300	10800	5200	5650	12500	12800	8000	8100	5300	5700
Total Aluminum (Al)	ug/L	92.7	1830	1020	999	829	615	383	387	271	245	403
Total Antimony (Sb)	ug/L	1.06	0.97	0.88	0.6	0.708	0.95	1.13	0.84	0.649	0.85	0.52
Total Arsenic (As)	ug/L	12.9	24.5	20.3	17.3	17.1	18.7	18.3	17.3	13.9	14.3	11.5
Total Barium (Ba)	ug/L	8.8	20.7	17.9	15.5	14.8	13	12.2	9.82	8.57	8.7	8.9

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Lake use for leaching water	Name	Precipitation	Meliadine Lake	Meliadine lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Total Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.10	0.024	<0.10	<0.10	<0.010	<0.010	<0.10	<0.10
Total Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<1.0	0.06	<1.0	<1.0	0.023	0.026	<1.0	<1.0
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	<10	<10	<50	<50
Total Cadmium (Cd)	ug/L	0.093	0.093	0.029	0.03	0.04	0.063	0.048	0.019	0.018	0.048	0.02
Total Chromium (Cr)	ug/L	<1.0	5.4	3	3.2	2.57	1.9	1.2	1.1	0.79	<1.0	<1.0
Total Cobalt (Co)	ug/L	2.1	9.54	6.94	6.48	6.36	3.83	2.66	2.77	1.95	1.85	2.6
Total Copper (Cu)	ug/L	1.64	8.81	11.8	8.03	9.68	7.16	6.13	4.93	4.95	4.74	4.78
Total Iron (Fe)	ug/L	173	3070	1610	1740	1590	1040	586	690	493	392	622
Total Lead (Pb)	ug/L	0.92	14.3	13.2	10.4	9.62	5.57	4.11	4.41	3.19	2.45	3.95
Total Lithium (Li)	ug/L	7.2	10.2	7.9	<5.0	5.9	9.3	7.2	5.9	4.45	<5.0	<5.0
Total Manganese (Mn)	ug/L	18.9	59.5	44.3	42.2	42.2	34.6	26.4	22.2	20.3	20.3	27
Total Molybdenum (Mo)	ug/L	2.5	1.8	1.5	1.1	1.73	1.7	2.2	1.5	1.19	1.7	<1.0
Total Nickel (Ni)	ug/L	5.4	19.7	14.6	13.4	13.9	10.4	7.5	6.58	4.91	6	6.6
Total Selenium (Se)	ug/L	0.27	0.32	0.3	0.19	0.243	0.35	0.33	0.251	0.175	0.4	0.19
Total Silicon (Si)	ug/L	420	2170	1240	1440	1250	1120	877	906	759	567	734
Total Silver (Ag)	ug/L	0.079	0.029	<0.020	0.021	0.011	0.047	<0.020	0.013	0.021	<0.020	<0.020
Total Strontium (Sr)	ug/L	252	198	166	125	123	170	190	143	124	140	96.4
Total Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	<0.050	0.007	<0.050	<0.050	0.01	0.008	<0.050	<0.050
Total Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0	<0.20	<5.0	<5.0	<0.20	<0.20	<5.0	<5.0
Total Titanium (Ti)	ug/L	21.8	21.8	10.8	22.5	12.7	9.1	<5.0	4.83	4.19	<5.0	5.1
Total Uranium (U)	ug/L	1.42	1.42	1.53	1.15	1.27	1.38	1.34	1	0.886	1.21	0.78
Total Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0	1.59	<5.0	<5.0	0.76	0.61	<5.0	<5.0
Total Zinc (Zn)	ug/L	5	20.4	13.5	11.9	12.5	15	25.4	4.65	4.15	30.3	6.9
Total Zirconium (Zr)	ug/L	<0.50	1.31	0.7	0.7	0.81	<0.50	<0.50	0.35	0.24	<0.50	<0.50
Total Calcium (Ca)	ug/L	36700	29600	24800	20800	20000	25300	27200	20200	18800	19900	15700
Total Magnesium (Mg)	ug/L	7170	4000	3590	3390	3120	3450	3860	3340	3030	3700	2850
Total Potassium (K)	ug/L	3160	2440	2130	1740	1640	2220	2320	2040	1880	1870	1560
Total Sodium (Na)	ug/L	8620	7430	5630	4790	5390	6220	6580	6180	5970	7270	6030
Total Sulphur (S)	ug/L	12700	8800	9200	6200	5600	13400	15600	9100	7800	6000	4000

Forced Leachate sampling - WR1		2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Field Measurement	Units	8/7/2016	8/16/2016	8/21/2016	8/23/2016	9/4/2016	9/6/2016	9/11/2016	9/13/2016	9/18/2016	9/20/2016	9/27/2016
Lake use for leaching water	Name	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Water temperature	°C	13.4	12.6	10.3	11	3	10.2	8.1	6.4	6.8	4.5	4.3
Conductivity	µS/cm	178	169.9	140.2	141.4	157.9	183.4	153.3	131.7	138.3	135.1	154.9
Field pH	pH unit	8.41	8.7	8.92	8.68	9.02	8.66	8.68	8.87	8.51	8.94	8.49
Initial volum in the bucket	L											
Volume left after sampling in the bucket	L											
												poured on 25th
Laboratory-Measured	Units	8/7/2016	8/16/2016	8/21/2016	8/23/2016	9/4/2016	9/6/2016	9/11/2016	9/13/2016	9/18/2016	9/20/2016	9/27/2016
Dissolved hardness (CaCO3)	mg/L	65.3	63.1	48.5	45.4	58.6	69.6	54.4	45.1	50	46.3	55.7
Total Hardness (CaCO3)	mg/L	66.2	63.8	50.5	49.4	59.8	73.9	61	50.5	50.9	45.8	56.1
Total Ammonia-N	mg/L	0.19	0.02	0.04	0.06	0.04	0.06	0.07	0.07	0.03	0.08	0.13
Colour	TCU	4	4	<2	<2	3	2	<2	<2	-	2	2
Conductivity	umho/cm	180	190	150	150	160	210	170	150	150	140	166
Total Dissolved Solids	mg/L	222	128	112	120	104	158	136	96	136	112	122
Fluoride (F-)	mg/L	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
pH	pH	7.24	6.99	7.33	7.37	7.18	7.46	7.39	7.38	7.31	7.56	7.61
Total Phosphorus	mg/L	0.13	0.023	0.027	0.012	0.019	0.016	0.026	0.016	0.014	0.03	0.015
Total Suspended Solids	mg/L	68	2	4	10	5	4	2	5	7	12	3
Dissolved Sulphate (SO4)	mg/L	24	35	21	17	27	25	15	13	13	11	16
Alkalinity (Total as CaCO3)	mg/L	24	25	23	23	21	25	23	24	22	23	28
Dissolved Chloride (Cl)	mg/L	22	17	16	19	16	28	26	20	22	19	21
Nitrite (N)	mg/L	0.026	<0.010	0.012	0.016	<0.010	0.01	<0.010	0.017	<0.010	0.01	0.013
Nitrate (N)	mg/L	0.37	0.27	0.2	0.22	0.22	0.37	0.28	0.21	0.26	0.16	0.3
Nitrate + Nitrite	mg/L	0.39	0.27	0.21	0.24	0.22	0.38	0.28	0.23	0.26	0.17	0.31
Mercury (Hg)	ug/L	ND	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	0.01	<0.01
Dissolved Aluminum (Al)	ug/L	20.5	23.7	26	27.6	18.3	16.6	23	10.1	11.1	15.6	139
Dissolved Antimony (Sb)	ug/L	0.6	0.57	0.57	0.514	<0.50	0.65	<0.50	<0.50	<0.50	<0.50	0.54
Dissolved Arsenic (As)	ug/L	6.76	8.9	9.6	7.8	7.75	11.6	5.52	5.63	7.47	7.89	9.4
Dissolved Barium (Ba)	ug/L	9.5	9.6	4.7	4.71	6	6.4	6.7	4.9	5.5	4.8	8.7
Dissolved Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.010	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<0.0050	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<10	<50	<50	<50	<50	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	0.137	<0.010	<0.010	<0.0050	<0.010	0.041	<0.010	<0.010	<0.010	0.022	0.012
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	0.11	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	<0.50	<0.50	<0.50	0.276	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.35
Dissolved Copper (Cu)	ug/L	4.84	4.2	3.1	3.1	3.13	2.54	3.01	2.11	2.35	2.41	2.97
Dissolved Iron (Fe)	ug/L	28.8	10.2	21.5	19.1	14.6	9.8	11.6	5.2	12.3	9.8	210
Dissolved Lead (Pb)	ug/L	0.24	<0.20	<0.20	0.135	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	1.74
Dissolved Lithium (Li)	ug/L	<5.0	<5.0	<5.0	2.1	<5.0	<5.0	6.6	<5.0	<5.0	<5.0	5
Dissolved Manganese (Mn)	ug/L	4.5	4.1	6.8	4.45	4.5	5	3.3	3.8	6.6	7.6	16
Dissolved Molybdenum (Mo)	ug/L	1.2	<1.0	<1.0	0.909	1	1.3	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Nickel (Ni)	ug/L	4.1	3.3	2.3	2.71	2.3	2.8	2.6	2.4	2.9	2.3	3.9
Dissolved Selenium (Se)	ug/L	0.21	0.15	0.21	0.24	0.33	0.23	0.13	0.16	0.18	0.13	0.16
Dissolved Silicon (Si)	ug/L	408	384	453	386	377	439	355	337	336	334	575
Dissolved Silver (Ag)	ug/L	<0.020	<0.020	<0.020	<0.0050	<0.020	<0.020	0.045	<0.020	<0.020	<0.020	<0.020
Dissolved Strontium (Sr)	ug/L	118	127	91.6	83.2	113	143	131	86.8	102	100	126
Dissolved Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	0.002	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<0.20	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	0.57	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Uranium (U)	ug/L	0.71	0.73	0.83	0.882	0.91	1.43	0.81	0.8	0.83	0.78	0.98
Dissolved Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<0.20	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Zinc (Zn)	ug/L	42.4	8	<5.0	1.83	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.5
Dissolved Zirconium (Zr)	ug/L	<0.50	<0.50	<0.50	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Calcium (Ca)	ug/L	21000	20400	15100	13700	19200	22200	17600	13700	15400	15000	18200
Dissolved Magnesium (Mg)	ug/L	3090	2980	2600	2730	2620	3430	2510	2670	2820	2160	2490
Dissolved Potassium (K)	ug/L	2230	1720	1540	1420	1490	1840	1500	1330	1640	1450	1350
Dissolved Sodium (Na)	ug/L	7250	6260	6110	6050	5710	7260	6400	6270	6660	5770	5630
Dissolved Sulphur (S)	ug/L	8890	12300	6600	5260	9400	8170	4320	4710	4630	4400	4900
Total Aluminum (Al)	ug/L	1710	276	295	369	314	147	310	247	205	417	16.9
Total Antimony (Sb)	ug/L	0.83	0.6	0.61	0.596	0.56	0.63	<0.50	<0.50	0.55	<0.50	0.5
Total Arsenic (As)	ug/L	22.6	10.4	12.2	12	10.8	14.8	8.05	9.53	11.8	13.6	7.32
Total Barium (Ba)	ug/L	24.2	26.7	7	8.44	9.9	8.5	13.1	8.2	8.6	9.3	6.5

Forced Leachate sampling - WR1		2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Field Measurement	Units	8/7/2016	8/16/2016	8/21/2016	8/23/2016	9/4/2016	9/6/2016	9/11/2016	9/13/2016	9/18/2016	9/20/2016	9/27/2016
Lake use for leaching water	Name	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Total Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	0.01	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	0.02	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	<50	<50	<50	<10	<50	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.265	0.022	<0.010	0.012	0.013	0.013	0.014	<0.010	0.012	0.013	0.01
Total Chromium (Cr)	ug/L	5.4	<1.0	1.1	0.96	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0
Total Cobalt (Co)	ug/L	7.49	1.56	1.58	2.02	1.98	1.77	1.43	1.99	2.5	3.18	<0.50
Total Copper (Cu)	ug/L	12.5	4.73	3.73	4.8	4.21	3.29	4.67	3.51	4.48	4.5	2.35
Total Iron (Fe)	ug/L	3500	501	330	510	494	282	399	393	397	752	<10
Total Lead (Pb)	ug/L	12.8	2.24	2.42	2.92	2.99	2.5	2.55	2.9	3.14	4.54	<0.20
Total Lithium (Li)	ug/L	7.9	5.1	<5.0	4.2	<5.0	<5.0	6.9	<5.0	<5.0	<5.0	5.1
Total Manganese (Mn)	ug/L	285	22.4	16.3	23.2	28.8	19.2	26.8	19	25.7	29.6	5.7
Total Molybdenum (Mo)	ug/L	1	<1.0	<1.0	0.948	1.1	1.2	<1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	17.7	4.8	4.2	5.95	5.2	5.2	4.5	5.3	6.7	7	2.5
Total Selenium (Se)	ug/L	0.3	0.22	0.18	0.278	0.25	0.18	0.14	0.15	0.24	0.15	0.26
Total Silicon (Si)	ug/L	2320	678	767	746	742	637	737	656	547	759	427
Total Silver (Ag)	ug/L	0.024	<0.020	<0.020	0.01	<0.020	<0.020	0.021	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	138	125	98	97.5	116	133	136	96.2	107	96.4	120
Total Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	0.006	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<0.20	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	19.7	<5.0	<5.0	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Uranium (U)	ug/L	1.18	0.86	0.84	1.09	0.9	1.38	0.7	0.96	0.94	0.81	0.96
Total Vanadium (V)	ug/L	<5.0	<5.0	<5.0	0.68	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	60.9	7.2	6.1	5.4	7.7	<5.0	13	<5.0	8	7.6	<5.0
Total Zirconium (Zr)	ug/L	0.59	<0.50	<0.50	0.73	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Calcium (Ca)	ug/L	19800	20500	15900	14600	19400	23200	19500	15400	16000	14500	18300
Total Magnesium (Mg)	ug/L	4100	3090	2620	3130	2730	3850	2980	2940	2670	2310	2530
Total Potassium (K)	ug/L	2210	1820	1700	1410	1570	2040	1730	1550	1450	1460	1360
Total Sodium (Na)	ug/L	7260	6930	6200	6300	5660	7750	6910	6940	6940	5560	5560
Total Sulphur (S)	ug/L	8010	11600	9100	4750	10500	6320	4810	4690	4190	3500	4900

Forced Leachate sampling - WR1		2016	2016	2016
Field Measurement	Units	9/27/2016	10/2/2016	10/4/2016
Lake use for leaching water	Name	Meliadine Lake	Meliadine Lake	Meliadine Lake
Water temperature	°C	5.2	2.5	0.5
Conductivity	µS/cm	127.7	154.8	157.2
Field pH	pH unit	8.57	8.47	8.95
Initial volum in the bucket	L			
Volume left after sampling in the bucket	L			
		poured on 27th		
Laboratory-Measured	Units	9/27/2016	10/2/2016	10/4/2016
Dissolved hardness (CaCO3)	mg/L	40.7	56.8	49.4
Total Hardness (CaCO3)	mg/L	41.6	66.4	60.6
Total Ammonia-N	mg/L	0.09	0.08	0.1
Colour	TCU	4	3	5
Conductivity	umho/cm	131	170	170
Total Dissolved Solids	mg/L	88	140	138
Fluoride (F-)	mg/L	<0.10	<0.10	<0.10
pH	pH	7.35	7.49	7.1
Total Phosphorus	mg/L	0.049	0.013	0.019
Total Suspended Solids	mg/L	33	7	13
Dissolved Sulphate (SO4)	mg/L	9.6	16	14
Alkalinity (Total as CaCO3)	mg/L	23	30	25
Dissolved Chloride (Cl)	mg/L	17	20	24
Nitrite (N)	mg/L	0.022	0.016	0.018
Nitrate (N)	mg/L	0.16	0.22	0.27
Nitrate + Nitrite	mg/L	0.18	0.24	0.28
Mercury (Hg)	ug/L	<0.01	0.01	<0.01
Dissolved Aluminum (Al)	ug/L	12.6	12.4	20.1
Dissolved Antimony (Sb)	ug/L	<0.50	<0.50	<0.50
Dissolved Arsenic (As)	ug/L	5.78	7.22	4
Dissolved Barium (Ba)	ug/L	5.2	6.8	7.8
Dissolved Beryllium (Be)	ug/L	<0.10	<0.10	<0.10
Dissolved Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0
Dissolved Boron (B)	ug/L	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	0.024	0.03	0.109
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	<0.50	<0.50	<0.50
Dissolved Copper (Cu)	ug/L	4.13	3.27	2.92
Dissolved Iron (Fe)	ug/L	14.9	12.3	50.2
Dissolved Lead (Pb)	ug/L	0.2	<0.20	0.32
Dissolved Lithium (Li)	ug/L	<5.0	<5.0	5.2
Dissolved Manganese (Mn)	ug/L	8	4.1	7.1
Dissolved Molybdenum (Mo)	ug/L	<1.0	<1.0	<1.0
Dissolved Nickel (Ni)	ug/L	1.8	2.4	2.2
Dissolved Selenium (Se)	ug/L	0.13	0.15	0.16
Dissolved Silicon (Si)	ug/L	368	428	309
Dissolved Silver (Ag)	ug/L	<0.020	<0.020	<0.020
Dissolved Strontium (Sr)	ug/L	87.9	115	126
Dissolved Thallium (Tl)	ug/L	<0.050	<0.050	<0.050
Dissolved Tin (Sn)	ug/L	<5.0	<5.0	<5.0
Dissolved Titanium (Ti)	ug/L	<5.0	<5.0	<5.0
Dissolved Uranium (U)	ug/L	0.71	1.05	0.81
Dissolved Vanadium (V)	ug/L	<5.0	<5.0	<5.0
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	13.9
Dissolved Zirconium (Zr)	ug/L	<0.50	<0.50	<0.50
Dissolved Calcium (Ca)	ug/L	13000	18300	15500
Dissolved Magnesium (Mg)	ug/L	1990	2730	2580
Dissolved Potassium (K)	ug/L	1240	1500	1250
Dissolved Sodium (Na)	ug/L	5860	6440	6830
Dissolved Sulphur (S)	ug/L	3780	5370	4020
Total Aluminum (Al)	ug/L	569	110	279
Total Antimony (Sb)	ug/L	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	11.4	9.34	7.66
Total Barium (Ba)	ug/L	10.9	8.3	11.6

Forced Leachate sampling - WR1		2016	2016	2016
Field Measurement	Units	9/27/2016	10/2/2016	10/4/2016
Lake use for leaching water	Name	Meliadine Lake	Meliadine Lake	Meliadine Lake
Total Beryllium (Be)	ug/L	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.024	0.03	0.13
Total Chromium (Cr)	ug/L	1.4	<1.0	<1.0
Total Cobalt (Co)	ug/L	2.98	1.68	2.02
Total Copper (Cu)	ug/L	8.41	4.71	5.94
Total Iron (Fe)	ug/L	1190	276	795
Total Lead (Pb)	ug/L	6.08	2.28	4.24
Total Lithium (Li)	ug/L	<5.0	5.1	6
Total Manganese (Mn)	ug/L	50.3	14.5	45.3
Total Molybdenum (Mo)	ug/L	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	6.7	4.7	5
Total Selenium (Se)	ug/L	0.14	0.3	0.17
Total Silicon (Si)	ug/L	977	588	731
Total Silver (Ag)	ug/L	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	83.4	140	137
Total Thallium (Tl)	ug/L	<0.050	<0.050	<0.050
Total Tin (Sn)	ug/L	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	<5.0	<5.0	<5.0
Total Uranium (U)	ug/L	0.79	1.05	0.83
Total Vanadium (V)	ug/L	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	10.1	<5.0	7.8
Total Zirconium (Zr)	ug/L	<0.50	<0.50	<0.50
Total Calcium (Ca)	ug/L	13000	21500	19000
Total Magnesium (Mg)	ug/L	2220	3070	3190
Total Potassium (K)	ug/L	1270	1840	1570
Total Sodium (Na)	ug/L	5470	7750	7420
Total Sulphur (S)	ug/L	<3000	8900	4930

Forced Leachate sampling - WR2		2016	2016	2016	2016	2016	2016	2016	2016	2016
Field Measurement	Units	6/7/2016	6/7/2016	6/12/2016	6/14/2016	6/23/2016	7/3/2016	7/10/2016	7/12/2016	7/17/2016
Lake use for leaching water	Name	Precipitation	Meliadine Lake	Meliadine lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Water temperature	°C	2.95	5.5	12.7	10.6	18.2	15.2	26.9	24.8	14.2
Conductivity	µS/cm	190	180	230	200	181.7	15.2	239	203	170
Field pH	pH unit	7.5	7.3	8.3	8.2	8.53	8.52	8.37	8.5	8
Initial volum in the bucket	L									
Volume left after sampling in the bucket	L					6.6				
Laboratory-Measured	Units	6/7/2016	6/7/2016	6/12/2016	6/14/2016	6/23/2016	7/3/2016	7/10/2016	7/12/2016	7/17/2016
Dissolved Hardness (CaCO3)	mg/L	112	104	93.2	71.8	65.1	84.7	91.7	75.1	66.3
Total Hardness (CaCO3)	mg/L	119	118	92.4	79.8	80.8	90.9	90.5 (1)	76.1	67.2
Total Ammonia-N	mg/L	0.07	0.06	0.1	0.05	0.06	0.1	0.04	0.03	0.04
Colour	TCU	ND	3	6	6	3	3	4	2	ND
Conductivity	umho/cm	320	290	240	210	190	240	260	220	190
Total Dissolved Solids	mg/L	214	190	164	122	144	270	176	174	136
Fluoride (F-)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
pH		7.3	7.49	7.45	7.7	7.53	7.37	6.76	7.48	7.49
Total Phosphorus	mg/L	0.06	0.073	0.059	0.049	0.15	0.034	0.020	0.021	0.041
Total Suspended Solids	mg/L	22	49	44	43	50	25	5	10	5
Dissolved Sulphate (SO4)	mg/L	41	44	37	24	21	44	46	36	31
Alkalinity (Total as CaCO3)	mg/L	14	26	28	28	26	24	27	25	23
Dissolved Chloride (Cl)	mg/L	46	35	28	28	26	24	23	23	20
Nitrite (N)	mg/L	0.015	0.012	0.018	0.012	0.019	0.014	ND	ND	0.020
Nitrate (N)	mg/L	0.5	0.48	0.46	0.39	0.42	0.51	0.43	0.34	0.25
Nitrate + Nitrite	mg/L	0.52	0.49	0.48	0.41	0.44	0.53	0.43	0.34	0.27
Mercury (Hg)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Aluminum (Al)	ug/L	8.9	15.2	47.1	44.6	39.1	31.3	52.3	37.4	20
Dissolved Antimony (Sb)	ug/L	0.81	0.79	0.91	0.58	0.708	0.96	1.28	1.03	0.743
Dissolved Arsenic (As)	ug/L	8.06	8.62	11.1	8.36	9.29	12.5	16.5	17.4	15
Dissolved Barium (Ba)	ug/L	7.8	8.3	7.7	6.2	8.76	7.4	9.3	9.38	8.24
Dissolved Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.010	<0.10	<0.10	<0.010	<0.010
Dissolved Bismuth (Bi)	ug/L	<1.	<1.0	<1.0	<1.0	<0.0050	<1.0	<1.0	<0.0050	<0.0050
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<10	<50	<50	<10	<10
Dissolved Cadmium (Cd)	ug/L	0.022	0.026	0.018	0.015	0.02	0.026	<0.010	0.019	0.015
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<0.10	<1.0	<1.0	<0.10	<0.10
Dissolved Cobalt (Co)	ug/L	1.55	1.34	1.13	1.05	0.979	0.91	0.96	0.645	0.485
Dissolved Copper (Cu)	ug/L	1.46	3.71	6.17	4.53	6.18	5.05	4.52	4.96	4.82
Dissolved Iron (Fe)	ug/L	<5.0	14.9	20.9	21.6	31.5	16.5	55.5	21	16.5
Dissolved Lead (Pb)	ug/L	<0.20	<0.20	0.27	0.24	0.462	0.26	0.50	0.314	0.211
Dissolved Lithium (Li)	ug/L	7.6	7.5	7.8	5.9	5.64	8.4	8.5	6.94	5.28
Dissolved Manganese (Mn)	ug/L	18.4	21.7	20.7	21.4	19.6	17.5	17.2	12.3	8.11
Dissolved Molybdenum (Mo)	ug/L	1.8	1.5	1.7	1.4	1.7	1.7	2.0	1.72	1.66
Dissolved Nickel (Ni)	ug/L	3.9	4.7	4.9	3.8	3.92	3.8	3.9	3.32	2.94
Dissolved Selenium (Se)	ug/L	0.39	0.34	0.37	0.22	0.247	0.42	0.38	0.328	0.244
Dissolved Silicon (Si)	ug/L	296	316	399	322	334	435	547	536	383
Dissolved Silver (Ag)	ug/L	<0.020	<0.020	<0.020	<0.020	<0.0050	<0.020	<0.020	<0.0050	<0.0050
Dissolved Strontium (Sr)	ug/L	267	240	197	160	139	210	236	175	139
Dissolved Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	<0.050	0.003	<0.050	<0.050	0.005	0.004
Dissolved Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0	<0.20	<5.0	<5.0	<0.20	<0.20
Dissolved Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	<5.0	0.78	<5.0	<5.0	<0.50	<0.50
Dissolved Uranium (U)	ug/L	0.96	1.45	1.74	1.27	1.25	1.54	1.55	1.25	0.994
Dissolved Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0	<0.20	<5.0	<5.0	<0.20	<0.20
Dissolved Zinc (Zn)	ug/L	6.3	5.2	<5.0	5.3	8.69	<5.0	<5.0	7.27 (1)	6.95
Dissolved Zirconium (Zr)	ug/L	<0.50	<0.050	<0.50	<0.50	<0.10	<0.50	<0.50	<0.10	<0.10
Dissolved Calcium (Ca)	ug/L	33400	33400	31300	23100	21400	28000	30000	24500	21400
Dissolved Magnesium (Mg)	ug/L	6900	5020	3670	3440	2830	3570	4040	3370	3110
Dissolved Potassium (K)	ug/L	2710	2510	2420	1890	1770	2420	2600	2380	1910

Forced Leachate sampling - WR2		2016	2016	2016	2016	2016	2016	2016	2016	2016
Field Measurement	Units	6/7/2016	6/7/2016	6/12/2016	6/14/2016	6/23/2016	7/3/2016	7/10/2016	7/12/2016	7/17/2016
Lake use for leaching water	Name	Precipitation	Meliadine Lake	Meliadine lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Dissolved Sodium (Na)	ug/L	8610	7840	6120	5940	5730	6470	7100	6390	6030
Dissolved Sulphur (S)	ug/L	15800	12300	13900	7200	6240	18100	17900	13200	10200
Total Aluminum (Al)	ug/L	131	2430	1730	1440	2170	773	463	417	334
Total Antimony (Sb)	ug/L	0.85	0.99	1.18	0.75	1.07	1.12	1.33	1.14	0.812
Total Arsenic (As)	ug/L	10.5	28.2	26.8	22.3	34	21.4	20.7	22.2	14
Total Barium (Ba)	ug/L	9.7	27.8	24.4	21.8	32.9	18.1	13.7	11.6	10.1
Total Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.10	0.045	<0.10	<0.10	<0.010	<0.010
Total Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<1.0	0.144	<1.0	<1.0	0.03	0.027
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	11	<10
Total Cadmium (Cd)	ug/L	0.024	0.0057	0.034	0.034	0.11	0.050	0.019	0.017	0.016
Total Chromium (Cr)	ug/L	<1.0	6.7	4.7	4.2	6.56	2.5	1.3	1.1	0.91
Total Cobalt (Co)	ug/L	2.27	10.5	9.22	8.41	13.4	5.25	3.07	2.73	2.28
Total Copper (Cu)	ug/L	1.49	9.59	13.2	9.31	14.6	8.71	6.46	5.07	5.16
Total Iron (Fe)	ug/L	276	4100	2480	2500	4310	1340	726	723	553
Total Lead (Pb)	ug/L	1.2	17.1	16.2	14.5	25.3	9.16	5.12	4.79	4.07
Total Lithium (Li)	ug/L	7.8	12.5	11.6	7.5	10.6	10.0	8.1	8.12	6.08
Total Manganese (Mn)	ug/L	25.8	71.1	58	54.4	96.4	41.5	28.3	23.5	21.8
Total Molybdenum (Mo)	ug/L	1.9	1.5	1.7	1.4	1.9	1.8	2.1	1.67	1.36
Total Nickel (Ni)	ug/L	5.3	21.4	19.9	17.5	25.5	12.4	7.8	6.79	5.76
Total Selenium (Se)	ug/L	0.32	0.33	0.6	0.23	0.321	0.43	0.35	0.308	0.266
Total Silicon (Si)	ug/L	421	2970	2000	2090	2800	1320	924	1080	785
Total Silver (Ag)	ug/L	0.067	0.034	<0.020	<0.020	0.015	0.023	<0.020	0.01	0.01
Total Strontium (Sr)	ug/L	270	238	210	163	167	220	218	190	157
Total Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	<0.050	0.013	<0.050	<0.050	0.011	0.01
Total Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0	<0.20	<5.0	<5.0	<0.20	<0.20
Total Titanium (Ti)	ug/L	<5.0	28.9	18.1	20.7	34.8	16.0	5.8	6.05	7.02
Total Uranium (U)	ug/L	1.07	1.59	1.8	1.48	1.76	1.73	1.58	1.35	1.07
Total Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0	4.18	<5.0	<5.0	0.81	0.67
Total Zinc (Zn)	ug/L	5.7	23.1	17.1	15.2	27.5	15.7	8.2	4.59	4.78
Total Zirconium (Zr)	ug/L	<0.50	1.72	1.09	1.02	2.4	0.79	<0.50	0.33	0.35
Total Calcium (Ca)	ug/L	36700	37600	29600	24800	24800	29800	29600	24000	20900
Total Magnesium (Mg)	ug/L	6670	5950	4490	4310	4600	4020	4010	3910	3630
Total Potassium (K)	ug/L	3150	2900	2600	2040	2110	2550	2590	2420	2060
Total Sodium (Na)	ug/L	7990	7620	6600	5630	5970	6510	6580	6680	6120
Total Sulphur (S)	ug/L	10500	13400	12500	9500	6900	16800	16900	13100	11700

Forced Leachate sampling - WR2		2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Field Measurement	Units	7/19/2016	7/24/2016	8/7/2016	8/16/2016	8/21/2016	8/23/2016	9/4/2016	9/6/2016	9/11/2016	9/13/2016
Lake use for leaching water	Name	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Water temperature	°C	18	14.1	13.6	12.7	10.2	10.6	2.5	10.2	8.3	6.8
Conductivity	µS/cm	196.6	192.1	221	224	165.5	149	167.3	147.8	172.5	138.3
Field pH	pH unit	8.53	8.55	8.6	8.6	8.95	8.65	8.98	8.81	8.42	8.78
Initial volum in the bucket	L										
Volume left after sampling in the bucket	L										
Laboratory-Measured	Units	7/19/2016	7/24/2016	8/7/2016	8/16/2016	8/21/2016	8/23/2016	9/4/2016	9/6/2016	9/11/2016	9/13/2016
Dissolved Hardness (CaCO3)	mg/L	75.9	69.1	72.8	90.7	59.3	46.6	61.6	53.1	64.2	48.7
Total Hardness (CaCO3)	mg/L	73.9	76.9	71.4	91.4	61.4	55.1	63.9	57.9	70.4	55.8
Total Ammonia-N	mg/L	0.04	0.03	0.13	0.02	0.04	0.05	0.05	0.06	0.07	0.06
Colour	TCU	2	ND	ND	4	<2	2	2	3	<2	<2
Conductivity	umho/cm	210	200	200	250	180	160	180	170	190	150
Total Dissolved Solids	mg/L	198	170	220	172	148	134	464	118	154	106
Fluoride (F-)	mg/L	ND	ND	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
pH		7.52	7.44	7.36	7.11	7.31	7.4	7.36	7.44	7.34	7.4
Total Phosphorus	mg/L	0.066	0.047	0.057	0.046	0.024	0.028	0.016	0.028	0.021	0.022
Total Suspended Solids	mg/L	2	5	17	25	11	18	5	17	2	8
Dissolved Sulphate (SO4)	mg/L	27	30	32	50	31	20	31	17	22	17
Alkalinity (Total as CaCO3)	mg/L	27	24	25	25	24	24	24	26	23	24
Dissolved Chloride (Cl)	mg/L	27	24	21	19	17	19	16	21	26	18
Nitrite (N)	mg/L	0.032	ND	0.017	0.01	0.015	0.021	<0.010	0.013	<0.010	0.023
Nitrate (N)	mg/L	0.4	0.38	0.24	0.41	0.27	0.24	0.22	0.26	0.33	0.2
Nitrate + Nitrite	mg/L	0.44	0.38	0.26	0.42	0.28	0.26	0.22	0.28	0.33	0.22
Mercury (Hg)	ug/L	0.01	ND	ND	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dissolved Aluminum (Al)	ug/L	31.5	18.6	32.9	59.4	18.3	25.1	17.3	12.2	20.9	13.3
Dissolved Antimony (Sb)	ug/L	0.96	0.77	0.67	0.82	0.57	0.572	0.55	0.50	<0.50	<0.50
Dissolved Arsenic (As)	ug/L	13.1	10.7	8.95	13.1	8.5	7.96	8.00	7.32	5.83	6.25
Dissolved Barium (Ba)	ug/L	9.5	9.5	9.2	11.1	5.6	5.07	5.6	5.2	7.7	5.2
Dissolved Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.010	<0.10	<0.10	<0.10	<0.10
Dissolved Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<0.0050	<1.0	<1.0	<1.0	<1.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<10	<50	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	0.015	0.017	0.032	<0.010	<0.010	<0.0050	<0.010	0.013	<0.010	<0.010
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	0.54	<0.50	<0.50	0.76	<0.50	0.326	<0.50	<0.50	<0.50	<0.50
Dissolved Copper (Cu)	ug/L	4.51	5.29	3.61	5.9	3.38	3.05	3.11	2.47	2.82	2.14
Dissolved Iron (Fe)	ug/L	23.1	16.1	28.2	40.9	10.8	12.7	11.6	5.7	9.4	7
Dissolved Lead (Pb)	ug/L	0.24	0.23	0.30	0.47	<0.20	0.174	<0.20	<0.20	<0.20	<0.20
Dissolved Lithium (Li)	ug/L	6.2	<5.0	<5.0	5.3	<5.0	2.97	<5.0	<5.0	7	<5.0
Dissolved Manganese (Mn)	ug/L	8	7.9	4.0	9.2	6.6	5.80	5.7	6.0	3.8	5.6
Dissolved Molybdenum (Mo)	ug/L	2	1.3	<1.0	<1.0	<1.0	0.912	<1.0	<1.0	<1.0	<1.0
Dissolved Nickel (Ni)	ug/L	3.4	3.5	3.0	4	2	1.95	2.2	1.8	2	2
Dissolved Selenium (Se)	ug/L	0.38	0.33	0.30	0.22	0.26	0.211	0.40	0.18	0.16	0.17
Dissolved Silicon (Si)	ug/L	547	419	500	531	476	321	392	407	369	358
Dissolved Silver (Ag)	ug/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.0050	<0.020	<0.020	0.036	<0.020
Dissolved Strontium (Sr)	ug/L	151	154	131	188	120	89.2	129	114	152	94.8
Dissolved Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	<0.050	<0.050	0.0020	<0.050	<0.050	<0.050	<0.050
Dissolved Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<0.20	<5.0	<5.0	<5.0	<5.0
Dissolved Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<5.0	<5.0	<5.0	<5.0
Dissolved Uranium (U)	ug/L	1.34	1.14	0.97	1.16	1.02	1.08	1.02	1.04	0.94	0.91
Dissolved Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<0.20	<5.0	<5.0	<5.0	<5.0
Dissolved Zinc (Zn)	ug/L	10	9.5	10.0	8.9	<5.0	1.73	<5.0	<5.0	<5.0	<5.0
Dissolved Zirconium (Zr)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Calcium (Ca)	ug/L	23500	22000	24000	29800	18800	14200	20300	16700	20800	15100
Dissolved Magnesium (Mg)	ug/L	4220	3440	3100	3970	2970	2730	2650	2790	2950	2680
Dissolved Potassium (K)	ug/L	2060	2010	2160	2100	1740	1560	1550	1580	1720	1410

Forced Leachate sampling - WR2		2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Field Measurement	Units	7/19/2016	7/24/2016	8/7/2016	8/16/2016	8/21/2016	8/23/2016	9/4/2016	9/6/2016	9/11/2016	9/13/2016
Lake use for leaching water	Name	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Dissolved Sodium (Na)	ug/L	7420	6950	7230	6460	6220	6120	5630	6650	6650	6210
Dissolved Sulphur (S)	ug/L	8200	10100	11500	19800	8800	5810	11600	6020	7480	5690
Total Aluminum (Al)	ug/L	471	388	1210	1190	273	728	295	433	256	606
Total Antimony (Sb)	ug/L	0.99	0.82	0.84	1.01	0.62	0.694	0.57	0.65	0.54	<0.50
Total Arsenic (As)	ug/L	16.7	16.7	20.6	25.4	12.5	16.0	11.6	13.5	9.14	11.8
Total Barium (Ba)	ug/L	11.1	11.1	19.5	31.6	9.8	13.4	9.9	11.2	12.6	10.9
Total Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	0.021	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	0.044	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	10	<50	153	<50	<50
Total Cadmium (Cd)	ug/L	0.019	0.018	0.055	0.029	<0.010	0.0150	0.010	0.017	0.014	<0.010
Total Chromium (Cr)	ug/L	<1.0	1.1	4.1	3.5	1	2.14	<1.0	1.2	<1.0	1
Total Cobalt (Co)	ug/L	2.87	3.39	6.23	8.29	2.25	3.84	1.88	3.18	1.53	2.7
Total Copper (Cu)	ug/L	5.25	5.68	8.16	9.58	4.6	6.19	4.12	5.13	4.43	4.28
Total Iron (Fe)	ug/L	633	637	2210	2040	464	1140	432	730	403	639
Total Lead (Pb)	ug/L	4.3	5.08	11.5	14.5	4.02	6.93	3.30	6.20	2.95	4.87
Total Lithium (Li)	ug/L	5.4	6.6	7.2	7.8	<5.0	5.11	<5.0	<5.0	7.5	<5.0
Total Manganese (Mn)	ug/L	24.8	29.5	120	43.1	18.5	31.7	24.3	28.3	23.7	23.1
Total Molybdenum (Mo)	ug/L	2	1.4	1.2	1	<1.0	1.02	<1.0	1.4	<1.0	<1.0
Total Nickel (Ni)	ug/L	7.3	7.7	13.5	16.1	5.4	8.87	5.0	6.8	4.3	6.4
Total Selenium (Se)	ug/L	0.31	0.26	0.31	0.3	0.28	0.263	0.33	0.33	0.23	0.18
Total Silicon (Si)	ug/L	920	1080	1730	1760	899	1210	638	905	640	850
Total Silver (Ag)	ug/L	<0.020	<0.020	<0.020	<0.020	<0.020	0.016	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	156	156	149	185	127	109	135	113	165	108
Total Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	<0.050	<0.050	0.0090	<0.050	<0.050	<0.050	<0.050
Total Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<0.20	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	5.5	7.1	16.0	17.4	5.2	11.0	<5.0	8.2	<5.0	5.4
Total Uranium (U)	ug/L	1.29	1.32	1.37	1.34	1.02	1.33	1.03	1.16	0.99	1.08
Total Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	1.43	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	7.5	8.1	14.2	14.2	7.5	8.3	8.1	6.6	5.7	5.3
Total Zirconium (Zr)	ug/L	<0.50	<0.50	0.62	1.47	<0.50	0.52	<0.50	<0.50	<0.50	<0.50
Total Calcium (Ca)	ug/L	22500	23500	22400	28800	19300	16400	21100	17500	22800	17100
Total Magnesium (Mg)	ug/L	4320	4400	3740	4710	3180	3450	2740	3430	3250	3170
Total Potassium (K)	ug/L	2130	2340	2060	2560	1910	1640	1660	1910	1970	1780
Total Sodium (Na)	ug/L	7650	7640	7030	7320	6990	6650	5650	7720	7040	7220
Total Sulphur (S)	ug/L	7400	10700	10500	15700	13800	5670	11100	5610	6310	6080

Forced Leachate sampling - WR2		2016	2016	2016	2016	2016	2016
Field Measurement	Units	9/18/2016	9/20/2016	9/27/2016	9/27/2016	10/2/2016	10/4/2016
Lake use for leaching water	Name	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Water temperature	°C	6.6	4.3	4.1	5.2	2.5	0.7
Conductivity	µS/cm	146.3	132.2	165.5	130.2	144.4	150.7
Field pH	pH unit	8.55	8.75	8.35	8.72	8.56	8.96
Initial volum in the bucket	L						
Volume left after sampling in the bucket	L						
				poured on 25th	poured on 27th		
Laboratory-Measured	Units	9/18/2016	9/20/2016	9/27/2016	9/27/2016	10/2/2016	10/4/2016
Dissolved Hardness (CaCO3)	mg/L	56.2	46.7	60.5	44.1	53.3	45.9
Total Hardness (CaCO3)	mg/L	55.2	49.2	60.1	45.7	56.7	60.6
Total Ammonia-N	mg/L	0.04	0.09	0.12	0.1	0.05	0.11
Colour	TCU	-	2	3	4	4	4
Conductivity	umho/cm	160	140	173	136	160	160
Total Dissolved Solids	mg/L	122	108	120	84	118	134
Fluoride (F-)	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
pH	pH	7.31	7.53	7.59	7.49	7.42	7.17
Total Phosphorus	mg/L	0.028	0.037	0.009	0.038	0.018	0.042
Total Suspended Solids	mg/L	16	20	5	24	13	29
Dissolved Sulphate (SO4)	mg/L	15	11	20	11	17	11
Alkalinity (Total as CaCO3)	mg/L	25	26	30	25	26	25
Dissolved Chloride (Cl)	mg/L	21	19	19	17	20	24
Nitrite (N)	mg/L	<0.010	<0.010	0.013	0.021	0.014	0.019
Nitrate (N)	mg/L	0.25	0.18	0.3	0.22	0.19	0.21
Nitrate + Nitrite	mg/L	0.25	0.18	0.31	0.24	0.2	0.23
Mercury (Hg)	ug/L	<0.01	<0.01	0.01	<0.01	0.01	0.02
Dissolved Aluminum (Al)	ug/L	12.7	15.1	119	16.3	8.3	13.7
Dissolved Antimony (Sb)	ug/L	0.55	<0.50	0.6	<0.50	<0.50	<0.50
Dissolved Arsenic (As)	ug/L	8.43	8.66	9.85	7.23	4.57	3.65
Dissolved Barium (Ba)	ug/L	5.6	4.6	8.7	5.4	6.7	6.4
Dissolved Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	<0.010	0.019	<0.010	0.01	<0.010	0.015
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	<0.50	<0.50	1.05	<0.50	<0.50	<0.50
Dissolved Copper (Cu)	ug/L	2.26	2.32	2.57	3.76	3.45	2.71
Dissolved Iron (Fe)	ug/L	8	8	197	17.2	11.4	22.7
Dissolved Lead (Pb)	ug/L	<0.20	<0.20	1.62	<0.20	<0.20	<0.20
Dissolved Lithium (Li)	ug/L	<5.0	<5.0	5.3	<5.0	<5.0	5.8
Dissolved Manganese (Mn)	ug/L	9.1	9.5	15.8	10.7	5.7	8.9
Dissolved Molybdenum (Mo)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Nickel (Ni)	ug/L	2.1	1.9	3.3	1.7	1.9	1.6
Dissolved Selenium (Se)	ug/L	0.22	0.16	0.19	0.14	0.16	<0.10
Dissolved Silicon (Si)	ug/L	412	412	655	418	365	346
Dissolved Silver (Ag)	ug/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Dissolved Strontium (Sr)	ug/L	114	102	136	99.8	117	125
Dissolved Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Uranium (U)	ug/L	0.96	0.78	0.94	0.85	0.78	0.62
Dissolved Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Zirconium (Zr)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Calcium (Ca)	ug/L	18100	15100	19800	14300	17100	14600
Dissolved Magnesium (Mg)	ug/L	2650	2190	2670	2030	2580	2310
Dissolved Potassium (K)	ug/L	1660	1380	1460	1280	1450	1260

Forced Leachate sampling - WR2		2016	2016	2016	2016	2016	2016
Field Measurement	Units	9/18/2016	9/20/2016	9/27/2016	9/27/2016	10/2/2016	10/4/2016
Lake use for leaching water	Name	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Dissolved Sodium (Na)	ug/L	6390	5620	5620	5730	6360	7130
Dissolved Sulphur (S)	ug/L	5370	3600	6500	3770	6200	3210
Total Aluminum (Al)	ug/L	441	448	16.4	762	191	793
Total Antimony (Sb)	ug/L	0.68	0.53	0.57	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	16.3	16.2	7.83	14.2	7.66	11.7
Total Barium (Ba)	ug/L	12.3	13.3	7	14	10.2	16.4
Total Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.016	0.025	0.011	0.018	0.019	0.019
Total Chromium (Cr)	ug/L	1.1	1.3	<1.0	2.1	<1.0	2.2
Total Cobalt (Co)	ug/L	4.24	4.53	<0.50	3.64	2.32	4.11
Total Copper (Cu)	ug/L	5.4	5.18	2.08	8.52	5.09	6.98
Total Iron (Fe)	ug/L	867	919	<10	1370	390	1600
Total Lead (Pb)	ug/L	6.72	7.96	<0.20	8.08	4.06	8.32
Total Lithium (Li)	ug/L	<5.0	<5.0	5.3	<5.0	<5.0	7.3
Total Manganese (Mn)	ug/L	33.6	37.4	6.3	48.4	19.8	51.4
Total Molybdenum (Mo)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	8.8	8.7	2.1	7.8	5.1	8.4
Total Selenium (Se)	ug/L	0.27	0.15	0.41	0.16	0.21	0.1
Total Silicon (Si)	ug/L	867	952	421	1300	609	1280
Total Silver (Ag)	ug/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	118	111	137	92.8	111	142
Total Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	6.1	10	<5.0	9.6	<5.0	11
Total Uranium (U)	ug/L	1.13	0.91	0.94	0.92	0.8	0.72
Total Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	12.7	9.6	<5.0	12.3	5.6	9.6
Total Zirconium (Zr)	ug/L	<0.50	0.64	<0.50	<0.50	<0.50	<0.50
Total Calcium (Ca)	ug/L	17300	15500	19600	14500	18000	18900
Total Magnesium (Mg)	ug/L	2950	2570	2680	2340	2820	3260
Total Potassium (K)	ug/L	1600	1490	1420	1370	1560	1670
Total Sodium (Na)	ug/L	6740	5900	5510	5510	6990	7780
Total Sulphur (S)	ug/L	3990	3000	6500	3310	6340	3800

Forced Leachate sampling - LODE 1000		2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Field Measurement	Units	6/7/2016	6/7/2016	6/12/2016	6/14/2016	6/23/2016	7/3/2016	7/10/2016	7/12/2016	7/17/2016	7/19/2016
Lake use for leaching water	Name	Precipitation	Meliadine Lake	Meliadine lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Water temperature	°C	1.5	4.7	13.6	10.8	19.3	15.9	27	24.4	13.7	18.8
Conductivity	µS/cm	950	740	13600	540	480	544	631	469	460	448
Field pH	pH unit	7.3	7.1	7.9	7.9	8.18	8.08	7.99	8.21	7.8	8.14
Initial volum in the bucket	L										
Volume left after sampling in the bucket	L					5					
Laboratory-Measured	Units	6/7/2016	6/7/2016	6/12/2016	6/14/2016	6/23/2016	7/3/2016	7/10/2016	7/12/2016	7/17/2016	7/19/2016
Dissolved Hardness (CaCO3)	mg/L	701	505	417	240	225	261	326	217	217	229
Total Hardness (CaCO3)	mg/L	688	519	367	257	239	267	322 (1)	226	230	230
Total Ammonia-N	mg/L	0.05	0.05	0.07	0.08	0.04	0.05	ND	0.02	0.02	0.01
Colour	TCU	ND	2	4	4	ND	8	3	ND	ND	5
Conductivity	umho/cm	1400	1000	800	560	510	580	680	500	500	480
Total Dissolved Solids	mg/L	982	760	580	392	368	482	536	384	402	394
Fluoride (F-)	mg/L	ND	ND	ND	ND	ND	0.12	ND	ND	ND	ND
pH	pH	7.55	7.48	7.41	7.72	7.57	7.48	7.23	7.61	7.60	7.59
Total Phosphorus	mg/L	0.17	0.2	0.17	0.12	0.23	0.09	0.14	0.10	0.09	0.1
Total Suspended Solids	mg/L	3	74	56	63	57	76	23	60	28	13
Dissolved Sulphate (SO4)	mg/L	440	360	320	190	170	220	270	180	190	180
Alkalinity (Total as CaCO3)	mg/L	35	35	37	36	31	30	33	31	32	33
Dissolved Chloride (Cl)	mg/L	140	85	30	22	19	17	17	15	15	13
Nitrite (N)	mg/L	0.104	0.145	0.137	0.077	0.032	0.025	0.024	0.015	0.027	0.028
Nitrate (N)	mg/L	0.32	0.48	0.59	0.39	0.35	0.26	0.28	0.17	ND	ND
Nitrate + Nitrite	mg/L	0.43	0.63	0.72	0.47	0.38	0.28	0.30	0.18	0.11	0.1
Mercury (Hg)	ug/L	ND	ND	ND	ND	ND	ND	ND	0.01	ND	ND
Dissolved Aluminum (Al)	ug/L	32	15	9.9	32.3	9.36	16.3	19.6	24.4	8.15	24
Dissolved Antimony (Sb)	ug/L	5.1	3.5	4.09	2.91	3.44	3.94	5.71	3.95	3.43	4.3
Dissolved Arsenic (As)	ug/L	13500	8920	9110	7090	7100	8860	12100	8400	7580	8770
Dissolved Barium (Ba)	ug/L	20	13.5	12.6	7.9	7.84	9.4	12.8	11.4	7.01	10.4
Dissolved Beryllium (Be)	ug/L	<1.0	<0.40	<0.10	<0.10	<0.010	<0.10	<0.10	<0.010	<0.010	<0.40
Dissolved Bismuth (Bi)	ug/L	<10	<4.0	<1.0	<1.0	<0.0050	<1.0	<1.0	<0.0050	<0.0050	<4.0
Dissolved Boron (B)	ug/L	<500	<200	<50	<50	25	<50	69	28	22	<200
Dissolved Cadmium (Cd)	ug/L	0.17	0.084	0.077	0.048	0.09	0.068	0.061	0.069	0.044	0.048
Dissolved Chromium (Cr)	ug/L	<10	<4.0	<1.0	2.1	<0.10	<1.0	<1.0	<0.10	<0.10	<4.0
Dissolved Cobalt (Co)	ug/L	<5.0	3.4	2.63	1.98	1.88	2.05	1.89	1.66	1.62	<2.0
Dissolved Copper (Cu)	ug/L	2.7	3.6	4.05	3.35	3.5	3.88	2.63	3.85	2.3	3.48
Dissolved Iron (Fe)	ug/L	<50	<20	6.6	62.9	5	8.1	7.0	31	7.7	<20
Dissolved Lead (Pb)	ug/L	<2.0	<0.80	1.23	1.14	1.16	1.60	1.67	0.882	1.04	1.53
Dissolved Lithium (Li)	ug/L	<50	20	15.4	10.1	13.2	12.2	15.1	11	9.93	<20
Dissolved Manganese (Mn)	ug/L	38	32.6	36.3	29	26.4	28.7	28.6	24.5	23.4	20
Dissolved Molybdenum (Mo)	ug/L	204	118	57.4	38.3	38.2	52.8	80.4	58.8	58.6	51.6
Dissolved Nickel (Ni)	ug/L	35	21.9	14.4	10.8	9.92	10.5	11.5	8.58	8.44	9.8
Dissolved Selenium (Se)	ug/L	3.2	2.28	1.99	1.26	1.16	1.74	2.30	1.71	1.41	1.53
Dissolved Silicon (Si)	ug/L	2370	1460	1390	1100	1110	1430	1950	1410	1200	1710
Dissolved Silver (Ag)	ug/L	<0.20	<0.080	<0.020	<0.020	<0.0050	<0.020	<0.020	<0.0050	<0.0050	<0.080
Dissolved Strontium (Sr)	ug/L	698	541	459	293	268	339	415	279	268	229
Dissolved Thallium (Tl)	ug/L	<0.50	<0.20	<0.050	<0.050	0.017	<0.050	<0.050	0.03	0.021	<0.20
Dissolved Tin (Sn)	ug/L	<50	<20	<5.0	<5.0	<0.20	<5.0	<5.0	<0.20	0.85	<20
Dissolved Titanium (Ti)	ug/L	<50	<20	<5.0	<5.0	<0.50	<5.0	<5.0	0.85	<0.50	<20
Dissolved Uranium (U)	ug/L	1.2	0.88	0.64	0.48	0.221	0.18	0.17	0.154	0.194	<0.40
Dissolved Vanadium (V)	ug/L	<50	<20	<5.0	<5.0	0.25	<5.0	<5.0	0.41	0.33	<20
Dissolved Zinc (Zn)	ug/L	<50	27	16.5	15.7	11.5	12.0	9.8	38.6	9.66	22
Dissolved Zirconium (Zr)	ug/L	<5.0	<2.0	<0.50	<0.50	<0.10	<0.50	<0.50	<0.10	<0.10	<2.0
Dissolved Calcium (Ca)	ug/L	199000	153000	143000	79500	76400	90300	112000	72800	73700	77200

Forced Leachate sampling - LODE 1000		2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Field Measurement	Units	6/7/2016	6/7/2016	6/12/2016	6/14/2016	6/23/2016	7/3/2016	7/10/2016	7/12/2016	7/17/2016	7/19/2016
Lake use for leaching water	Name	Precipitation	Meliadine Lake	Meliadine lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Dissolved Magnesium (Mg)	ug/L	49500	29900	14700	10100	8210	8580	11100	8600	8100	8710
Dissolved Potassium (K)	ug/L	9600	6400	4620	3270	3320	4140	5190	3780	3390	3640
Dissolved Sodium (Na)	ug/L	22400	15200	8830	6160	5720	6210	7640	6350	5660	6170
Dissolved Sulphur (S)	ug/L	175000	121000	116000	65500	54000	74700	99600	66200	62800	68000
Total Aluminum (Al)	ug/L	99	1660	1190	1680	1590	1290	489	1440	670	325
Total Antimony (Sb)	ug/L	<5.0	3.8	4.31	3	3.68	4.07	5.67	4.11	3.59	4.5
Total Arsenic (As)	ug/L	12800	9100	8330	7450	7840	9300	12500	8640	8400	9110
Total Barium (Ba)	ug/L	17	18.4	17.5	12.2	14.2	14.8	14.8	13.2	9.7	8.7
Total Beryllium (Be)	ug/L	<1.0	<0.40	<0.10	<0.40	0.088	<0.10	<0.10	0.072	<0.050	<0.40
Total Bismuth (Bi)	ug/L	<10	<4.0	<1.0	<4.0	0.988	<1.0	<1.0	0.93	0.53	<4.0
Total Boron (B)	ug/L	<500	<200	<50	<200	<50	<50	<50	<250	<250	<200
Total Cadmium (Cd)	ug/L	0.19	0.248	0.192	0.192	0.252	0.237	0.125	0.19	0.133	0.098
Total Chromium (Cr)	ug/L	<10	<4.0	2.2	<4.0	3.35	2.6	1.0	<2.5	<2.5	<4.0
Total Cobalt (Co)	ug/L	5.1	8.4	7.82	8.8	8.53	7.62	4.34	6.72	4.69	3.1
Total Copper (Cu)	ug/L	<5.0	13.2	12.9	13.4	14.2	13.5	6.62	10.3	7.1	5.7
Total Iron (Fe)	ug/L	999	4510	3150	4610	5100	3870	1490	4070	2110	1010
Total Lead (Pb)	ug/L	10.9	102	99.7	105	115	110	45.4	99.8	57.3	30.2
Total Lithium (Li)	ug/L	<50	<20	16.6	<20	15.5	14.6	16.0	12.3	11.7	<20
Total Manganese (Mn)	ug/L	130	80.9	84	89	93.5	77.4	50.1	69.8	57.6	35.8
Total Molybdenum (Mo)	ug/L	198	114	58.2	39.4	40.8	55.1	82.5	58	57.4	53.1
Total Nickel (Ni)	ug/L	37	32.1	24.9	23.3	23.6	23.3	16.8	18.2	14.6	13.4
Total Selenium (Se)	ug/L	3.12	2.29	2.21	1.31	1.31	1.91	2.49	1.79	1.47	1.63
Total Silicon (Si)	ug/L	2380	3360	2490	3120	3110	2800	2260	3400	2230	2010
Total Silver (Ag)	ug/L	0.2	0.129	0.062	0.107	0.123	0.146	0.024	0.064	<0.050	<0.080
Total Strontium (Sr)	ug/L	678	539	451	288	283	346	414	287	292	239
Total Thallium (Tl)	ug/L	<0.50	<0.20	<0.050	<0.20	0.028	<0.050	0.090	0.128	0.083	<0.20
Total Tin (Sn)	ug/L	<50	<20	<5.0	<20	<0.20	<5.0	<5.0	<1.0	<1.0	<20
Total Titanium (Ti)	ug/L	<50	<20	<5.0	<20	7.7	5.4	<5.0	<25	<25	<20
Total Uranium (U)	ug/L	1	0.99	0.63	0.68	0.342	0.30	0.19	0.241	0.227	<0.40
Total Vanadium (V)	ug/L	<50	<20	<5.0	<20	3.73	<5.0	<5.0	3	<2.5	<20
Total Zinc (Zn)	ug/L	479	88	78.6	101	89.3	92.8	39.1	70.8	51	51
Total Zirconium (Zr)	ug/L	<5.0	<2.0	1.22	<2.0	1.75	1.21	0.58	1.02	0.76	<2.0
Total Calcium (Ca)	ug/L	196000	163000	124000	84500	80600	91900	110000	76700	78.2	77300
Total Magnesium (Mg)	ug/L	48200	27400	14200	11300	9230	9070	11400	8400	8.5	8910
Total Potassium (K)	ug/L	9460	6700	4920	3630	3520	4240	5130	4200	3.7	3500
Total Sodium (Na)	ug/L	21700	13400	8570	6500	5730	6140	7140	6400	6.4	6280
Total Sulphur (S)	ug/L	150000	124000	107000	62000	57500	74100	103000	<75000	<75000	66000

Forced Leachate sampling - LODE 1000		2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Field Measurement	Units	7/24/2016	8/7/2016	8/16/2016	8/21/2016	8/23/2016	9/4/2016	9/6/2016	9/11/2016	9/13/2016	9/18/2016
Lake use for leaching water	Name	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Water temperature	°C	14.8	13.7	13	10.4	10.7	2.7	10.2	8.8	6.7	6.6
Conductivity	µS/cm	454	514	530	524	438	560	445	399	378	421
Field pH	pH unit	8.14	8.35	8.16	8.4	8.32	8.4	8.3	8.24	8.36	8.2
Initial volum in the bucket	L										
Volume left after sampling in the bucket	L										
Laboratory-Measured	Units	7/24/2016	8/7/2016	8/16/2016	8/21/2016	8/23/2016	9/4/2016	9/6/2016	9/11/2016	9/13/2016	9/18/2016
Dissolved Hardness (CaCO3)	mg/L	208	262	289	261	205	281	230	196	173	204
Total Hardness (CaCO3)	mg/L	222	296	258	250	224	280	265	209	207	204
Total Ammonia-N	mg/L	0.01	0.11	<0.01	0.01	0.01	0.01	0.03	0.03	0.01	<0.01
Colour	TCU	ND	3	3	<2	3	<2	<2	<2	<2	-
Conductivity	umho/cm	470	550	600	540	470	600	510	450	430	460
Total Dissolved Solids	mg/L	372	470	470	452	376	118	376	308	310	330
Fluoride (F-)	mg/L	ND	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
pH	pH	7.63	7.52	7.39	7.2	7.42	7.55	7.59	7.55	7.49	7.5
Total Phosphorus	mg/L	0.14	0.45	0.094	0.1	0.12	0.078	0.078	0.099	0.081	0.13
Total Suspended Solids	mg/L	36	480	27	28	45	29	24	18	12	40
Dissolved Sulphate (SO4)	mg/L	170	210	240	220	170	240	180	130	140	160
Alkalinity (Total as CaCO3)	mg/L	32	32	31	29	29	34	34	31	32	33
Dissolved Chloride (Cl)	mg/L	13	14	13	13	13	15	15	22	17	17
Nitrite (N)	mg/L	0.017	ND	<0.010	0.012	0.01	0.020	<0.010	0.012	0.02	<0.010
Nitrate (N)	mg/L	0.15	0.20	<0.10	<0.10	<0.10	<0.10	0.11	0.1	<0.10	<0.10
Nitrate + Nitrite	mg/L	0.17	0.20	<0.10	<0.10	<0.10	0.12	0.11	0.12	<0.10	<0.10
Mercury (Hg)	ug/L	ND	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dissolved Aluminum (Al)	ug/L	15	358	16.8	7.8	6.57	10.6	8.5	17.9	16.4	26
Dissolved Antimony (Sb)	ug/L	3.1	2.8	3.55	3.06	2.78	2.88	2.63	2.52	2.61	2.2
Dissolved Arsenic (As)	ug/L	7600	8000	9670	8160	6730	9730	8190	7640	8130	7910
Dissolved Barium (Ba)	ug/L	9.7	10.2	11.4	7.2	6.08	7.5	6.3	6.1	5.1	5.5
Dissolved Beryllium (Be)	ug/L	<0.40	<0.40	<0.10	<0.10	<0.010	<0.10	<0.10	<0.10	<0.10	<0.40
Dissolved Bismuth (Bi)	ug/L	<4.0	<4.0	<1.0	<1.0	<0.0050	<1.0	<1.0	<1.0	<1.0	<4.0
Dissolved Boron (B)	ug/L	<200	<200	<50	<50	16	<50	<50	<50	<50	<200
Dissolved Cadmium (Cd)	ug/L	0.051	0.132	0.04	0.029	0.0380	0.038	0.050	0.042	0.036	<0.040
Dissolved Chromium (Cr)	ug/L	<4.0	<4.0	<1.0	<1.0	<0.10	<1.0	<1.0	<1.0	<1.0	<4.0
Dissolved Cobalt (Co)	ug/L	<2.0	3.0	1.95	1.93	1.61	2.31	2.04	1.82	1.64	2
Dissolved Copper (Cu)	ug/L	3.74	8.27	2.99	2.01	2.18	2.90	2.08	2.3	2.32	2.54
Dissolved Iron (Fe)	ug/L	<20	629	11.8	<5.0	5.4	9.4	5.2	8	5.8	<20
Dissolved Lead (Pb)	ug/L	0.96	20.9	1.89	1.4	1.34	1.82	1.56	1.77	1.65	1.6
Dissolved Lithium (Li)	ug/L	<20	<20	8.7	9	7.48	9.2	7.8	9.7	7.3	<20
Dissolved Manganese (Mn)	ug/L	22.6	34.2	23.9	25.7	20.0	26.1	22.6	21.2	20.2	24.6
Dissolved Molybdenum (Mo)	ug/L	49.5	56.2	68.5	71.4	51.8	74.0	55.9	43.1	38.4	34.9
Dissolved Nickel (Ni)	ug/L	12.5	13.9	12.7	11.4	9.09	13.3	11.3	10.4	10	12.1
Dissolved Selenium (Se)	ug/L	1.69	1.51	1.43	1.33	1.07	1.34	1.14	1.01	1.03	0.95
Dissolved Silicon (Si)	ug/L	1190	1820	1470	1370	1040	1320	1210	1070	1060	1100
Dissolved Silver (Ag)	ug/L	<0.080	<0.080	<0.020	<0.020	<0.0050	<0.020	<0.020	<0.020	<0.020	<0.080
Dissolved Strontium (Sr)	ug/L	211	247	316	261	186	277	228	213	166	181
Dissolved Thallium (Tl)	ug/L	<0.20	<0.20	<0.050	<0.050	0.0150	<0.050	<0.050	<0.050	<0.050	<0.20
Dissolved Tin (Sn)	ug/L	<20	<20	<5.0	<5.0	<0.20	<5.0	<5.0	<5.0	<5.0	<20
Dissolved Titanium (Ti)	ug/L	<20	<20	<5.0	<5.0	<0.50	<5.0	<5.0	<5.0	<5.0	<20
Dissolved Uranium (U)	ug/L	<0.40	<0.40	0.12	0.17	0.159	0.30	0.27	0.17	0.22	<0.40
Dissolved Vanadium (V)	ug/L	<20	<20	<5.0	<5.0	0.28	<5.0	<5.0	<5.0	<5.0	<20
Dissolved Zinc (Zn)	ug/L	26	43	19.1	15.8	11.5	21.4	15.9	16.8	15.5	21
Dissolved Zirconium (Zr)	ug/L	<2.0	<2.0	<0.50	<0.50	<0.10	<0.50	<0.50	<0.50	<0.50	<2.0
Dissolved Calcium (Ca)	ug/L	70300	88500	97500	86800	69300	94100	77200	66400	57900	68300

Forced Leachate sampling - LODE 1000		2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Field Measurement	Units	7/24/2016	8/7/2016	8/16/2016	8/21/2016	8/23/2016	9/4/2016	9/6/2016	9/11/2016	9/13/2016	9/18/2016
Lake use for leaching water	Name	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Dissolved Magnesium (Mg)	ug/L	7770	10000	11000	10600	7830	11200	9110	7340	6920	8030
Dissolved Potassium (K)	ug/L	2920	3460	3330	2930	2450	2780	2300	2330	1880	2010
Dissolved Sodium (Na)	ug/L	5650	6560	6310	6140	5340	6110	5260	5850	5380	5550
Dissolved Sulphur (S)	ug/L	58000	86400	82600	78800	51100	85300	63900	50000	45700	56100
Total Aluminum (Al)	ug/L	926	7680	523	1010	1150	714	407	496	236	601
Total Antimony (Sb)	ug/L	3.2	<5.0	3.3	3.06	3.00	2.83	2.7	2.75	2.71	2.47
Total Arsenic (As)	ug/L	8050	10700	9070	8240	7930	9520	9320	7810	8650	8490
Total Barium (Ba)	ug/L	10.9	31	9.5	10.5	9.97	9.7	16.1	9.3	6.7	9
Total Beryllium (Be)	ug/L	<0.40	<1.0	<0.40	<0.10	0.076	<0.10	<0.40	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	<4.0	<10	<4.0	<1.0	0.751	<1.0	<4.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	<200	<500	<200	<50	20	<50	1290	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.146	1.02	0.09	0.115	0.141	0.110	0.113	0.1	0.059	0.157
Total Chromium (Cr)	ug/L	<4.0	15	<4.0	1.9	2.31	1.3	<4.0	<1.0	<1.0	1
Total Cobalt (Co)	ug/L	5.7	28.5	4.7	5.19	5.98	4.71	4.7	4.02	3.45	5.95
Total Copper (Cu)	ug/L	9	62.2	7.4	7.65	10.3	6.95	6.9	6.15	5.12	9.38
Total Iron (Fe)	ug/L	2590	24700	1650	2410	3400	1820	1390	1360	830	2080
Total Lead (Pb)	ug/L	66.8	422	48.6	70	79.6	47.7	45.9	38.9	27	65.9
Total Lithium (Li)	ug/L	<20	<50	<20	9.8	9.92	9.2	<20	10	9.3	7.7
Total Manganese (Mn)	ug/L	60.3	365	46.4	53.4	58.4	43.7	46.8	41.2	36	58.7
Total Molybdenum (Mo)	ug/L	50.5	59	64.9	69.5	50.7	71.3	67.6	47.9	43	41.4
Total Nickel (Ni)	ug/L	17.9	69	18	17.9	19.8	18.9	19.4	15.7	14.3	19.4
Total Selenium (Se)	ug/L	1.17	1.5	1.72	1.42	1.22	1.36	1.17	0.85	1.02	1.02
Total Silicon (Si)	ug/L	2550	10100	2020	2850	2290	1900	1900	1600	1330	1580
Total Silver (Ag)	ug/L	<0.080	0.46	<0.080	0.05	0.077	0.028	<0.080	0.028	<0.020	0.04
Total Strontium (Sr)	ug/L	241	283	264	262	227	272	233	225	200	207
Total Thallium (Tl)	ug/L	<0.20	<0.50	<0.20	0.081	0.0260	<0.050	<0.20	<0.050	<0.050	0.056
Total Tin (Sn)	ug/L	<20	<50	<20	<5.0	<0.20	<5.0	<20	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	<20	<50	<20	5.5	4.4	35.6	<20	<5.0	5.7	<5.0
Total Uranium (U)	ug/L	<0.40	<1.0	<0.40	0.22	0.252	0.30	<0.40	0.2	0.25	0.28
Total Vanadium (V)	ug/L	<20	<50	<20	<5.0	2.77	<5.0	<20	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	70	395	60	61.6	72.6	55.2	56	45.8	36.5	76
Total Zirconium (Zr)	ug/L	<2.0	<5.0	<2.0	0.92	1.10	0.58	<2.0	<0.50	0.5	0.86
Total Calcium (Ca)	ug/L	73800	94000	86000	83700	75000	94200	88800	70500	69300	68400
Total Magnesium (Mg)	ug/L	9270	14800	10400	10000	8870	10800	10500	7930	8270	7960
Total Potassium (K)	ug/L	3230	3870	3540	3100	2530	2680	3000	2600	2380	2110
Total Sodium (Na)	ug/L	6530	6240	8090	6120	5690	5450	6770	6230	6310	5680
Total Sulphur (S)	ug/L	65000	78400	77700	75700	56400	77800	77300	54300	49900	52600

Forced Leachate sampling - LODE 1000		2016	2016	2016	2016	2016
Field Measurement	Units	9/20/2016	9/27/2016	9/27/2016	10/2/2016	10/4/2016
Lake use for leaching water	Name	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Water temperature	°C	4.4	4.6	5.8	2.6	1.3
Conductivity	µS/cm	267	406	261	289	275
Field pH	pH unit	8.6	8.19	8.56	8.28	8.72
Initial volum in the bucket	L					
Volume left after sampling in the bucket	L					
			poured on 25th	poured on 27th		
Laboratory-Measured	Units	9/20/2016	9/27/2016	9/27/2016	10/2/2016	10/4/2016
Dissolved Hardness (CaCO3)	mg/L	117	193	114	132	108
Total Hardness (CaCO3)	mg/L	118	194	118	137	132
Total Ammonia-N	mg/L	0.02	0.03	0.03	0.02	0.05
Colour	TCU	<2	<2	2	<2	4
Conductivity	umho/cm	281	437	285	320	300
Total Dissolved Solids	mg/L	212	306	244	222	218
Fluoride (F-)	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
pH	pH	7.65	7.65	7.62	7.58	7.46
Total Phosphorus	mg/L	0.14	0.091	0.11	0.08	0.08
Total Suspended Solids	mg/L	70	5	100	37	47
Dissolved Sulphate (SO4)	mg/L	74	140	69	81	65
Alkalinity (Total as CaCO3)	mg/L	33	40	32	34	33
Dissolved Chloride (Cl)	mg/L	13	15	15	15	20
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	0.01	0.015
Nitrate (N)	mg/L	<0.10	0.1	0.1	<0.10	0.13
Nitrate + Nitrite	mg/L	<0.10	0.1	0.1	<0.10	0.14
Mercury (Hg)	ug/L	0.01	0.02	<0.01	<0.01	0.02
Dissolved Aluminum (Al)	ug/L	7.8	192	9.7	7	14.2
Dissolved Antimony (Sb)	ug/L	1.67	3.16	1.82	1.88	2.16
Dissolved Arsenic (As)	ug/L	5380	10100	5710	6430	5200
Dissolved Barium (Ba)	ug/L	3.2	6.6	3.7	3.7	5.4
Dissolved Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	0.04	0.071	0.04	0.073	0.034
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	1.14	2.97	1.24	1.5	1.27
Dissolved Copper (Cu)	ug/L	1.91	4.14	2.92	2.38	2.74
Dissolved Iron (Fe)	ug/L	5.9	648	8.6	8.8	13
Dissolved Lead (Pb)	ug/L	1.51	22.6	1.52	1.47	2
Dissolved Lithium (Li)	ug/L	5.5	8.3	5.3	5.5	9.5
Dissolved Manganese (Mn)	ug/L	12.7	30.7	16.6	14.9	13.5
Dissolved Molybdenum (Mo)	ug/L	16.1	34.6	16.1	18.7	13.6
Dissolved Nickel (Ni)	ug/L	6.4	13.1	6.4	8.1	6.9
Dissolved Selenium (Se)	ug/L	0.7	1.12	0.62	0.73	0.56
Dissolved Silicon (Si)	ug/L	743	1530	777	865	671
Dissolved Silver (Ag)	ug/L	<0.020	<0.020	<0.020	<0.020	<0.020
Dissolved Strontium (Sr)	ug/L	118	190	126	131	126
Dissolved Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Uranium (U)	ug/L	0.23	0.37	0.2	0.29	0.35
Dissolved Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Zinc (Zn)	ug/L	12	35	13.6	15.6	17
Dissolved Zirconium (Zr)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Calcium (Ca)	ug/L	39400	65600	38900	44800	36100

Forced Leachate sampling - LODE 1000		2016	2016	2016	2016	2016
Field Measurement	Units	9/20/2016	9/27/2016	9/27/2016	10/2/2016	10/4/2016
Lake use for leaching water	Name	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Dissolved Magnesium (Mg)	ug/L	4530	7080	4200	4960	4320
Dissolved Potassium (K)	ug/L	1580	2010	1550	1610	1370
Dissolved Sodium (Na)	ug/L	4490	4880	4840	4940	5870
Dissolved Sulphur (S)	ug/L	26700	47400	28000	29500	22900
Total Aluminum (Al)	ug/L	1230	8.5	1230	528	1660
Total Antimony (Sb)	ug/L	1.91	2.99	1.94	1.97	<2.0
Total Arsenic (As)	ug/L	5950	9870	6460	6740	5600
Total Barium (Ba)	ug/L	8	5.3	10.3	6.8	7.1
Total Beryllium (Be)	ug/L	<0.10	<0.10	0.11	<0.10	<0.40
Total Bismuth (Bi)	ug/L	1.1	<1.0	1.3	<1.0	<4.0
Total Boron (B)	ug/L	<50	<50	<50	<50	<200
Total Cadmium (Cd)	ug/L	0.187	0.035	0.241	0.2	0.16
Total Chromium (Cr)	ug/L	2.4	<1.0	2.1	1.1	<4.0
Total Cobalt (Co)	ug/L	6.78	1.8	8.3	4.39	5.6
Total Copper (Cu)	ug/L	12.2	1.96	18.5	8.34	11.8
Total Iron (Fe)	ug/L	3900	<10	4310	1820	3720
Total Lead (Pb)	ug/L	108	1.98	162	55.9	68
Total Lithium (Li)	ug/L	6.6	7.9	6.9	6.3	<20
Total Manganese (Mn)	ug/L	64	21.6	75.3	43.9	62
Total Molybdenum (Mo)	ug/L	16.6	34.3	16.3	19.2	12.7
Total Nickel (Ni)	ug/L	17.9	10.3	23.2	14.6	16.1
Total Selenium (Se)	ug/L	0.74	1.26	0.83	0.69	0.86
Total Silicon (Si)	ug/L	2190	1220	2040	1510	2390
Total Silver (Ag)	ug/L	0.043	<0.020	0.024	<0.020	<0.080
Total Strontium (Sr)	ug/L	120	186	135	142	121
Total Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	<0.050	<0.20
Total Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0	<20
Total Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	9.9	<20
Total Uranium (U)	ug/L	0.3	0.31	0.34	0.31	<0.40
Total Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0	<20
Total Zinc (Zn)	ug/L	95.9	18.7	132	55.9	82
Total Zirconium (Zr)	ug/L	0.8	<0.50	1.31	0.91	<2.0
Total Calcium (Ca)	ug/L	39700	66100	39200	46500	44000
Total Magnesium (Mg)	ug/L	4660	7110	4770	5090	5370
Total Potassium (K)	ug/L	1620	1970	1670	1640	1730
Total Sodium (Na)	ug/L	4170	4920	4710	4970	6700
Total Sulphur (S)	ug/L	24100	47000	25400	29300	32400

Forced Leachate sampling - LOADE 1100		2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Field Measurement	Units	6/7/2016	6/7/2016	6/12/2016	6/14/2016	6/23/2016	7/3/2016	7/10/2016	7/12/2016	7/17/2016	7/19/2016	7/24/2016	8/7/2016
Lake use for leaching water	Name	Precipitation	Meliadine Lake	Meliadine lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Water temperature	°C	3	4.6	12.9	10.7	19.3	15	27.9	25.4	13.7	18.4	14.3	13.7
Conductivity	µS/cm	950	880	940	750	613	865	866	786	680	614	606	600
Field pH	pH unit	7.4	7.1	8	8	8.27	8.22	8.08	8.27	7.8	8.23	8.24	8.56
Initial volume in the bucket	L												
Volume left after sampling in the bucket	L					6							
Laboratory-Measured	Units	6/7/2016	6/7/2016	6/12/2016	6/14/2016	6/23/2016	7/3/2016	7/10/2016	7/12/2016	7/17/2016	7/19/2016	7/24/2016	8/7/2016
Dissolved Hardness (CaCO3)	mg/L	636	663	481	364	299	465	472	387	343	326	306	292
Total Hardness (CaCO3)	mg/L	553	686	442	369	286	468	457 (1)	402	356	315	310	257
Total Ammonia-N	mg/L	0.03	0.14	0.04	0.03	0.03	0.04	ND	0.02	0.02	ND	0.09	0.08
Colour	TCU	ND	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	ND
Conductivity	umho/cm	770	1300	950	760	650	930	940	870	770	660	630	610
Total Dissolved Solids	mg/L	614	976	708	544	466	880	764	720	644	586	498	546
Fluoride (F-)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
pH	pH	7.42	7.66	7.61	7.77	7.77	7.62	7.07	7.75	7.79	7.83	7.86	7.79
Total Phosphorus	mg/L	0.013	0.036	0.06	0.05	0.091	0.018	0.020	0.017	0.016	0.034	0.03	0.037
Total Suspended Solids	mg/L	2	5	42	25	56	28	16	4	2	2	2	21
Dissolved Sulphate (SO4)	mg/L	260	400	350	300	240	370	370	380	330	260	250	230
Alkalinity (Total as CaCO3)	mg/L	21	45	43	46	44	42	42	43	43	48	51	44
Dissolved Chloride (Cl)	mg/L	69	120	35	29	24	29	24	18	17	15	15	15
Nitrite (N)	mg/L	0.015	0.063	0.039	0.011	0.021	0.027	0.015	ND	0.030	0.017	0.017	0.013
Nitrate (N)	mg/L	0.11	0.53	0.59	0.5	0.45	0.36	0.26	0.13	0.12	0.11	0.22	0.31
Nitrate + Nitrite	mg/L	0.13	0.6	0.63	0.51	0.47	0.39	0.28	0.13	0.15	0.13	0.24	0.32
Mercury (Hg)	ug/L	ND	ND	ND	ND	ND	ND	ND	0.01	ND	ND	ND	0.01
Dissolved Aluminum (Al)	ug/L	8	9.5	16.3	16.3	20	28.9	32.5	25.7	17.4	23	19.3	22.1
Dissolved Antimony (Sb)	ug/L	0.54	0.59	0.51	<0.50	0.641	0.71	0.72	0.685	0.512	0.62	0.54	<0.50
Dissolved Arsenic (As)	ug/L	41.7	48.8	53.9	47.5	63.4	73.6	75.3	73.4	58.8	71.7	68.7	73.4
Dissolved Barium (Ba)	ug/L	15.4	18.3	21.9	15.3	18	22.1	29.1	20.8	19.1	18.9	17.1	18.4
Dissolved Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.010	<0.10	<0.10	<0.010	<0.010	<0.10	<0.10	<0.10
Dissolved Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<1.0	<0.0050	<1.0	<1.0	<0.0050	<0.0050	<1.0	<1.0	<1.0
Dissolved Boron (B)	ug/L	<50	71	<50	<50	21	<50	<50	29	26	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	0.025	0.036	0.011	<0.010	0.009	0.027	0.185 (1)	0.013	0.015	0.012	0.011	0.023
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<0.10	<1.0	<1.0	<0.10	<0.10	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	1.78	1.92	1.03	0.92	0.735	0.91	0.84	0.747	0.634	0.64	0.68	0.68
Dissolved Copper (Cu)	ug/L	1.49	2	1.85	1.7	1.8	1.93	2.73	1.16	1.95	2.62	2.01	3.65
Dissolved Iron (Fe)	ug/L	<5.0	22.5	<5.0	<5.0	4.8	7.2	7.8	7.9	6.8	9.6	16.6	9.1
Dissolved Lead (Pb)	ug/L	<0.20	<0.20	<0.20	<0.20	0.109	<0.20	<0.20	0.097	0.114	<0.20	0.26	0.35
Dissolved Lithium (Li)	ug/L	17.9	23.6	17.9	11.5	17.8	20.4	18.5	22.1	13.6	15.1	13.4	12.4
Dissolved Manganese (Mn)	ug/L	49.7	54.1	29.5	28.7	22	23.2	21.9	22.9	18.5	19.7	22.1	18.5
Dissolved Molybdenum (Mo)	ug/L	13.6	14.9	8.2	6.5	8.05	10.6	12.5	11.9	11	11.1	11.1	7.7
Dissolved Nickel (Ni)	ug/L	3.9	4.2	2.3	2	1.72	2.1	2.5	1.61	2.12	2.2	1.9	2.3
Dissolved Selenium (Se)	ug/L	0.71	0.72	0.35	0.28	0.297	0.49	0.55	0.52	0.424	0.44	0.36	0.33
Dissolved Silicon (Si)	ug/L	748	833	774	667	740	881	930	969	791	959	830	754
Dissolved Silver (Ag)	ug/L	<0.020	0.02	<0.020	<0.020	<0.0050	<0.020	<0.020	<0.0050	<0.0050	<0.020	<0.020	<0.020
Dissolved Strontium (Sr)	ug/L	1260	1360	1210	899	946	1280	1280	1180	969	773	706	655
Dissolved Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	<0.050	0.012	<0.050	<0.050	0.02	0.013	<0.050	<0.050	<0.050
Dissolved Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0	<0.20	<5.0	<5.0	<0.20	<0.20	<5.0	<5.0	<5.0
Dissolved Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	<5.0	<0.50	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0	<5.0
Dissolved Uranium (U)	ug/L	1.37	1.45	0.62	0.49	0.483	0.67	0.57	0.51	0.456	0.42	0.35	0.33
Dissolved Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0	<0.20	<5.0	<5.0	<0.20	<0.20	<5.0	<5.0	<5.0
Dissolved Zinc (Zn)	ug/L	6.3	6.7	<5.0	<5.0	1.97	<5.0	11.3	1.06	6.88 (1)	9.5	6.9	12.7
Dissolved Zirconium (Zr)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.10	<0.50	<0.50	<0.10	<0.10	<0.50	<0.50	<0.50
Dissolved Calcium (Ca)	ug/L	147000	154000	155000	109000	93200	143000	140000	114000	99600	95600	89300	84900
Dissolved Magnesium (Mg)	ug/L	65400	68000	22600	22100	16000	22600	29700	24700	22800	21200	20200	19400
Dissolved Potassium (K)	ug/L	15200	15400	9120	7260	8230	11600	12200	11400	9300	8330	7830	7540
Dissolved Sodium (Na)	ug/L	19600	20300	8560	7680	6970	8800	8680	7530	7000	6580	6410	6410
Dissolved Sulphur (S)	ug/L	153000	162000	142000	97900	77400	140000	150000	137000	17000	90700	88300	90300
Total Aluminum (Al)	ug/L	17.2	919	1220	1380	1590	595	704	463	359	239	171	824
Total Antimony (Sb)	ug/L	<0.50	0.69	0.68	0.55	0.727	0.73	0.79	0.754	0.553	0.61	0.59	0.53

Forced Leachate sampling - LOADE 1100		2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Field Measurement	Units	6/7/2016	6/7/2016	6/12/2016	6/14/2016	6/23/2016	7/3/2016	7/10/2016	7/12/2016	7/17/2016	7/19/2016	7/24/2016	8/7/2016
Lake use for leaching water	Name	Precipitation	Meliadine Lake	Meliadine lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Total Arsenic (As)	ug/L	31.6	128	199	214	161	125	128	107	90.6	84.1	82.8	147
Total Barium (Ba)	ug/L	13.6	25	30.7	26.9	29.4	28.1	30.5	24.2	19.1	17	17	22.5
Total Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.10	0.047	<0.10	<0.10	<0.010	<0.010	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<1.0	0.193	<1.0	<1.0	0.073	0.074	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	27	22	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.024	0.052	0.021	0.028	0.052	0.049	0.019	0.02	0.016	0.012	0.018	0.037
Total Chromium (Cr)	ug/L	<1.0	1.2	1.3	2	2.04	<1.0	<1.0	0.44	0.56	<1.0	<1.0	1.2
Total Cobalt (Co)	ug/L	1.54	3.65	4.8	5.03	3.97	2.47	2.66	1.9	1.67	1.36	1.11	3.13
Total Copper (Cu)	ug/L	0.84	3.82	5.67	5.16	5.49	4.37	3.03	2	1.95	2.18	1.67	5.82
Total Iron (Fe)	ug/L	61	2880	3510	4520	5340	1860	2100	1370	1130	755	485	2750
Total Lead (Pb)	ug/L	0.48	30.7	60.4	54.9	49.4	27.4	27.4	17.3	16	10.5	8.13	34.9
Total Lithium (Li)	ug/L	14.8	20.4	16.9	13.3	19.5	20.4	19.6	22.5	13.7	15.8	14.2	13.2
Total Manganese (Mn)	ug/L	43.3	73.6	67.8	70.9	62.8	42.7	42.1	35.6	31	29.2	28.4	48.7
Total Molybdenum (Mo)	ug/L	11.4	15.4	7.3	6.5	7.8	10.9	12.2	12	10.9	10.6	11.3	7.3
Total Nickel (Ni)	ug/L	3.2	6.8	7.4	7.4	6.51	4.7	4.4	3.12	2.9	2.6	2.3	4.8
Total Selenium (Se)	ug/L	0.51	0.7	0.34	0.36	0.282	0.47	0.54	0.551	0.444	0.36	0.47	0.36
Total Silicon (Si)	ug/L	586	1830	1920	2220	2570	1530	1600	1640	1240	1210	1010	1620
Total Silver (Ag)	ug/L	<0.020	0.036	<0.020	0.02	0.029	0.024	<0.020	0.007	0.009	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	1210	1380	1200	897	809	1390	1230	1280	973	755	737	657
Total Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	0.071	0.025	<0.050	0.052	0.039	0.029	<0.050	<0.050	<0.050
Total Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0	<0.20	<5.0	<5.0	<0.20	<0.20	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	<5.0	14.6	18.9	23.8	32.2	11.7	12.2	7.79	6.95	<5.0	<5.0	17.4
Total Uranium (U)	ug/L	1.16	1.44	0.71	0.63	0.562	0.75	0.62	0.538	0.473	0.4	0.36	0.39
Total Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0	1.55	<5.0	<5.0	0.42	0.38	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	<5.0	14.2	12.6	13.4	13.1	14.0	8.2	3.71	3.21	<5.0	<5.0	9.2
Total Zirconium (Zr)	ug/L	<0.50	0.87	1.06	0.87	1.07	0.57	1.14	0.39	0.32	<0.50	<0.50	0.59
Total Calcium (Ca)	ug/L	56500	164000	138000	113000	88600	143000	134000	121000	103000	92100	90800	73200
Total Magnesium (Mg)	ug/L	56500	66900	23400	21200	15800	26800	29600	24400	23700	20600	20300	18000
Total Potassium (K)	ug/L	13900	16000	9460	8040	7450	12100	12400	12100	9590	8390	8070	6730
Total Sodium (Na)	ug/L	16600	19500	8800	7540	6520	9050	8920	7810	7000	6460	6180	5660
Total Sulphur (S)	ug/L	140000	179000	130000	99500	72700	141000	156000	138000	122000	89500	86700	74600

Forced Leachate sampling - LOADE 1100		2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Field Measurement	Units	8/16/2016	8/21/2016	8/23/2016	9/4/2016	9/6/2016	9/11/2016	9/13/2016	9/18/2016	9/20/2016	9/27/2016	9/27/2016
Lake use for leaching water	Name	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Water temperature	°c	12.5	10.3	10.7	2.9	10.1	8.5	6.8	6.6	4.2	4.4	5.6
Conductivity	µS/cm	646	664	547	582	433	447	357	320	252	348	243
Field pH	pH unit	8.26	8.49	8.36	8.58	8.49	8.27	8.58	8.43	8.68	8.12	8.52
Initial volume in the bucket	L											
Volume left after sampling in the bucket	L											
											poured on 25th	poured on 27th
Laboratory-Measured	Units	8/16/2016	8/21/2016	8/23/2016	9/4/2016	9/6/2016	9/11/2016	9/13/2016	9/18/2016	9/20/2016	9/27/2016	9/27/2016
Dissolved Hardness (CaCO3)	mg/L	343	338	257	297	224	222	164	159	110	162	108
Total Hardness (CaCO3)	mg/L	344	331	270	289	226	235	188	148	105	163	108
Total Ammonia-N	mg/L	<0.01	<0.01	<0.01	0.01	0.01	0.02	0.04	<0.01	0.02	0.03	0.03
Colour	TCU	<2	<2	<2	<2	3	<2	<2	-	<2	2	7
Conductivity	umho/cm	730	710	590	630	500	510	400	350	271	375	263
Total Dissolved Solids	mg/L	572	596	470	490	360	386	292	252	186	192	142
Fluoride (F-)	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
pH	pH	7.51	7.64	7.71	7.77	7.86	7.77	7.81	7.72	7.89	7.92	7.87
Total Phosphorus	mg/L	0.024	0.007	0.019	0.022	0.017	0.008	0.026	0.045	0.036	0.012	0.031
Total Suspended Solids	mg/L	12	8	7	12	7	1	14	36	38	3	38
Dissolved Sulphate (SO4)	mg/L	300	300	220	230	170	150	110	92	56	94	48
Alkalinity (Total as CaCO3)	mg/L	46	49	51	49	49	53	51	48	50	61	49
Dissolved Chloride (Cl)	mg/L	15	14	13	16	14	20	16	17	13	16	13
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	0.026	<0.010	<0.010	0.014	<0.010	<0.010	0.01	0.011
Nitrate (N)	mg/L	0.2	<0.10	<0.10	0.25	0.16	0.17	<0.10	0.14	0.11	0.14	0.12
Nitrate + Nitrite	mg/L	0.2	<0.10	<0.10	0.28	0.16	0.17	0.11	0.14	0.11	0.15	0.13
Mercury (Hg)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	<0.01
Dissolved Aluminum (Al)	ug/L	24.2	14.3	15.1	15.2	9.9	23.2	16.7	9.9	13	233	11.6
Dissolved Antimony (Sb)	ug/L	0.51	<0.50	0.494	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Arsenic (As)	ug/L	75.5	73.4	66.7	69.2	59.1	72	57.4	50	59.5	84.2	59.7
Dissolved Barium (Ba)	ug/L	18.4	16.2	15.0	14.8	11.1	12.2	9.5	9.5	7.1	14.7	8.2
Dissolved Beryllium (Be)	ug/L	<0.10	<0.10	<0.010	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Bismuth (Bi)	ug/L	<1.0	<1.0	<0.0050	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Boron (B)	ug/L	<50	<50	16	<50	<50	<50	<50	<50	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	<0.010	<0.010	<0.0050	<0.010	0.013	<0.010	<0.010	<0.010	0.017	0.011	0.011
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<0.10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	0.57	0.63	0.525	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.17	<0.50
Dissolved Copper (Cu)	ug/L	1.03	0.76	1.06	1.69	1.06	0.75	1.14	1.21	0.96	1.88	1.84
Dissolved Iron (Fe)	ug/L	<5.0	<5.0	4.5	5.3	<5.0	<5.0	<5.0	17.8	<5.0	715	6.3
Dissolved Lead (Pb)	ug/L	<0.20	<0.20	0.100	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	11.1	<0.20
Dissolved Lithium (Li)	ug/L	13.2	11.6	10.6	9.9	8.0	11.1	8.1	7.1	6.2	8.5	6
Dissolved Manganese (Mn)	ug/L	18.4	22.7	18.9	13.3	14.5	18.9	16.4	13.7	8.1	28.8	10.8
Dissolved Molybdenum (Mo)	ug/L	10.3	9.8	8.80	8.6	7.0	7.8	5.9	4.8	3.9	6.7	3.9
Dissolved Nickel (Ni)	ug/L	1.5	1.5	1.23	1.6	1.1	1.2	1	1	<1.0	2.1	<1.0
Dissolved Selenium (Se)	ug/L	0.34	0.45	0.284	0.51	0.23	0.22	0.18	0.15	0.14	0.16	0.1
Dissolved Silicon (Si)	ug/L	847	824	692	736	650	707	589	553	536	1020	517
Dissolved Silver (Ag)	ug/L	<0.020	<0.020	<0.0050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Dissolved Strontium (Sr)	ug/L	920	816	659	719	595	586	396	354	259	448	276
Dissolved Thallium (Tl)	ug/L	<0.050	<0.050	0.0140	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Tin (Sn)	ug/L	<5.0	<5.0	<0.20	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Uranium (U)	ug/L	0.4	0.42	0.365	0.41	0.27	0.26	0.2	0.16	0.11	0.18	0.11
Dissolved Vanadium (V)	ug/L	<5.0	<5.0	<0.20	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	4.48	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.6	<5.0
Dissolved Zirconium (Zr)	ug/L	<0.50	<0.50	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Calcium (Ca)	ug/L	98400	97700	72900	85200	65000	64500	45900	46100	33100	48200	33300
Dissolved Magnesium (Mg)	ug/L	23700	22700	18100	20600	15000	14700	12000	10600	6610	10200	6080
Dissolved Potassium (K)	ug/L	8430	7770	7400	6730	5110	5990	4290	4280	3220	4420	3190
Dissolved Sodium (Na)	ug/L	6480	6290	5770	6100	5250	5780	5690	6070	4420	5310	4800
Dissolved Sulphur (S)	ug/L	103000	105000	66000	84700	58300	53900	38100	37400	20900	34000	18500
Total Aluminum (Al)	ug/L	417	165	239	372	436	157	487	876	880	14.9	744
Total Antimony (Sb)	ug/L	0.52	0.52	0.545	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

Forced Leachate sampling - LOADE 1100		2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Field Measurement	Units	8/16/2016	8/21/2016	8/23/2016	9/4/2016	9/6/2016	9/11/2016	9/13/2016	9/18/2016	9/20/2016	9/27/2016	9/27/2016
Lake use for leaching water	Name	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Total Arsenic (As)	ug/L	104	88.6	95.7	103	95.4	88.4	108	151	129	63.6	193
Total Barium (Ba)	ug/L	23.3	17.5	15.8	18.3	16.0	13.5	15.2	20.3	16.1	12.4	16.4
Total Beryllium (Be)	ug/L	<0.10	<0.10	0.016	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	<1.0	<1.0	0.038	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	<50	<50	18	<50	88	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.014	<0.010	0.0070	0.015	0.015	<0.010	<0.010	0.025	0.016	<0.010	0.026
Total Chromium (Cr)	ug/L	<1.0	<1.0	0.29	<1.0	<1.0	<1.0	<1.0	<1.0	1	<1.0	<1.0
Total Cobalt (Co)	ug/L	2.04	1.1	1.23	1.84	1.93	1.02	2.26	4.13	3.13	<0.50	3.14
Total Copper (Cu)	ug/L	2.61	1.23	1.93	2.72	2.94	2.24	3.12	5.17	4.06	1.23	5.21
Total Iron (Fe)	ug/L	1360	504	723	1240	1370	410	1570	3170	2930	<10	2720
Total Lead (Pb)	ug/L	19.1	7.68	9.15	19.7	20.2	7.11	22.1	48.4	38	<0.20	38.9
Total Lithium (Li)	ug/L	14.1	12.7	11.9	9.6	8.4	10.3	9.5	7.8	6.8	8.1	6.8
Total Manganese (Mn)	ug/L	37.4	27.9	29.5	27.3	29.9	24.8	38.2	51.8	40.5	19.4	43.1
Total Molybdenum (Mo)	ug/L	10.2	9.5	9.27	8.3	7.0	7.8	6.3	5.1	4	6.4	3.5
Total Nickel (Ni)	ug/L	3.3	2.1	2.24	3.3	3.0	2	3.5	5.8	4.8	1.1	4.5
Total Selenium (Se)	ug/L	0.39	0.42	0.319	0.42	0.51	0.28	0.18	0.18	0.13	0.27	0.13
Total Silicon (Si)	ug/L	1240	1120	960	1200	1030	861	1110	1430	1360	691	1230
Total Silver (Ag)	ug/L	<0.020	<0.020	<0.010	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	837	806	760	690	512	553	445	363	237	401	280
Total Thallium (Tl)	ug/L	<0.050	<0.050	0.0130	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Tin (Sn)	ug/L	<5.0	<5.0	<0.20	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	6.2	<5.0	5.3	10.2	5.7	<5.0	9.2	16.8	17.3	<5.0	9.2
Total Uranium (U)	ug/L	0.46	0.4	0.386	0.42	0.30	0.26	0.24	0.25	0.18	0.17	0.17
Total Vanadium (V)	ug/L	<5.0	<5.0	0.30	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	6.1	<5.0	3.9	8.3	5.5	<5.0	5.4	18.8	11.2	<5.0	11.1
Total Zirconium (Zr)	ug/L	<0.50	<0.50	0.23	<0.50	<0.50	<0.50	0.58	0.67	0.57	<0.50	0.62
Total Calcium (Ca)	ug/L	99100	96500	78400	82700	63700	69300	53700	43300	30000	48400	32900
Total Magnesium (Mg)	ug/L	23400	21800	18000	20100	16200	15100	13200	9800	7210	10200	6200
Total Potassium (K)	ug/L	8950	7900	6960	6640	5810	6540	5220	4140	3100	4360	3340
Total Sodium (Na)	ug/L	7000	6270	5740	5850	6070	6030	6400	5760	4710	5160	4650
Total Sulphur (S)	ug/L	101000	104000	69500	81800	56000	57700	39900	29700	18400	33700	18500

Forced Leachate sampling - LOADE 1100		2016	2016
Field Measurement	Units	10/2/2016	10/4/2016
Lake use for leaching water	Name	Meliadine Lake	Meliadine Lake
Water temperature	°C	2.6	1.3
Conductivity	µS/cm	293	245
Field pH	pH unit	8.3	8.78
Initial volume in the bucket	L		
Volume left after sampling in the bucket	L		
Laboratory-Measured	Units	10/2/2016	10/4/2016
Dissolved Hardness (CaCO3)	mg/L	134	91.7
Total Hardness (CaCO3)	mg/L	150	116
Total Ammonia-N	mg/L	0.02	0.05
Colour	TCU	<2	4
Conductivity	umho/cm	320	260
Total Dissolved Solids	mg/L	226	164
Fluoride (F-)	mg/L	<0.10	<0.10
pH	pH	7.85	7.61
Total Phosphorus	mg/L	0.024	0.031
Total Suspended Solids	mg/L	22	32
Dissolved Sulphate (SO4)	mg/L	67	40
Alkalinity (Total as CaCO3)	mg/L	59	49
Dissolved Chloride (Cl)	mg/L	15	20
Nitrite (N)	mg/L	<0.010	0.015
Nitrate (N)	mg/L	0.1	0.15
Nitrate + Nitrite	mg/L	0.1	0.16
Mercury (Hg)	ug/L	<0.01	<0.01
Dissolved Aluminum (Al)	ug/L	8.3	11.2
Dissolved Antimony (Sb)	ug/L	<0.50	<0.50
Dissolved Arsenic (As)	ug/L	54.8	51.4
Dissolved Barium (Ba)	ug/L	10.3	8
Dissolved Beryllium (Be)	ug/L	<0.10	<0.10
Dissolved Bismuth (Bi)	ug/L	<1.0	<1.0
Dissolved Boron (B)	ug/L	<50	<50
Dissolved Cadmium (Cd)	ug/L	<0.010	<0.010
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	<0.50	<0.50
Dissolved Copper (Cu)	ug/L	1.2	1.6
Dissolved Iron (Fe)	ug/L	<5.0	9.6
Dissolved Lead (Pb)	ug/L	<0.20	<0.20
Dissolved Lithium (Li)	ug/L	6.7	6.6
Dissolved Manganese (Mn)	ug/L	15.4	9.9
Dissolved Molybdenum (Mo)	ug/L	5.4	2.9
Dissolved Nickel (Ni)	ug/L	<1.0	<1.0
Dissolved Selenium (Se)	ug/L	0.12	<0.10
Dissolved Silicon (Si)	ug/L	631	455
Dissolved Silver (Ag)	ug/L	<0.020	<0.020
Dissolved Strontium (Sr)	ug/L	340	249
Dissolved Thallium (Tl)	ug/L	<0.050	<0.050
Dissolved Tin (Sn)	ug/L	<5.0	<5.0
Dissolved Titanium (Ti)	ug/L	<5.0	<5.0
Dissolved Uranium (U)	ug/L	0.13	<0.10
Dissolved Vanadium (V)	ug/L	<5.0	<5.0
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0
Dissolved Zirconium (Zr)	ug/L	<0.50	<0.50
Dissolved Calcium (Ca)	ug/L	39000	27200
Dissolved Magnesium (Mg)	ug/L	8780	5770
Dissolved Potassium (K)	ug/L	3840	2720
Dissolved Sodium (Na)	ug/L	5040	5850
Dissolved Sulphur (S)	ug/L	24700	14800
Total Aluminum (Al)	ug/L	322	1230
Total Antimony (Sb)	ug/L	<0.50	<0.50

Forced Leachate sampling - LOADE 1100		2016	2016
Field Measurement	Units	10/2/2016	10/4/2016
Lake use for leaching water	Name	Meliadine Lake	Meliadine Lake
Total Arsenic (As)	ug/L	103	134
Total Barium (Ba)	ug/L	16.7	18.8
Total Beryllium (Be)	ug/L	<0.10	<0.10
Total Bismuth (Bi)	ug/L	<1.0	<1.0
Total Boron (B)	ug/L	<50	<50
Total Cadmium (Cd)	ug/L	0.017	0.02
Total Chromium (Cr)	ug/L	<1.0	1.3
Total Cobalt (Co)	ug/L	2.24	2.79
Total Copper (Cu)	ug/L	3.4	4.89
Total Iron (Fe)	ug/L	1350	4270
Total Lead (Pb)	ug/L	23.5	37.7
Total Lithium (Li)	ug/L	8.1	7.9
Total Manganese (Mn)	ug/L	38.2	44.3
Total Molybdenum (Mo)	ug/L	5.1	3.2
Total Nickel (Ni)	ug/L	3.4	4.4
Total Selenium (Se)	ug/L	0.11	0.13
Total Silicon (Si)	ug/L	992	1990
Total Silver (Ag)	ug/L	<0.020	0.026
Total Strontium (Sr)	ug/L	365	275
Total Thallium (Tl)	ug/L	<0.050	<0.050
Total Tin (Sn)	ug/L	<5.0	<5.0
Total Titanium (Ti)	ug/L	6.6	22.9
Total Uranium (U)	ug/L	0.16	0.17
Total Vanadium (V)	ug/L	<5.0	<5.0
Total Zinc (Zn)	ug/L	6.6	11
Total Zirconium (Zr)	ug/L	0.76	0.72
Total Calcium (Ca)	ug/L	45000	35300
Total Magnesium (Mg)	ug/L	9140	6730
Total Potassium (K)	ug/L	4350	3280
Total Sodium (Na)	ug/L	5580	6190
Total Sulphur (S)	ug/L	27000	14600

	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Field Measurement	7/3/2016	7/10/2016	7/12/2016	7/17/2016	7/19/2016	7/24/2016	8/7/2016	8/16/2016	8/21/2016	8/23/2016	9/4/2016	9/6/2016	9/11/2016
Lake use for leaching water	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Water temperature	13.9	24.5	25	14	17.2	17.6	13	16.7	11.2	10.2	3.4	7.7	7.1
Conductivity	or	17230	12650	7320	11700	6340	10080	7600	8380	5620	14180	8230	4910
Field pH	7.9	7.78	7.83	7.6	7.83	7.93	7.8	7.99	8.04	8.26	8.21	8.07	8.15
Initial volume in the bucket													
Volume left after sampling in the bucket													
Laboratory-Measured	7/3/2016	7/10/2016	7/12/2016	7/17/2016	7/19/2016	7/24/2016	8/7/2016	8/16/2016	8/21/2016	8/23/2016	9/4/2016	9/6/2016	9/11/2016
Dissolved Hardness (CaCO3)	5780	2770	2300	1770	2330	1140	2270	1670	1770	1270	3710	1990	1130
Total Hardness (CaCO3)	5750 (1)	2860	2330	1770	2250	1260	2260	1760	1660	1340	3660	2190	1210
Total Ammonia-N	1100	360	250	140	120	85	64	41	31	21	42	31	20
Colour	11	7	6	3	6	5	3	4	<2	<2	7	4	<2
Conductivity	38000	19000	14000	9400	13000	6900	11000	9100	9200	6200	16000	9800	5800
Total Dissolved Solids	30700	12900	9240	6700	9960	4920	9080	6540	7560	4340	12400	6940	4000
Fluoride (F-)	ND	ND	ND	ND	ND	ND	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
pH	7.37	7.52	7.48	7.42	7.41	7.59	7.37	7.33	7.39	7.41	7.36	7.43	7.54
Total Phosphorus	0.19	0.12	0.093	0.069	0.1	0.047	0.29	0.072	0.036	0.065	0.14	0.076	0.028
Total Suspended Solids	94	42	41	26	23	27	850	140	33	51	120	55	26
Dissolved Sulphate (SO4)	660	350	270	180	230	140	130	120	120	89	250	150	88
Alkalinity (Total as CaCO3)	100	59	53	39	42	42	36	37	37	40	43	44	44
Dissolved Chloride (Cl)	10000	4900	3700	2400	3500	1700	3100	2300	2400	1500	4300	2500	1400
Nitrite (N)	26.1	11.5	8.5	5.64	4.99	2.93	2.05	2.19	1.21	0.681	0.98	0.822	0.553
Nitrate (N)	1110	507	336	216	301	131	227	230	220	142	327	222	109
Nitrate + Nitrite	1140	518	344	221	306	134	229	232	221	143	328	223	109
Mercury (Hg)	ND	ND	ND	0.01	ND	ND	ND	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dissolved Aluminum (Al)	42	47.4	55	46.2	43	52.6	44.9	104	45.7	50.7	31.0	27.5	53.7
Dissolved Antimony (Sb)	2.8	2.14	1.49	1.11	1.3	1.09	0.98	1.04	1.12	1.01	1.32	0.92	0.93
Dissolved Arsenic (As)	11.4	8.03	3.67	3.37	3.76	4.68	4.48	4.12	5.14	4.11	6.21	3.97	4.04
Dissolved Barium (Ba)	241	197	124	86.8	112	66.7	81.0	82.5	89.6	60.0	156	101	60.7
Dissolved Beryllium (Be)	<0.40	<0.10	<0.010	<0.010	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Bismuth (Bi)	<4.0	<1.0	0.006	<0.0050	<2.0	<1.0	<1.0	<1.0	<1.0	<0.050	<1.0	<1.0	<1.0
Dissolved Boron (B)	3040	2000	1230	1070	1600	858	869	874	900	738	1380	902	653
Dissolved Cadmium (Cd)	0.255	0.359	0.22	0.164	0.619	0.084	0.425	0.252	0.314	0.178	0.901	0.301	0.065
Dissolved Chromium (Cr)	<4.0	<1.0	0.52	0.3	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	5.5	3.00	2.2	1.84	2.5	1.47	2.01	1.67	1.73	1.24	2.73	1.66	1.08
Dissolved Copper (Cu)	3.83	2.11	2.17	1.83	2.12	2.09	2.95	2.59	1.91	1.83	4.90	1.93	1.37
Dissolved Iron (Fe)	282	63.8	55.2	34	24	12.7	8.8	16.4	6.6	<10	14.9	<5.0	7.7
Dissolved Lead (Pb)	<0.80	0.21	0.279	0.147	<0.40	<0.20	<0.20	<0.20	<0.20	0.062	<0.20	<0.20	<0.20
Dissolved Lithium (Li)	1800	488	302	174	252	125	127	110	115	102	178	101	70.7
Dissolved Manganese (Mn)	330	329	232	237	447	156	309	255	354	248	962	410	191
Dissolved Molybdenum (Mo)	19.0	12.7	10.6	9.18	9	7.3	5.8	4.9	5.3	4.02	7.0	4.6	3.6
Dissolved Nickel (Ni)	30.1	4.1	3.65	3.58	4.6	3.4	6.1	4.9	5	3.51	9.4	5.7	4.3
Dissolved Selenium (Se)	0.85	0.85	0.687	0.539	0.42	0.31	0.47	0.36	0.55	<0.40	0.97	0.45	0.44
Dissolved Silicon (Si)	1860	1300	1180	1370	1150	954	769	975	1030	885	1010	1050	980
Dissolved Silver (Ag)	<0.080	<0.020	0.017	0.013	<0.040	<0.020	<0.020	<0.020	<0.020	<0.050	0.028	<0.020	0.047
Dissolved Strontium (Sr)	55100	24600	18100	13100	15800	8680	15500	12700	10100	27600	15000	8350	
Dissolved Thallium (Tl)	0.94	0.689	0.442	0.251	0.39	0.172	0.290	0.222	0.213	0.157	0.367	0.245	0.137
Dissolved Tin (Sn)	<20	32.0	53	93.5	24	18.1	<5.0	19.8	9.5	3.2	<5.0	<5.0	<5.0
Dissolved Titanium (Ti)	<20	<5.0	<0.50	<0.50	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Uranium (U)	1.03	0.61	0.343	0.582	1.11	0.51	0.56	0.44	0.77	0.427	1.00	0.60	0.4
Dissolved Vanadium (V)	<20	<5.0	<0.20	<0.20	<10	<5.0	<5.0	<5.0	<5.0	<2.0	<5.0	<5.0	<5.0
Dissolved Zinc (Zn)	580	74.9	38	47.5	49	35.8	16.5	20	43.4	9.0	23.6	7.7	30.7
Dissolved Zirconium (Zr)	<2.0	<0.50	<0.10	<0.10	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50
Dissolved Calcium (Ca)	1410000	660000	570000	447000	564000	272000	559000	393000	430000	310000	963000	511000	274000
Dissolved Magnesium (Mg)	547000	272000	112000	158000	223000	112000	211000	167000	170000	122000	316000	175000	107000
Dissolved Potassium (K)	192000	106000	73100	50300	66900	34400	64700	47400	44800	29200	94000	47400	29000
Dissolved Sodium (Na)	4110000	1960000	1440000	980000	1450000	742000	1370000	1010000	996000	681000	1920000	1030000	617000
Dissolved Sulphur (S)	247000	126000	93400	74600	79100	49000	53400	43500	41900	<30000	91200	55200	32000

	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Field Measurement	7/3/2016	7/10/2016	7/12/2016	7/17/2016	7/19/2016	7/24/2016	8/7/2016	8/16/2016	8/21/2016	8/23/2016	9/4/2016	9/6/2016	9/11/2016
Lake use for leaching water	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Total Aluminum (Al)	1960	1130	1210	527	607	528	23100	1410	787	1380	3800	1970	497
Total Antimony (Sb)	2.8	2.31	1.51	1.12	1.5	1.16	1.79	1.2	1.12	1.11	1.49	1.08	0.96
Total Arsenic (As)	12.5	15.9	4.26	6.05	4.67	4.24	20.7	5.09	6.46	6.03	10.1	6.76	5.51
Total Barium (Ba)	244	197	123	78.4	110	66.5	114	87.9	87.2	60.2	162	111	62.2
Total Beryllium (Be)	<0.40	<0.10	0.014	<0.010	<0.20	<0.10	0.15	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	<4.0	<1.0	<0.020	0.005	<2.0	<1.0	<1.0	<1.0	<1.0	<0.10	<1.0	<1.0	<1.0
Total Boron (B)	3090	2050	1180	983	1620	961	970	913	828	700	1370	893	620
Total Cadmium (Cd)	0.261	0.364	0.203	0.157	0.603	0.087	0.579	0.29	0.304	0.225	0.967	0.320	0.091
Total Chromium (Cr)	9.3	5.5	5.59	2.64	3.3	2.8	133	6.3	3.8	7.3	19.6	10.3	2.7
Total Cobalt (Co)	6.9	3.80	2.86	2.13	3	1.97	23.0	2.83	2.2	2.46	6.10	3.52	1.51
Total Copper (Cu)	11.6	3.59	3.29	1.65	3.5	2.2	36.3	4.15	3.12	4.1	11.1	5.39	2.43
Total Iron (Fe)	3170	1810	1860	970	1090	877	38500	2240	1270	2290	6710	3670	933
Total Lead (Pb)	6.78	4.43	2.71	2.05	2.21	1.99	33.4	4.88	3.04	3.81	8.75	5.97	2.72
Total Lithium (Li)	1780	498	308	160	238	130	194	127	112	95.8	189	108	69.3
Total Manganese (Mn)	412	382	272	261	470	188	1170	322	384	295	1130	516	219
Total Molybdenum (Mo)	19.4	13.0	10.5	8.77	8.5	7.8	6.0	5.5	5.1	4.17	6.8	5.4	3.8
Total Nickel (Ni)	34.5	6.2	5.05	4.11	5.9	4.2	60.1	7.1	6.3	6.9	17.9	10.8	5.4
Total Selenium (Se)	0.88	0.94	0.735	0.361	0.42	0.24	0.55	0.38	0.61	<0.40	0.84	0.69	0.44
Total Silicon (Si)	6170	2440	2580	1690	1690	1590	28200	2330	1840	2190	4840	3240	1670
Total Silver (Ag)	<0.080	0.048	0.042	0.034	<0.040	0.023	0.236	0.044	0.045	<0.10	0.108	0.063	0.032
Total Strontium (Sr)	56600	24200	18900	13100	16100	9330	16000	13200	12000	9840	27500	14000	7710
Total Thallium (Tl)	0.94	0.678	0.428	0.243	0.38	0.169	0.327	0.253	0.211	0.193	0.382	0.219	0.117
Total Tin (Sn)	<20	31.5	51.4	95.3	22	17	<5.0	20.3	9	3.3	<5.0	<5.0	<5.0
Total Titanium (Ti)	<20	8.9	7	2.67	<10	<5.0	126	<5.0	<5.0	<20	17.3	8.1	<5.0
Total Uranium (U)	1.05	0.63	0.333	0.511	1.12	0.51	0.76	0.55	0.7	0.549	1.04	0.71	0.39
Total Vanadium (V)	<20	<5.0	4.1	1.9	<10	<5.0	93.9	<5.0	<5.0	5.3	14.6	7.0	<5.0
Total Zinc (Zn)	603	90.7	39	47.6	59	36.9	118	27.4	41.7	22	49.0	27.7	35.3
Total Zirconium (Zr)	<2.0	<0.50	<0.10	<0.10	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50
Total Calcium (Ca)	1350000	672000	592000	457000	543000	301000	527000	420000	414000	339000	950000	550000	301000
Total Magnesium (Mg)	576000	288000	206000	154000	217000	124000	228000	172000	153000	121000	314000	197000	110000
Total Potassium (K)	195000	107000	78600	54200	64400	38000	59200	48300	45600	29200	89700	50800	31300
Total Sodium (Na)	4150000	1990000	1400000	949000	1410000	778000	1330000	1000000	896000	668000	1840000	1160000	632000
Total Sulphur (S)	244000	132000	97000	70900	79700	50800	47900	47700	45600	<30000	85800	57700	37400

	2016	2016	2016	2016	2016	2016	2016
Field Measurement	9/13/2016	9/18/2016	9/20/2016	9/27/2016	9/27/2016	10/2/2016	10/4/2016
Lake use for leaching water	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Water temperature	5.7	6.4	4.4	3.6	4.8	1.7	0.2
Conductivity	3980	7200	3760	2780	1153	1510	572
Field pH	8.17	7.95	8.17	7.66	8.27	7.72	8.59
Initial volume in the bucket							
Volume left after sampling in the bucket							
				poured on 25th	poured on 27th		
Laboratory-Measured	9/13/2016	9/18/2016	9/20/2016	9/27/2016	9/27/2016	10/2/2016	10/4/2016
Dissolved Hardness (CaCO3)	940	1730	818	720	328	367	147
Total Hardness (CaCO3)	1060	1600	900	707	266	380	200
Total Ammonia-N	15	17	6.4	6.8	2.4	3.5	1.5
Colour	<2	-	<2	5	<2	<2	<2
Conductivity	4800	8000	4030	3320	1310	1800	680
Total Dissolved Solids	3330	5320	2660	2390	958	1410	424
Fluoride (F-)	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
pH	7.56	7.39	7.62	7.74	7.79	7.74	7.71
Total Phosphorus	0.042	0.066	0.1	0.033	0.048	0.022	0.066
Total Suspended Solids	30	83	280	59	87	52	110
Dissolved Sulphate (SO4)	76	160	81	110	40	51	31
Alkalinity (Total as CaCO3)	42	42	47	68	46	49	48
Dissolved Chloride (Cl)	1100	2000	990	790	270	380	130
Nitrite (N)	0.417	0.539	0.287	0.254	0.112	0.144	0.072
Nitrate (N)	94.6	176	70.1	54	19.5	26.4	6.75
Nitrate + Nitrite	95	177	70.4	54.2	19.6	26.5	6.83
Mercury (Hg)	<0.01	<0.01	0.01	0.01	<0.01	0.01	0.01
Dissolved Aluminum (Al)	36.4	27.9	36.9	395	233	29	37.1
Dissolved Antimony (Sb)	0.63	0.86	0.65	1.05	<0.50	<0.50	<0.50
Dissolved Arsenic (As)	3.48	3.77	4.23	6.11	3.92	6.12	3.18
Dissolved Barium (Ba)	47.2	72.3	43.4	40.2	26	29.4	14.1
Dissolved Beryllium (Be)	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Bismuth (Bi)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Boron (B)	512	782	425	505	212	256	108
Dissolved Cadmium (Cd)	0.075	0.215	0.103	0.038	0.065	0.037	<0.010
Dissolved Chromium (Cr)	<1.0	<1.0	<1.0	1.7	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	0.86	1.39	0.63	0.98	0.56	<0.50	<0.50
Dissolved Copper (Cu)	1.16	2.01	1.25	1.86	3.05	1.4	1.66
Dissolved Iron (Fe)	<5.0	32.5	<5.0	876	525	8.6	5.4
Dissolved Lead (Pb)	<0.20	<0.20	<0.20	2.42	2.65	<0.20	<0.20
Dissolved Lithium (Li)	59.3	111	58.4	66.2	29.6	35.4	20.2
Dissolved Manganese (Mn)	175	371	152	145	84.9	55.7	31.9
Dissolved Molybdenum (Mo)	2.9	4.1	2.3	3.1	1.4	1.6	<1.0
Dissolved Nickel (Ni)	4	5.9	3.2	4.6	2.5	2	1.3
Dissolved Selenium (Se)	0.33	0.47	0.29	0.32	0.2	0.2	<0.10
Dissolved Silicon (Si)	805	1010	917	1810	985	790	653
Dissolved Silver (Ag)	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Dissolved Strontium (Sr)	6870	11300	6030	5150	1800	2310	872
Dissolved Thallium (Tl)	0.092	0.154	0.055	<0.050	<0.050	<0.050	<0.050
Dissolved Tin (Sn)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Titanium (Ti)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Uranium (U)	0.27	0.51	0.25	0.35	0.11	0.14	<0.10
Dissolved Vanadium (V)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Zinc (Zn)	11.7	7.6	8.9	13.7	50.3	7.9	<5.0
Dissolved Zirconium (Zr)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Calcium (Ca)	234000	438000	199000	182000	89200	90100	37200
Dissolved Magnesium (Mg)	86200	155000	78000	64200	25500	34400	13200
Dissolved Potassium (K)	23800	43500	20400	16100	6980	8750	3530
Dissolved Sodium (Na)	515000	948000	443000	339000	132000	176000	56300
Dissolved Sulphur (S)	30300	58700	30200	38900	15300	19800	10700

	2016	2016	2016	2016	2016	2016	2016
Field Measurement	9/13/2016	9/18/2016	9/20/2016	9/27/2016	9/27/2016	10/2/2016	10/4/2016
Lake use for leaching water	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Total Aluminum (Al)	1650	1310	6650	32.5	2290	2030	4370
Total Antimony (Sb)	0.69	0.97	0.96	0.91	0.56	0.62	0.59
Total Arsenic (As)	5.92	7.49	9.91	6.29	6.89	5.9	8.43
Total Barium (Ba)	48.6	71.7	55.9	41.2	26.4	31.9	21.1
Total Beryllium (Be)	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	521	846	395	525	176	252	118
Total Cadmium (Cd)	0.06	0.23	0.176	0.032	0.029	0.021	0.027
Total Chromium (Cr)	8.4	7.6	36.4	<1.0	11.6	10.3	21.1
Total Cobalt (Co)	2.29	2.7	6.86	0.57	2.36	2.2	4
Total Copper (Cu)	4.55	4.38	9.16	1.12	5.08	4.76	6.79
Total Iron (Fe)	2890	2520	11800	<10	3560	3290	7040
Total Lead (Pb)	4.3	4.88	13	<0.20	8.08	7.13	12
Total Lithium (Li)	63.8	107	73.5	64.6	31	37.1	29.3
Total Manganese (Mn)	254	437	441	105	130	132	150
Total Molybdenum (Mo)	2.9	4.5	2.5	3.2	1.1	1.5	<1.0
Total Nickel (Ni)	7.7	9.9	19.8	3.1	7.5	7.4	11.6
Total Selenium (Se)	0.31	0.44	0.26	0.4	0.18	0.21	0.15
Total Silicon (Si)	2420	2310	7310	1450	3040	3070	5500
Total Silver (Ag)	<0.020	0.048	0.036	<0.020	<0.020	<0.020	0.066
Total Strontium (Sr)	6930	10900	5950	5060	1600	2380	897
Total Thallium (Tl)	0.086	0.151	0.072	<0.050	<0.050	<0.050	<0.050
Total Tin (Sn)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	7.7	6.4	30.2	<5.0	11.3	12.5	22.6
Total Uranium (U)	0.29	0.5	0.32	0.32	0.11	0.15	0.1
Total Vanadium (V)	6.4	5.5	26.5	<5.0	8.3	7.6	14.7
Total Zinc (Zn)	27.3	20.6	50	5.7	21.4	24	33.8
Total Zirconium (Zr)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Calcium (Ca)	267000	403000	219000	178000	66500	94500	52500
Total Magnesium (Mg)	94800	145000	85500	63900	24200	34900	16700
Total Potassium (K)	26700	41000	19000	15900	6520	8310	4060
Total Sodium (Na)	541000	900000	445000	336000	119000	167000	56300
Total Sulphur (S)	29300	55000	28500	36400	13100	18900	9970

	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Field Measurement	7/3/2016	7/10/2016	7/12/2016	7/17/2016	7/19/2016	7/24/2016	8/7/2016	8/16/2016	8/21/2016	8/23/2016	9/4/2016	9/6/2016	9/11/2016
Lake use for leaching water	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Water temperature	16.5	26.4	21.5	13.7	14.5	12.3	12.3	15	10.1	10.2	3.6	8.1	6.6
Conductivity	or	9360	7660	6690	11080	9200	9980	7410	9390	9400	15910	10760	2340
Field pH	7.78	7.82	8.08	7.6	7.98	7.94	8.07	8.1	8.07	8.06	7.9	7.69	8.68
Initial volume in the bucket													
Volume left after sampling in the bucket													
Laboratory-Measured	7/3/2016	7/10/2016	7/12/2016	7/17/2016	7/19/2016	7/24/2016	8/7/2016	8/16/2016	8/21/2016	8/23/2016	9/4/2016	9/6/2016	9/11/2016
Dissolved Hardness (CaCO3)	6440	1780	1730	1460	2860	2270	2280	1690	2310	2120	4080	2580	817
Total Hardness (CaCO3)	6480	1970	1390	1390	2260	1940	3010	1730	2160	2050	4040	3030	770
Total Ammonia-N	660	130	68	53	110	65	40	25	23	22	31	27	7.5
Colour	10	5	2	ND	4	6	4	4	<2	<2	11	5	<2
Conductivity	36000	11000	8900	8000	15000	11000	12000	9100	10000	9400	18000	13000	3500
Total Dissolved Solids	25300	7710	5760	5780	8690	7420	9310	6580	9210	7390	13400	8680	2090
Fluoride (F-)	ND	ND	ND	ND	ND	ND	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
pH	7.32	7.62	7.52	7.44	7.47	7.36	7.46	7.31	7.27	7.28	7.28	7.34	7.4
Total Phosphorus	0.21	0.10	0.13	0.072	0.18	0.34	1.6	0.063	0.056	0.043	0.10	0.044	0.035
Total Suspended Solids	100	98	130	22	58	66	3200	66	67	91	48	27	36
Dissolved Sulphate (SO4)	690	180	140	120	240	170	150	120	130	130	270	230	57
Alkalinity (Total as CaCO3)	69	45	38	34	38	34	40	29	30	31	36	34	26
Dissolved Chloride (Cl)	11000	2900	2400	2200	4400	3200	3200	2500	2900	2600	5100	3700	870
Nitrite (N)	27.5	6.24	4.65	4.34	7.82	4.61	2.60	2.6	1.96	1.88	2.06	1.48	0.258
Nitrate (N)	617	146	105	96.2	202	135	163	163	161	144	261	206	44
Nitrate + Nitrite	645	152	109	101	209	139	166	166	163	146	263	208	44.2
Mercury (Hg)	ND	ND	ND	ND	ND	ND	ND	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dissolved Aluminum (Al)	55	53.3	58.6	10	27.8	22.8	19.6	26.3	18.5	27.3	23.1	23.5	30.8
Dissolved Antimony (Sb)	2.6	1.34	0.936	0.792	1.44	1.1	0.79	0.67	1.01	0.96	1.35	1.02	0.63
Dissolved Arsenic (As)	7.89	4.36	2.29	1.66	2.42	2.59	2.77	2.44	3.07	2.52	5.16	2.98	1.97
Dissolved Barium (Ba)	218	129	88.2	80.5	111	89.9	83.5	69	91.9	68.4	135	85.6	37
Dissolved Beryllium (Be)	<0.40	<0.10	<0.010	<0.010	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Bismuth (Bi)	<4.0	<1.0	<0.0050	<0.0050	<1.0	<2.0	<1.0	<1.0	<1.0	<0.050	<1.0	<1.0	<1.0
Dissolved Boron (B)	2130	720	565	619	1140	822	614	560	795	756	1170	868	358
Dissolved Cadmium (Cd)	0.293	0.169	0.206	0.177	0.394	0.339	0.392	0.273	0.35	0.281	0.622	0.331	0.033
Dissolved Chromium (Cr)	<4.0	<1.0	0.2	0.23	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	3.2	0.94	0.892	1.01	1.92	1.6	1.34	1.03	1.45	1.24	2.27	1.56	0.54
Dissolved Copper (Cu)	2.69	1.14	1.98	1.76	2.2	2.79	3.61	2.39	2.59	2.07	5.45	2.42	1.52
Dissolved Iron (Fe)	139	28.6	68.2	20.2	14.2	12	8.5	5.9	6.1	<10	13.4	6.5	<5.0
Dissolved Lead (Pb)	<0.80	0.29	0.277	0.259	0.28	<0.40	<0.20	<0.20	<0.20	0.074	0.86	0.29	<0.20
Dissolved Lithium (Li)	2250	384	280	259	345	281	174	126	191	182	226	157	74
Dissolved Manganese (Mn)	407	261	270	275	476	404	372	317	466	373	845	461	139
Dissolved Molybdenum (Mo)	20.0	5.8	5.44	5.86	9.9	6.5	4.3	3.2	5	4.15	7.1	5.4	2.2
Dissolved Nickel (Ni)	15.8	1.3	1.88	1.95	2.6	3	3.6	2.3	3	2.73	4.6	3.3	1.8
Dissolved Selenium (Se)	0.79	0.37	0.31	0.257	0.42	0.32	0.35	0.23	0.53	<0.40	0.81	0.43	0.24
Dissolved Silicon (Si)	1170	691	678	797	862	736	560	666	778	780	920	909	627
Dissolved Silver (Ag)	<0.080	<0.020	0.013	0.011	0.037	<0.040	<0.020	<0.020	<0.020	<0.050	0.029	0.022	0.021
Dissolved Strontium (Sr)	64700	14500	13100	13700	27200	17600	16700	13200	18800	20000	33300	22200	6630
Dissolved Thallium (Tl)	0.86	0.436	0.326	0.322	0.624	0.44	0.329	0.259	0.36	0.272	0.440	0.284	0.084
Dissolved Tin (Sn)	<20	37.3	29.6	96	8.4	<10	<5.0	22.5	8	<2.0	36.5	18.5	20.7
Dissolved Titanium (Ti)	<20	<5.0	<0.50	<0.50	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Uranium (U)	0.87	0.17	0.146	0.152	0.51	0.38	0.24	0.18	0.33	0.351	0.67	0.47	0.14
Dissolved Vanadium (V)	<20	<5.0	<0.20	<0.20	<5.0	<10	<5.0	<5.0	<5.0	<2.0	<5.0	<5.0	<5.0
Dissolved Zinc (Zn)	163	50.1	98.2	510	443	472	106	187	228	62.7	157	67.6	59.5
Dissolved Zirconium (Zr)	<2.0	<0.50	<0.10	<0.10	<0.50	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50
Dissolved Calcium (Ca)	1590000	429000	448000	339000	676000	547000	554000	409000	555000	528000	1030000	646000	202000
Dissolved Magnesium (Mg)	598000	172000	148000	148000	284000	219000	219000	162000	224000	195000	366000	234000	76100
Dissolved Potassium (K)	200000	68500	50400	48400	91200	71400	68700	45200	64300	54100	109000	68500	23000
Dissolved Sodium (Na)	4120000	1250000	1090000	1030000	1980000	1510000	1450000	1020000	1380000	1110000	2140000	1400000	450000
Dissolved Sulphur (S)	252000	76000	61900	59500	96800	77300	64100	44500	61400	50200	101000	79200	29100

	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Field Measurement	7/3/2016	7/10/2016	7/12/2016	7/17/2016	7/19/2016	7/24/2016	8/7/2016	8/16/2016	8/21/2016	8/23/2016	9/4/2016	9/6/2016	9/11/2016
Lake use for leaching water	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Total Aluminum (Al)	2780	3080	1890	445	1900	1430	29400	1120	2190	1030	1500	912	950
Total Antimony (Sb)	2.8	1.59	0.949	0.827	1.3	1.01	2.48	0.79	1.09	1.06	1.45	1.1	0.67
Total Arsenic (As)	9.67	7.42	3.59	2.31	3.99	3.31	38.0	3.31	5.44	3.88	7.38	4.65	3.47
Total Barium (Ba)	227	147	81.1	77.2	95.2	79.7	186	75.4	90	67.7	136	181	36
Total Beryllium (Be)	<0.40	<0.10	0.019	<0.010	<0.20	<0.10	0.36	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
Total Bismuth (Bi)	<4.0	<1.0	<0.020	<0.0050	<2.0	<1.0	<1.0	<1.0	<1.0	<0.10	<1.0	<2.0	<1.0
Total Boron (B)	2060	901	522	564	858	705	733	488	735	714	1150	959	305
Total Cadmium (Cd)	0.298	0.223	0.189	0.172	0.273	0.236	0.733	0.333	0.329	0.283	0.661	0.425	0.052
Total Chromium (Cr)	13.5	13.9	8.25	2.09	10.1	7.1	161	5.7	10.8	5.2	7.5	5.3	4.4
Total Cobalt (Co)	5.6	3.26	2.11	1.25	2.9	2.3	30.6	2.15	2.99	2.14	3.42	3.3	1.19
Total Copper (Cu)	14.0	4.70	3.15	1.47	5	3.81	46.9	4.35	7.59	3.7	7.06	8.6	3.37
Total Iron (Fe)	4810	4980	2940	762	2860	2360	69700	2140	3470	1600	2380	1680	1480
Total Lead (Pb)	13.7	7.48	5.06	2.17	3.96	4.03	125	5.78	6.36	3.46	6.45	3.79	4.21
Total Lithium (Li)	2230	414	261	223	302	228	294	136	176	165	231	184	71.5
Total Manganese (Mn)	546	421	338	296	496	406	3270	391	547	404	879	619	168
Total Molybdenum (Mo)	19.4	7.1	4.97	5.44	6.9	5.4	4.1	3.7	4.6	3.97	6.9	6.2	2.4
Total Nickel (Ni)	22.7	7.0	4.37	2.22	6.1	5.3	72.5	5.1	7.1	4.8	7.7	6.6	3.8
Total Selenium (Se)	0.72	0.42	0.283	0.244	0.32	0.24	0.43	0.24	0.51	0.40	0.69	0.46	0.26
Total Silicon (Si)	4450	3760	2870	1280	2980	2330	38100	1910	3340	1990	2540	2090	1530
Total Silver (Ag)	<0.080	0.050	0.037	0.032	0.056	0.039	1.07	0.051	0.055	<0.10	0.074	0.118	0.033
Total Strontium (Sr)	64500	16900	12900	13300	17200	15000	17800	13100	17300	18200	35400	21200	5590
Total Thallium (Tl)	0.92	0.497	0.3	0.324	0.45	0.335	0.489	0.262	0.335	0.291	0.451	0.28	0.08
Total Tin (Sn)	<20	38.0	27.6	110	<10	6.9	<5.0	22	8	<2.0	35.2	22	22.4
Total Titanium (Ti)	<20	12.6	8.9	2.52	<10	8.8	151	5.3	9.5	<20	8.4	<10	<5.0
Total Uranium (U)	0.83	0.23	0.132	0.145	0.28	0.23	0.67	0.21	0.33	0.345	0.66	0.55	0.14
Total Vanadium (V)	<20	10.6	6.7	1.57	<10	6	121	<5.0	8.2	3.8	5.6	<10	<5.0
Total Zinc (Zn)	162	107	90.6	596	246	301	461	210	223	71	166	89	77
Total Zirconium (Zr)	<2.0	<0.50	<0.10	<0.10	<1.0	<0.50	0.78	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50
Total Calcium (Ca)	1630000	479000	328000	325000	538000	485000	792000	427000	534000	498000	1020000	730000	191000
Total Magnesium (Mg)	583000	189000	139000	141000	223000	178000	251000	160000	200000	195000	362000	294000	71400
Total Potassium (K)	202000	70000	48300	50000	70300	58000	61000	47000	61400	51000	108000	84700	22700
Total Sodium (Na)	4120000	1360000	997000	1010000	1660000	1170000	1400000	1000000	1200000	1110000	2110000	1740000	424000
Total Sulphur (S)	255000	86600	59000	58300	77100	57700	60700	46400	57400	49200	99600	100000	27000

	2016	2016	2016	2016	2016	2016	2016
Field Measurement	9/13/2016	9/18/2016	9/20/2016	9/27/2016	9/27/2016	10/2/2016	10/4/2016
Lake use for leaching water	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Water temperature	5.9	6.5	4.4	3.5	4.8	1.8	0.5
Conductivity	5000	5680	2360	1798	612	688	366
Field pH	8.05	8.18	8.29	7.59	8.64	8.56	8.61
Initial volume in the bucket							
Volume left after sampling in the bucket							
				poured on 25th	poured on 27th		
Laboratory-Measured	9/13/2016	9/18/2016	9/20/2016	9/27/2016	9/27/2016	10/2/2016	10/4/2016
Dissolved Hardness (CaCO3)	1160	1350	574	446	151	179	100
Total Hardness (CaCO3)	1260	1250	562	437	180	206	165
Total Ammonia-N	12	9.9	3.8	4.7	1.1	1.5	0.72
Colour	<2	-	2	<2	2	<2	<2
Conductivity	5900	6300	2560	1970	706	770	410
Total Dissolved Solids	3900	4520	1760	1470	490	564	280
Fluoride (F-)	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
pH	7.48	7.43	7.71	7.69	7.79	7.82	7.68
Total Phosphorus	0.017	0.036	0.034	0.01	0.038	0.029	0.057
Total Suspended Solids	11	49	55	31	88	96	130
Dissolved Sulphate (SO4)	120	160	120	140	50	52	38
Alkalinity (Total as CaCO3)	33	38	41	62	38	41	39
Dissolved Chloride (Cl)	1500	1700	600	410	130	140	62
Nitrite (N)	0.472	0.308	0.078	0.076	0.026	0.034	0.022
Nitrate (N)	81.5	92.9	32.8	23.3	6.29	6.7	2.73
Nitrate + Nitrite	81.9	93.2	32.9	23.4	6.32	6.74	2.75
Mercury (Hg)	<0.01	<0.01	0.01	<0.01	<0.01	0.01	0.01
Dissolved Aluminum (Al)	22.3	19.7	24.8	539	32.7	22.6	41.4
Dissolved Antimony (Sb)	0.66	0.85	0.69	1	<0.50	<0.50	<0.50
Dissolved Arsenic (As)	2.38	3.5	2.85	5.02	1.83	2.74	1.92
Dissolved Barium (Ba)	38.7	46.3	26	29.2	13.9	16.6	11.9
Dissolved Beryllium (Be)	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Bismuth (Bi)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Boron (B)	497	641	341	431	140	169	78
Dissolved Cadmium (Cd)	0.088	0.102	0.038	0.013	<0.010	0.046	<0.010
Dissolved Chromium (Cr)	<1.0	<1.0	<1.0	2.7	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	0.75	0.82	<0.50	0.82	<0.50	<0.50	<0.50
Dissolved Copper (Cu)	1.33	1.7	1.04	1.83	1.48	1.42	1.05
Dissolved Iron (Fe)	<5.0	10.6	<5.0	1110	6.4	7	21
Dissolved Lead (Pb)	<0.20	<0.20	<0.20	4.19	<0.20	<0.20	0.2
Dissolved Lithium (Li)	88.1	102	63.8	67.2	29.1	30.3	22.1
Dissolved Manganese (Mn)	181	227	97	112	34.4	35.8	28.8
Dissolved Molybdenum (Mo)	3.3	4.2	2.6	3.5	1.1	1.4	<1.0
Dissolved Nickel (Ni)	2.4	2.6	1.4	2.5	<1.0	1.1	<1.0
Dissolved Selenium (Se)	0.3	0.27	0.21	0.25	0.11	0.13	<0.10
Dissolved Silicon (Si)	619	892	783	1730	573	776	492
Dissolved Silver (Ag)	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Dissolved Strontium (Sr)	10000	9400	3840	3300	982	1180	601
Dissolved Thallium (Tl)	0.109	0.102	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Tin (Sn)	7.9	<5.0	<5.0	6.3	<5.0	12.2	<5.0
Dissolved Titanium (Ti)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Uranium (U)	0.25	0.31	0.17	0.21	<0.10	<0.10	<0.10
Dissolved Vanadium (V)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Zinc (Zn)	77.7	68.1	12	51.5	<5.0	8	9.1
Dissolved Zirconium (Zr)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Calcium (Ca)	280000	339000	145000	114000	41800	47900	28200
Dissolved Magnesium (Mg)	113000	121000	51300	39100	11300	14300	7200
Dissolved Potassium (K)	30900	34300	14200	11200	3980	4780	2520
Dissolved Sodium (Na)	657000	703000	261000	179000	52800	66400	27200
Dissolved Sulphur (S)	44500	58900	44300	49200	19100	19600	13500

	2016	2016	2016	2016	2016	2016	2016
Field Measurement	9/13/2016	9/18/2016	9/20/2016	9/27/2016	9/27/2016	10/2/2016	10/4/2016
Lake use for leaching water	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Total Aluminum (Al)	610	1400	641	30.1	1750	3410	5780
Total Antimony (Sb)	0.71	0.95	0.78	0.91	0.55	0.56	0.64
Total Arsenic (As)	3.37	6.22	4.38	4.77	6.07	6.12	8.54
Total Barium (Ba)	39.7	49.5	32.6	26.7	21.3	24.5	25.6
Total Beryllium (Be)	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	488	633	312	436	148	166	84
Total Cadmium (Cd)	0.077	0.112	0.033	0.014	0.014	0.031	0.024
Total Chromium (Cr)	2.7	7.6	3.3	<1.0	7.8	16.8	29.5
Total Cobalt (Co)	1.23	2.13	0.96	<0.50	1.67	3.06	5.18
Total Copper (Cu)	2.62	3.83	2.04	1.32	5.04	6.51	8.83
Total Iron (Fe)	885	2260	1160	<10	2800	5150	9740
Total Lead (Pb)	2.98	4.86	5.62	<0.20	11.7	11.3	19
Total Lithium (Li)	84.1	102	63.8	65	34.5	35.6	34.7
Total Manganese (Mn)	214	274	139	60	115	152	197
Total Molybdenum (Mo)	3.4	4.3	2.8	3.5	1	1.4	<1.0
Total Nickel (Ni)	3.4	6	2.9	1.1	5	8.9	13.8
Total Selenium (Se)	0.27	0.4	0.21	0.34	0.13	0.14	<0.10
Total Silicon (Si)	1380	2290	1500	1280	2500	4160	7160
Total Silver (Ag)	<0.020	0.032	<0.020	<0.020	<0.020	0.022	0.09
Total Strontium (Sr)	10300	9520	4030	3250	1110	1250	628
Total Thallium (Tl)	0.099	0.126	<0.050	<0.050	<0.050	<0.050	<0.050
Total Tin (Sn)	8.5	<5.0	<5.0	6.2	<5.0	12.4	<5.0
Total Titanium (Ti)	8.6	8.7	<5.0	<5.0	13.3	39.6	40.4
Total Uranium (U)	0.27	0.32	0.2	0.2	<0.10	<0.10	<0.10
Total Vanadium (V)	<5.0	5.7	<5.0	<5.0	6.3	12.1	21
Total Zinc (Zn)	91.4	85.6	19.9	38	27.2	37.6	54.9
Total Zirconium (Zr)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Calcium (Ca)	314000	307000	147000	112000	49600	54700	44900
Total Magnesium (Mg)	117000	117000	47500	38400	13600	17000	12800
Total Potassium (K)	34600	33100	14600	11200	4260	4730	2960
Total Sodium (Na)	672000	706000	255000	180000	56700	65100	28600
Total Sulphur (S)	47200	52100	43300	46500	18900	19900	12300

Forced Leachate sampling - LAKE WATER		2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Field Measurement	Units	6/7/2016	6/12/2016	6/14/2016	6/23/2016	7/3/2016	7/10/2016	7/12/2016	7/17/2016	7/18/2016	7/23/2016
Lake use for leaching water	Name	Meliadine Lake	Meliadine lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Water temperature	°C	7.6	6.8	6.7	5.7	17.3	14	13.4	12.9	16.2	14.5
Conductivity	µS/cm	70	80	70	82.3	165.9	74.1	72.1	71.6	60	71.7
Field pH	pH unit	7.8	6.8	7.2	8.25	8.33	9.09	8.18	8.16	7.00	8.33
Laboratory-Measured	Units	6/7/2016	6/12/2016	6/14/2016	6/23/2016	7/3/2016	7/10/2016	7/12/2016	7/17/2016	7/18/2016	7/23/2016
Dissolved Hardness (CaCO3)	mg/L	36.3	33.4	26.3	25.7	22.7	21.7	22	22.5	24.1	22.6
Total Hardness (CaCO3)	mg/L	35.6	30	541	24.8	23.9	24	21.7	22	22	23.9
Total Ammonia-N	mg/L	0.03	0.12	0.13	0.01	0.02	0.06	0.03	0.03	ND	ND
Colour	TCU	6	10	8	3	7	3	ND	ND	3	3
Conductivity	umho/cm	110	96	83	82	78	78	77	77	76	74
Total Dissolved Solids	mg/L	64	48	46	72	70	56	28	36	82	38
Fluoride (F-)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
pH	pH	7.38	7	7.4	7.05	7.3	6.84	7.33	7.39	7.34	7.24
Total Phosphorus	mg/L	0.015	0.18	0.012	0.14	0.03	0.008	0.004	0.040	0.074	0.1
Total Suspended Solids	mg/L	ND	18	ND	17	4	2	ND	3	3	10
Dissolved Sulphate (SO4)	mg/L	4.7	3.9	3.5	3.5	4	3.6	3.7	3.7	4	4.1
Alkalinity (Total as CaCO3)	mg/L	23	22	17	15	16	17	16	16	16	15
Dissolved Chloride (Cl)	mg/L	16	12	11	12	9.7	9.3	9.2	8.9	9.4	9.1
Nitrite (N)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.012
Nitrate (N)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate + Nitrite	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.1
Mercury (Hg)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Aluminum (Al)	ug/L	8.5	34	7.8	2.95	6.2	5.0	2.21	2.99	6.3	5.9
Dissolved Antimony (Sb)	ug/L	<0.50	<0.50	<0.50	<0.020	<0.50	<0.50	<0.020	<0.020	<0.50	<0.50
Dissolved Arsenic (As)	ug/L	0.62	1.96	0.9	0.541	0.76	0.97	0.315	0.328	0.75	0.91
Dissolved Barium (Ba)	ug/L	9.9	10.1	8.6	8.19	7.9	10.3	7.01	9.51	9.1	9
Dissolved Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.010	<0.10	<0.10	<0.010	<0.010	<0.10	<0.10
Dissolved Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<0.0050	<1.0	<1.0	<0.0050	<0.0050	<1.0	<1.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<10	<50	<50	<10	<10	<50	<50
Dissolved Cadmium (Cd)	ug/L	<0.010	<0.010	<0.010	<0.0050	0.053	<0.010	<0.0050	0.007	0.017	0.015
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<0.10	<1.0	<1.0	<0.10	<0.10	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	<0.50	<0.50	<0.50	0.017	<0.50	<0.50	0.017	0.052	<0.50	<0.50
Dissolved Copper (Cu)	ug/L	6.68	4.96	2.42 (2)	3.41	4.00	6.78	4.32	5.09	4.59	3.51
Dissolved Iron (Fe)	ug/L	28.4	47	32	32.5	20.5	15.0	14.3	12.2	15.8	13.9
Dissolved Lead (Pb)	ug/L	0.32	<0.20	<0.20	0.104	<0.20	0.20	0.26	0.187	<0.20	<0.20
Dissolved Lithium (Li)	ug/L	<5.0	<5.0	<5.0	1.66	<5.0	<5.0	<0.50	0.61	<5.0	<5.0
Dissolved Manganese (Mn)	ug/L	8.9	9	9.1	4.36	7.8	5.8	5.15	1.25	1.3	<1.0
Dissolved Molybdenum (Mo)	ug/L	<1.0	<1.0	<1.0	0.09	<1.0	<1.0	0.084	0.09	<1.0	<1.0
Dissolved Nickel (Ni)	ug/L	<1.0	<1.0	<1.0	0.631	<1.0	1.2	0.554	1.29 (1)	1.3	1.1
Dissolved Selenium (Se)	ug/L	<0.10	<0.10	<0.10	<0.040	<0.10	<0.10	<0.040	<0.040	<0.10	<0.10
Dissolved Silicon (Si)	ug/L	234	255	206	142	257	214	236	239	261	234
Dissolved Silver (Ag)	ug/L	<0.020	<0.020	<0.020	<0.0050	<0.020	<0.020	<0.0050	<0.0050	<0.020	<0.020
Dissolved Strontium (Sr)	ug/L	76.4	59.5	50.3	49.4	41.1	32.2	35.9	32.9	32.1	30.7
Dissolved Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	<0.0020	<0.050	<0.050	<0.0020	<0.0020	<0.050	<0.050
Dissolved Tin (Sn)	ug/L	<5.0	<5.0	<5.0	0.42	<5.0	<5.0	<0.20	<0.20	<5.0	<5.0
Dissolved Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	<0.50	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0
Dissolved Uranium (U)	ug/L	<0.10	0.11	<0.10	0.015	<0.10	<0.10	0.011	0.011	<0.10	<0.10
Dissolved Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<0.20	<5.0	<5.0	<0.20	<0.20	<5.0	<5.0
Dissolved Zinc (Zn)	ug/L	5.9	7.2	5.7	3.69	8.0	13.5	4.61	10.2	9.7	10.4
Dissolved Zirconium (Zr)	ug/L	<0.50	<0.50	<0.50	<0.10	<0.50	<0.50	<0.10	<0.10	<0.50	<0.50

Forced Leachate sampling - LAKE WATER		2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Field Measurement	Units	6/7/2016	6/12/2016	6/14/2016	6/23/2016	7/3/2016	7/10/2016	7/12/2016	7/17/2016	7/18/2016	7/23/2016
Lake use for leaching water	Name	Meliadine Lake	Meliadine lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Dissolved Calcium (Ca)	ug/L	11900	11100	8630	8460	7110	6810	6960	7310	7620	7110
Dissolved Magnesium (Mg)	ug/L	1610	1400	1160	1120	1210	1140	1130	1030	1230	1170
Dissolved Potassium (K)	ug/L	1130	1130	886	756	976	938	906	909	898	863
Dissolved Sodium (Na)	ug/L	5050	3860	3240	3730	4660	4610	4430	4310	4990	4910
Dissolved Sulphur (S)	ug/L	<3000	<3.0	<3.0	1360	<0.003	<0.003	<0.003	<3.0	<3000.0	<3000.0
Total Aluminum (Al)	ug/L	13.2	300	4.5	176	45.3	18.7	3.49	18.7	26.1	70.4
Total Antimony (Sb)	ug/L	<0.50	<0.50	<0.50	<0.050	<0.50	<0.50	<0.020	<0.020	<0.50	<0.50
Total Arsenic (As)	ug/L	0.71	4.2	1.97	1.89	0.69	1.19	0.389	0.685	0.7	1.32
Total Barium (Ba)	ug/L	10.8	15.2	53.2	13.5	11.0	10.4	7.28	8.39	7.9	11.5
Total Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.010	<0.10	<0.10	<0.010	<0.010	<0.10	<0.10
Total Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	0.025	<1.0	<1.0	<0.0050	0.008	<1.0	<1.0
Total Boron (B)	ug/L	<50	<50	54	<50	<50	<50	<10	<10	<50	<50
Total Cadmium (Cd)	ug/L	<0.010	0.011	<0.010	0.018	0.049	<0.010	<0.0050	0.006	<0.010	0.018
Total Chromium (Cr)	ug/L	<1.0	1.1	<1.0	0.71	<1.0	<1.0	<0.10	0.1	<1.0	<1.0
Total Cobalt (Co)	ug/L	<0.50	1.02	0.68	1.12	<0.50	<0.50	0.035	0.225	<0.50	0.55
Total Copper (Cu)	ug/L	6.84	11.2	<0.50	8.57	6.78	8.26	5.02	6.47	6.32	7.97
Total Iron (Fe)	ug/L	51	748	1110	746	223	124	43.6	200	162	539
Total Lead (Pb)	ug/L	0.75	2.02	<0.20	1.69	0.99	0.64	0.35	0.918	0.72	1.6
Total Lithium (Li)	ug/L	<5.0	<5.0	<5.0	1.84	<5.0	<5.0	0.66	0.63	<5.0	<5.0
Total Manganese (Mn)	ug/L	11.6	156	365	243	94.3	47.6	15.9	96.8	76.3	231
Total Molybdenum (Mo)	ug/L	<1.0	<1.0	8.7	0.124	<1.0	<1.0	0.087	0.13	<1.0	<1.0
Total Nickel (Ni)	ug/L	<1.0	2.1	1.2	1.54	1.3	1.0	0.627	0.921	1.2	1.7
Total Selenium (Se)	ug/L	<0.10	0.11	<0.10	0.068	<0.10	<0.10	<0.040	<0.040	0.12	<0.10
Total Silicon (Si)	ug/L	228	443	12300	373	358	256	217	247	202	578
Total Silver (Ag)	ug/L	<0.020	<0.020	<0.020	<0.010	<0.020	<0.020	<0.0050	<0.0050	<0.020	<0.020
Total Strontium (Sr)	ug/L	77.4	63	1030	47	37.8	44.7	35.6	36.1	38.1	46.2
Total Thallium (Tl)	ug/L	<0.050	<5.0	<5.0	0.4	<5.0	<5.0	<0.20	<0.20	<5.0	<5.0
Total Tin (Sn)	ug/L	<5.0	6.8	<5.0	6.7	<5.0	<5.0	<0.50	0.72	<5.0	<5.0
Total Titanium (Ti)	ug/L	<5.0	0.11	5.53	0.073	<0.10	<0.10	0.015	0.033	<0.10	<0.10
Total Uranium (U)	ug/L	<0.10	<5.0	<5.0	<0.50	<5.0	<5.0	<0.20	<0.20	<5.0	<5.0
Total Vanadium (V)	ug/L	<5.0	12.1	<5.0	8.6	14.7	11.7	4.53	5.56	8.8	7.2
Total Zinc (Zn)	ug/L	5.5	<0.50	<0.50	<0.10	<0.50	<0.50	<0.10	<0.10	<0.50	<0.50
Total Zirconium (Zr)	ug/L	<0.50	9510	67200	7880	7.51	7.48	6.75	6980	6800	7320
Total Calcium (Ca)	ug/L	11500000	1510	90700	1230	1250	1280	1170	1120	1230	1360
Total Magnesium (Mg)	ug/L	1660000	1230	9430	789	1020	982	883	896	838	969
Total Potassium (K)	ug/L	1160000	3930	78600	3650	4520	5450	4490	4160	4640	4820
Total Sodium (Na)	ug/L	5410000	<3.0	41400	<3.0	<0.003	<0.003	<0.003	<3.0	<3000.0	<3000.0
Total Sulphur (S)	ug/L	<3000	<0.050	<0.050	0.005	<0.050	<0.050	<0.0020	0.003	<0.050	<0.050

Forced Leachate sampling - LAKE WATER		2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Field Measurement	Units	8/7/2016	8/16/2016	8/21/2016	8/23/2016	9/4/2016	9/6/2016	9/11/2016	9/13/2016	9/18/2016	9/20/2016
Lake use for leaching water	Name	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Water temperature	°C	7.5	14.1	12.9	13.2	9.9	10.2	9.8	9.7	8.6	8
Conductivity	µS/cm	88.1	71.9	72.3	73.1	76	73.5	101.5	110	89.3	89.9
Field pH	pH unit	8.55	7.95	8.54	8.57	8.39	8.32	8.57	8.85	6.76	9.00
Laboratory-Measured	Units	8/7/2016	8/16/2016	8/21/2016	8/23/2016	9/4/2016	9/6/2016	9/11/2016	9/13/2016	9/18/2016	9/20/2016
Dissolved Hardness (CaCO3)	mg/L	24.2	23.6	23.2	20.6	23.1	22.3	33.2	34	31.1	29.4
Total Hardness (CaCO3)	mg/L	23.3	24.1	22.6	21.9	23.7	23.1	35.9	33.8	28.9	29.2
Total Ammonia-N	mg/L	0.05	<0.01	<0.01	<0.01	0.02	0.02	0.06	0.07	0.01	0.02
Colour	TCU	4	4	<2	<2	3	3	<2	-	-	5
Conductivity	umho/cm	84	80	79	79	82	81	110	120	99	96
Total Dissolved Solids	mg/L	122	54	58	58	50	72	78	96	58	76
Fluoride (F-)	mg/L	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
pH	pH	7.31	7.16	7.34	7.35	7.32	7.39	7.26	7.28	7.17	7.39
Total Phosphorus	mg/L	0.029	0.015	0.006	0.01	0.014	0.009	0.009	0.01	<0.004	0.011
Total Suspended Solids	mg/L	6	<1	<1	2	<1	2	<1	<1	2	3
Dissolved Sulphate (SO4)	mg/L	4.2	4.1	4.2	4.2	4.4	4.2	3.8	4.5	4.2	4.7
Alkalinity (Total as CaCO3)	mg/L	17	16	16	16	17	16	16	16	16	16
Dissolved Chloride (Cl)	mg/L	9.0	9.6	9.8	10	10	10	19	22	16	15
Nitrite (N)	mg/L	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate (N)	mg/L	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.21	<0.10	<0.10
Nitrate + Nitrite	mg/L	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.21	<0.10	<0.10
Mercury (Hg)	ug/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
Dissolved Aluminum (Al)	ug/L	4.5	7	<3.0	2.53	<3.0	<3.0	29.7	3.3	4.5	5.9
Dissolved Antimony (Sb)	ug/L	<0.50	<0.50	<0.50	<0.020	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Arsenic (As)	ug/L	1.30	0.52	0.28	0.388	0.37	0.37	0.42	0.41	0.37	0.62
Dissolved Barium (Ba)	ug/L	9.4	6.8	6.8	6.47	7.3	6.9	10.6	11.3	11.6	8.4
Dissolved Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.010	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<0.0050	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<10	<50	<50	<50	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	0.011	<0.010	<0.010	<0.0050	<0.010	<0.010	<0.010	<0.010	<0.010	0.018
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<0.10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	<0.50	<0.50	<0.50	0.0090	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Copper (Cu)	ug/L	28.0	3.24	3.24	3.99	4.06	4.21	3.5	4.98	6.17	2.24
Dissolved Iron (Fe)	ug/L	7.1	7.6	10.3	7.7	5.1	<5.0	8.5	8.4	9.2	6.5
Dissolved Lead (Pb)	ug/L	<0.20	<0.20	<0.20	0.177	<0.20	<0.20	<0.20	<0.20	0.24	<0.20
Dissolved Lithium (Li)	ug/L	<5.0	<5.0	<5.0	0.86	<5.0	<5.0	<5.0	6.2	<5.0	<5.0
Dissolved Manganese (Mn)	ug/L	3.6	<1.0	<1.0	0.648	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Molybdenum (Mo)	ug/L	<1.0	<1.0	<1.0	0.098	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Nickel (Ni)	ug/L	1.4	<1.0	<1.0	0.546	<1.0	<1.0	<1.0	<1.0	1.3	<1.0
Dissolved Selenium (Se)	ug/L	<0.10	<0.10	<0.10	<0.040	0.12	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Silicon (Si)	ug/L	265	265	255	193	241	254	277	245	271	280
Dissolved Silver (Ag)	ug/L	<0.020	<0.020	<0.020	<0.0050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Dissolved Strontium (Sr)	ug/L	38.1	36.6	33.4	30.9	38.4	37.9	96.6	103	60.3	64.6
Dissolved Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<0.20	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	<0.50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Uranium (U)	ug/L	<0.10	<0.10	<0.10	0.0140	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<0.20	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Zinc (Zn)	ug/L	24.2	<5.0	<5.0	4.88	<5.0	<5.0	<5.0	5.5	13.5	5
Dissolved Zirconium (Zr)	ug/L	<0.50	<0.50	<0.50	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

Forced Leachate sampling - LAKE WATER		2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Field Measurement	Units	8/7/2016	8/16/2016	8/21/2016	8/23/2016	9/4/2016	9/6/2016	9/11/2016	9/13/2016	9/18/2016	9/20/2016
Lake use for leaching water	Name	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Dissolved Calcium (Ca)	ug/L	7700	7310	7220	6250	7220	6960	10900	11000	10100	9330
Dissolved Magnesium (Mg)	ug/L	1200	1300	1250	1210	1230	1200	1490	1600	1430	1480
Dissolved Potassium (K)	ug/L	933	877	853	816	900	857	1070	989	1070	997
Dissolved Sodium (Na)	ug/L	5060	5080	4830	4810	4900	4820	5660	5910	5540	5250
Dissolved Sulphur (S)	ug/L	3450	<3000	<3000.0	<3000	<3000.0	<3000	<3000	<3000	<3000	<3000
Total Aluminum (Al)	ug/L	52.2	9.8	25	6.76	10.3	5.8	16	6.6	11.5	8.2
Total Antimony (Sb)	ug/L	<0.50	<0.50	<0.50	<0.020	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	2.25	0.49	0.46	0.502	0.50	0.46	0.62	0.46	0.44	0.52
Total Barium (Ba)	ug/L	9.3	10	6.7	6.91	7.3	6.9	11.2	11.5	9	10.2
Total Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.010	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<0.0050	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	<50	<50	<50	<10	<50	<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.016	<0.010	<0.010	<0.0050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Total Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Cobalt (Co)	ug/L	<0.50	<0.50	<0.50	0.0260	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Copper (Cu)	ug/L	130	4.8	4.01	5.50	5.99	5.86	5.68	7.07	7.4	3.74
Total Iron (Fe)	ug/L	432	45	36	34.1	50	50	80	57	54	125
Total Lead (Pb)	ug/L	10.7	0.32	0.3	0.508	0.45	0.46	0.52	0.47	0.64	0.4
Total Lithium (Li)	ug/L	<5.0	<5.0	<5.0	0.89	<5.0	<5.0	<5.0	6.2	<5.0	<5.0
Total Manganese (Mn)	ug/L	156	7.3	8.2	9.18	17.2	15.4	22.1	16.4	11.9	43.5
Total Molybdenum (Mo)	ug/L	<1.0	<1.0	<1.0	0.085	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	1.5	<1.0	<1.0	0.594	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Selenium (Se)	ug/L	<0.10	<0.10	<0.10	<0.040	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Silicon (Si)	ug/L	342	260	273	242	233	261	285	278	246	249
Total Silver (Ag)	ug/L	0.023	<0.020	<0.020	<0.0050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	33.5	44.5	33.3	37.1	37.9	35.3	97	100	69.1	70
Total Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	0.002	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<0.20	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	<0.50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Uranium (U)	ug/L	<0.10	<0.10	<0.10	0.018	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<0.20	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	29.8	<5.0	<0.50	4.95	5.5	<5.0	5.5	6.7	6.6	<5.0
Total Zirconium (Zr)	ug/L	<0.50	<0.50	<0.50	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Calcium (Ca)	ug/L	7150	7440	7000	6730	7490	7270	11800	10900	9360	9320
Total Magnesium (Mg)	ug/L	1330	1350	1240	1250	1220	1200	1580	1630	1340	1440
Total Potassium (K)	ug/L	903	1030	898	806	919	941	1150	1020	956	1020
Total Sodium (Na)	ug/L	4920	5410	4880	4820	4540	4800	5770	5830	5100	5490
Total Sulphur (S)	ug/L	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000

Forced Leachate sampling - LAKE WATER		2016	2016	2016	2016
Field Measurement	Units	9/25/2016	9/27/2016	10/2/2016	10/4/2016
Lake use for leaching water	Name	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Water temperature	°C	6.7	8.7	7.5	5.3
Conductivity	µS/cm	118.5	88.1	87	118.9
Field pH	pH unit	6.38	6.28	7.42	8.88
Laboratory-Measured	Units	9/25/2016	9/27/2016	10/2/2016	10/4/2016
Dissolved Hardness (CaCO3)	mg/L	36.1	26.6	28.2	35.5
Total Hardness (CaCO3)	mg/L	37	26.8	33.6	43.5
Total Ammonia-N	mg/L	0.09	0.03	0.02	0.1
Colour	TCU	5	4	3	5
Conductivity	umho/cm	122	93	97	130
Total Dissolved Solids	mg/L	98	64	74	118
Fluoride (F-)	mg/L	<0.10	<0.10	<0.10	<0.10
pH	pH	7.38	7.22	7.24	7.05
Total Phosphorus	mg/L	0.027	0.014	0.021	0.012
Total Suspended Solids	mg/L	5	1	2	<1
Dissolved Sulphate (SO4)	mg/L	5.2	4.6	4.8	5.9
Alkalinity (Total as CaCO3)	mg/L	18	16	17	20
Dissolved Chloride (Cl)	mg/L	20	13	15	22
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	<0.010
Nitrate (N)	mg/L	0.16	<0.10	<0.10	0.14
Nitrate + Nitrite	mg/L	0.16	<0.10	<0.10	0.14
Mercury (Hg)	ug/L	0.01	<0.01	<0.01	0.01
Dissolved Aluminum (Al)	ug/L	13.1	3.5	10.1	6.8
Dissolved Antimony (Sb)	ug/L	<0.50	<0.50	<0.50	<0.50
Dissolved Arsenic (As)	ug/L	0.68	0.36	0.44	0.36
Dissolved Barium (Ba)	ug/L	11.5	8.1	8.8	10.9
Dissolved Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.10
Dissolved Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<1.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	<0.010	<0.010	0.063	<0.010
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	<0.50	<0.50	<0.50	<0.50
Dissolved Copper (Cu)	ug/L	3.75	4.9	4.03	3.37
Dissolved Iron (Fe)	ug/L	142	25	29.9	18.1
Dissolved Lead (Pb)	ug/L	0.44	0.31	0.23	<0.20
Dissolved Lithium (Li)	ug/L	6.3	<5.0	<5.0	5.7
Dissolved Manganese (Mn)	ug/L	43.8	3.5	2.2	1.6
Dissolved Molybdenum (Mo)	ug/L	<1.0	<1.0	<1.0	<1.0
Dissolved Nickel (Ni)	ug/L	<1.0	<1.0	<1.0	<1.0
Dissolved Selenium (Se)	ug/L	<0.10	<0.10	<0.10	<0.10
Dissolved Silicon (Si)	ug/L	328	278	286	276
Dissolved Silver (Ag)	ug/L	<0.020	<0.020	<0.020	<0.020
Dissolved Strontium (Sr)	ug/L	109	58	61.5	109
Dissolved Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	<0.050
Dissolved Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0
Dissolved Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	<5.0
Dissolved Uranium (U)	ug/L	<0.10	<0.10	<0.10	<0.10
Dissolved Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0
Dissolved Zinc (Zn)	ug/L	6	5.8	6.4	<5.0
Dissolved Zirconium (Zr)	ug/L	<0.50	<0.50	<0.50	<0.50

Forced Leachate sampling - LAKE WATER		2016	2016	2016	2016
Field Measurement	Units	9/25/2016	9/27/2016	10/2/2016	10/4/2016
Lake use for leaching water	Name	Meliadine Lake	Meliadine Lake	Meliadine Lake	Meliadine Lake
Dissolved Calcium (Ca)	ug/L	11700	8440	8890	11200
Dissolved Magnesium (Mg)	ug/L	1710	1330	1450	1840
Dissolved Potassium (K)	ug/L	1230	896	1040	1070
Dissolved Sodium (Na)	ug/L	6110	5080	5480	6510
Dissolved Sulphur (S)	ug/L	<3000	<3000	<3000	<3000
Total Aluminum (Al)	ug/L	7.8	25	12.1	10.9
Total Antimony (Sb)	ug/L	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	3.99	0.46	0.6	0.51
Total Barium (Ba)	ug/L	10.5	8.8	8.9	11.8
Total Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	<0.010	0.01	<0.010	<0.010
Total Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0
Total Cobalt (Co)	ug/L	<0.50	<0.50	<0.50	<0.50
Total Copper (Cu)	ug/L	2.54	9.44	5.7	5.52
Total Iron (Fe)	ug/L	<10	176	147	121
Total Lead (Pb)	ug/L	<0.20	1.51	1.14	0.7
Total Lithium (Li)	ug/L	5.3	<5.0	<5.0	5.2
Total Manganese (Mn)	ug/L	1.1	22.1	19.1	10.9
Total Molybdenum (Mo)	ug/L	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	<1.0	1	<1.0	<1.0
Total Selenium (Se)	ug/L	0.16	<0.10	<0.10	<0.10
Total Silicon (Si)	ug/L	288	340	287	358
Total Silver (Ag)	ug/L	<0.020	<0.020	<0.020	<0.020
Total Strontium (Sr)	ug/L	108	54.3	67.2	115
Total Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	<0.050
Total Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	<5.0
Total Uranium (U)	ug/L	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	<5.0	11	6.1	<5.0
Total Zirconium (Zr)	ug/L	<0.50	<0.50	<0.50	<0.50
Total Calcium (Ca)	ug/L	11900	8530	10800	14100
Total Magnesium (Mg)	ug/L	1800	1330	1590	2000
Total Potassium (K)	ug/L	1100	915	1130	1260
Total Sodium (Na)	ug/L	6640	4890	5960	6910
Total Sulphur (S)	ug/L	<3000	<3000	<3000	<3000